ISMP2018 BORDEAUX

23rd International Symposium on **Mathematical Programming**

July 1 - 6

The World Congress of Mathematical Optimization
Held triennially on behalf of the Mathematical Optimization Society

@ismp2018

https://ismp2018.sciencesconf.org

23*rd* International Symposium on Mathematical Programming (ISMP)

The World Congress of the Mathematical Optimization Society (MOS)

Bordeaux, July 1-6, 2018

Contents

Thanks to our sponsors:

Welcome Address

It is a great pleasure to welcome all of you to Bordeaux for this triennial international congress of mathematical optimization. ISMP is the symposium of the Mathematical Optimization Society (MOS). It gathers scientists from all over the world as well as industrial practitioners of mathematical optimization. Attendees present their most recent developments and results and discuss new challenges from theory and practice.

This 23rd edition of the symposium is organized by the mathematical optimization group of the University of Bordeaux with the contributions of other mathematical optimization researchers of the French community. The core of the local organizers is structured around the Inria project team Realopt which is a joint venture between the University, Inria and two CNRS research labs of the University: the Mathematics Institute (IMB - team OPTIMAL - in Mathematical Optimization, Stochastic Models and Statistics) and the Computer Science Lab (LaBRI - team Combinatorics and Algorithms). The practical organization is taken care of by the congress office of the University of Bordeaux, the communication office of Inria-Bordeaux, and the ADERA congress service, with the support of the University of Bordeaux Initiative of Excellence (Idex) and the Regional authorities of Nouvelle-Aquitaine.

This edition is the outcome of a collaborative venture involving the participation of many members of the international community. The program committee has done a great job in reaching out to invited speakers. It was headed by Michael Jünger who has also been so active in driving the special issue of Math Programming B. Through the scientific committee, we have put many people to work for co-opting invited sessions and performing the immense editorial task of gathering talks into sessions. The support services of our institutions and the local team have been largely put to contribution on all aspects of the organization. We want to highlight the tremendous job done by our engineers, Philippe Depouilly and Laurent Facq, to setup the editorial platform, and by our colleagues to optimize the schedule, in particular Pierre Pesneau who implemented the scheduler, while our students have contributed to deliver automation tools. Last but not least, we are deeply grateful to the cohort of volunteer students and staff who are key elements of the logistical organization during the ISMP week.

The happening is yours. Your scientific contributions are feeding the interesting program which we shall all benefit from. So thank you for your participation and let us enjoy this congress, learn from it, and build the network of your future collaborations.

François Vanderbeck
University of Bordeaux
& Inria Bordeaux

The Organization Committees

Conference Chair

General Chair:
François Vanderbeck, Prof., U. Bordeaux & Inria team Realopt

Co-Chair:
François Clautiaux, Prof., U. Bordeaux & Inria team Realopt

Program Committee

The program committee is in charge of inviting plenary, semi-plenary, and keynote speakers. The program committee chair acts as guest editor for this special MPB issue. The members are:

Chair:
Michael Jünger, Prof., University of Cologne, Germany

For Cluster 1: Discrete Optimization and Integer Programming
Dan Bienstock, Prof., Columbia University, USA
Gerard Cornuéjols, Prof., Carnegie Mellon University, USA
Michel Goemans, Prof., Massachusetts Institute of Technology, USA

For Cluster 2: Optimization under Uncertainty
Laurent El Ghaoui, Prof., UC Berkeley, USA
Simge Küçükyavuz, Prof., University of Washington, USA
Daniel Kuhn, Prof., Ecole Polytechnique Fédérale de Lausanne, Switzerland

For Cluster 3: Continuous Optimization
Frank Curtis, Asoc. Prof., Lehigh University, USA
Claudia Sagastizabal, Researcher, IMPA (Mathematical sciences research institute), Brasil
Stephen Wright, Prof., University of Wisconsin-Madison, USA

For Cluster 4: Problem Specific Models, Algorithm Implementations, and Software
Michael Ferris, Prof., University of Wisconsin-Madison, USA
Martine Labbé, Prof., Université Libre de Bruxelles, Belgium
Stefan Wild, Researcher, Argonne, USA

Representing the Organization Committee:
François Clautiaux, Prof., U. Bordeaux & Inria team Realopt
François Vanderbeck, Prof., U. Bordeaux & Inria team Realopt (Vice Chair)

Scientific Committee

The scientific committee is in charge of the scientific content of the parallel sessions, co-opting scientific personnalities to propose a whole session, and gathering contributed talks into coherent sessions. The members are:

1. **Cluster on Discrete Optimization and Integer Programming**
   (a) IPtheory: Integer Programming Theory (Polyhedral Study, Lattices, Extented Formulations...):
   Michele Conforti, Fritz Eisenbrand, Volker Kaibel, Ridha Majhoub
   (b) IPpractice: Integer Programming Algorithms (Branch-and-cut, Reformulations and Decomposition, ...)
   Sanjeeb Dash, Adam Letchford, Ivana Ljubic, Marc Pfetsch
   (c) MINLP: Mixed Integer Non-linear Programming
   Jeff Linderoth, Andrea Lodi, Jean-Philippe Richard, Frédéric Roupin
   (d) APPROX: Complexity, Approximation and Online Algorithms
   Lionel Eyraud-Dubois, David P. Williamson, Rico Zenklusen
   (e) COMB: Combinatorial Optimization and Graph Theory
   Laura Sanità, Gianpaolo Oriolo, Arnaud Pêcher, Nicolas Trotignon
   (f) CP: Constraint Programming
   Louis-Martin Rousseau, Ruslan Sadykov, Pascal Van Hentenryck
2. **Cluster on Optimization under Uncertainty**
   (a) Stoch: Stochastic Optimization
   Boris Detienne, James Luedtke, Alexander Shapiro
   (b) Robust: Robust Optimization
   Dimitris Bertsimas, Christoph Buchheim, Michael Poss
   (c) Markov: Dynamic Programming, Markov Decision Processes, and Simulation
   François Dufour, Stéphane Gaubert, Huseyin Topaloglu
   (d) Game: Game theory, Bi-level and Multi-Objective Optimization
   Luce Brotecorne, Roberto Cominetti, Kathrin Klamroth
3. **Cluster on Continuous Optimization**
   (a) NLP:Linear and Nonlinear Optimization, Sparse Optimization and applications
   Immanuel Bomze, Jean-Charles Gilbert, Jérôme Malick
   (b) Global: Global Optimization
   Mirjam Dür, Jean-Baptiste Hiriart-Urruty, Yaroslav Sergeyev
   (c) NonSmooth: Nonsmooth Optimization
   Jean-François Aujol, Amir Beck, Antonio Frangioni, Yurii Nesterov
   (d) SDP: Conic Programming, Quadratic Programming and Semi-Definite Programming
   Sourour Elloumi, Franz Rendl, Angelika Wiegele
   (e) Variat : Variational Analysis, Variational Inequalities and Complementarity.
   Samir Adly, Xiaojun Chen, Boris Mordukhovich
   (f) RandomM: Random Methods for Continuous Optimization (Stochastic Gradient, . . .)
   Guanghui (George) Lan, Artur Pessoa, Lin Xiao
   (g) DerFree: Derivative-free and Simulation-based Optimization
   Charles Audet, Serge Gratton, Katya Scheinberg
   (h) Control: Optimal Control, PDE Constrained Optimization, and Multi-level Methods
   Jean-Bernard Lasserre, Stefan Ulbrich, Emmanuel Trelat
4. **Cluster on Problem Specific Models, Algorithm**
   (a) Learning: Machine Learning, Big Data, Cloud Computing, and Huge-Scale Optimization
   Alexandre d'Aspremont, Olivier Beaumont, Peter Richtarik, Suvrit Sra
   (b) Network: Network Flow, Network Design, and Applications in Telecom and Traffic Management
   Bernard Fortz, Bernard Gendron, Luis Gouveia
   (c) Logistics: Packing, Logistics, Location, and Routing
   Jean-François Cordeau, Frédéric Semet, Eduardo Uchoa, Daniele Vigo

(d) Scheduling: Scheduling, Planning and Applications in Manufacturing Systems and Healthcare
Tom McCornick, Gautier Stauffer, François Soumis, Matthieu VanVyve

(e) Energy: Optimization for Environmental, Energy, and Engineering Systems
Miguel Anjos, Claudia d'Ambrosio, Christine Shoemaker, Golbon Zakeri

(f) Sciences: Optimization in Sciences, Computational Biology, Societal Issues, Finance, and Economics
Sonia Cafieri, Leo Liberti, Britta Peis

(g) Algo: Math Programming Algorithm Implementations, Parallel Computing, and Software
Tobias Achterberg, Giacomo Nannicini, Pierre Pesneau, Andrea Tramontani

Local Committee

The organization committee is in charge of the logistic of the conference. The members are:

- Séverine Valerius and Flavie Attigui, Inria Bordeaux (Communication)
- Marie Henault and Sabine Raposo, University congress support team (Location)
- Joelle Lacoste-Rodrigues and Solène Audoux, Inria Bordeaux (Accomodation and administrative issues)
- Isabelle Voirin, Magalie Garcia, and Jean Rivenc, Adera support (PCO, Registration, and accounts)
- Philippe Depouilly and Laurent Facq, CNRS (Information technology)
- Pierre Pesneau, Assoc Prof., University of Bordeaux (Conference Program)
- François Vanderbeck, Prof., University of Bordeaux (Chair)

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Useful Information

Conference Sites

The conference takes place in the center of the city of Bordeaux over two sites:

"Victoire" is the main site where all parallel sessions and keynote talks take place. It is located on Place de la Victoire, 33000 Bordeaux (the lower red dot on the map). The buildings are identified by a letter as presented below. This building reference is reported in the schedule along the name of the room.

"Auditorium" is the secondary site where all parallel plenary and semi-plenary sessions take place, as well as the opening ceremony. It is located on 9-11-13 cours Georges Clemenceau 33000 Bordeaux (the upper red dot on the map).

The two sites are within a 15 minutes walk or a two-stop ride per tramway (with one tramway every 3 to 5 minutes). The registration desk has 1500 tramway/bus pass to distribute to those of you who prefer to take the tramway rather then walking. Note that the tramway will be overcrowded if all of us attempt to transfer between the two sites via this line. Hence, please consider walking. Tramway/bus pass may be useful to attendees having their accommodation far away for the conference site. They will be distributed on the first come first served basis, but their number should be largely sufficient to cover all requests.

37 salles
7 amphis

Bâtiment A
Salle 45 : 3ème étage - 25 pax
Salle 46 : 3ème étage - 25 pax
Salle 47 : 3ème étage - 20 pax
Amphi Durkheim : 3ème étage -194 pax

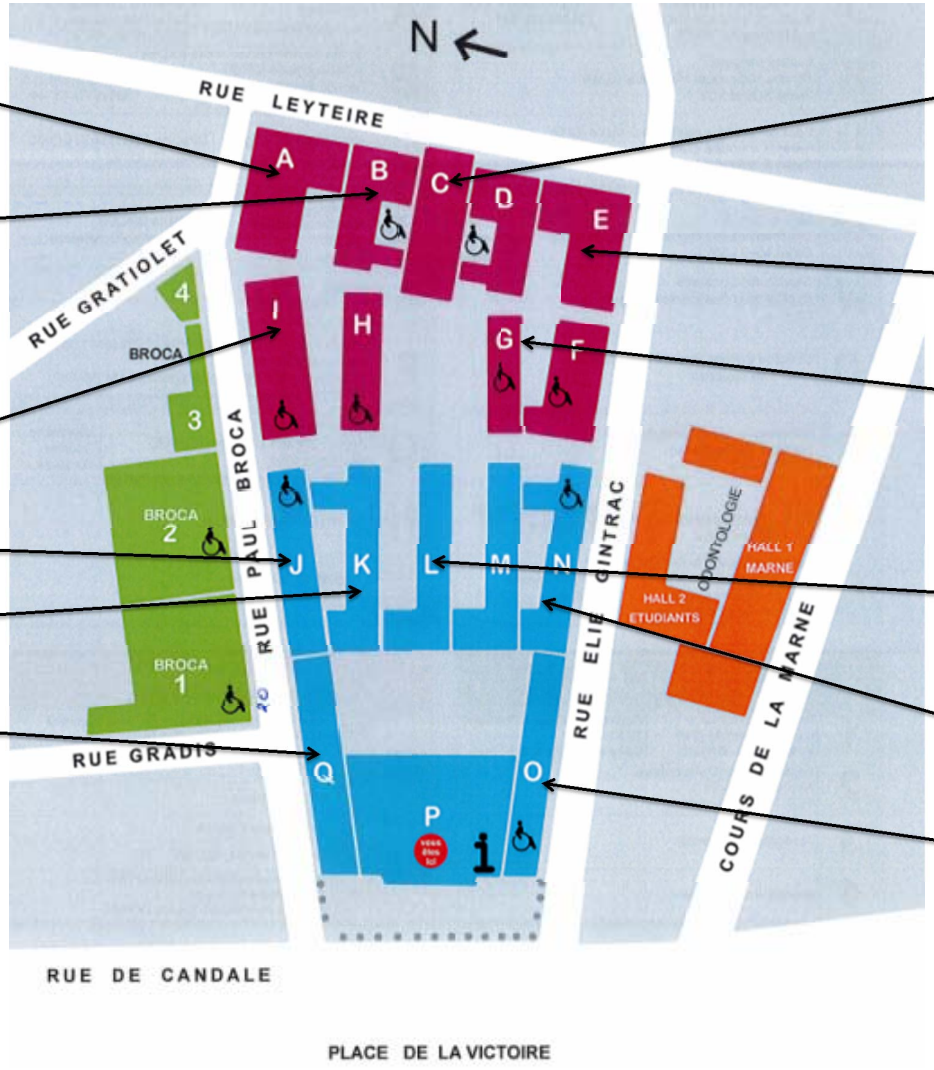
Bâtiment B
Salle 30 : RDC - 20 pax
Salle 31: RDC - 30 pax
Salle 32 : RDC - 40 pax
Salle 33 : RDC – 50 pax
Salle 34 : 1er étage – 50 Pax
Salle 35 : Entresol – 50 pax
Salle 36 : Entresol – 40 pax
Salle 37 : Entresol – 50 pax

Bâtiment I
Salle 16 : 2ème étage – 34 pax
Salle 18 : 1er étage – 25 Pax

Bâtiment J
Amphi Fabre : RDC – 80 pax

Bâtiment K
Salle KC6 : Entresol 1 – 40 pax
Salle KC7 : Entresol 1 – 30 pax

Bâtiment Q
Salle 05 :1er étage – 90 pax
Salle 06 : 1er étage – 90 pax
Salle Arnozan : RDC – 44 pax
(stockage du matériel des exposants le soir)
Salle Dénucé : RDC – 88 pax
Amphi Gintrac : RDC – 160 places



Bâtiment C
Salle 44: 3ème étage - 40 pax
Salle 43 : 3ème étage - 30 pax
Salle 42 : 3ème étage – 20 pax
Salle 41 :3ème étage – 40 Pax
Amphi Sigalas : 2ème étage – 190 pax
Amphi Deniges : RDC – 280 pax

Bâtiment E
Salle 40 : 3ème étage – 20 pax
Salle 39 :3ème étage – 40 Pax
Amphi E/Leyteire : 3ème étage – 172 pax

Bâtiment G
Salle Auriac : 1er étage – 40 pax
Salle 20 :1er étage – 60 Pax
Salle 21: Entresol – 40 pax
Salle 22: 2ème étage – 25 Pax
Salle 23 :3ème étage – 40 Pax
Salle 24 : 3ème étage – 60 Pax

Bâtiment L
Salle LA3: Sous-sol – 16 pax
Salle LA 4:Sous-sol 1 – 36 Pax
Salle LC4: Entresol 1 – 38 Pax
Salle LC5: Entresol 1 – 40 Pax

Bâtiment N
Salle 8: 4ème étage – 60 pax
Salle 9 : 4ème étage – 25 Pax

Bâtiment O
Amphi pitres : RDC – 148 pax

13/12/2017

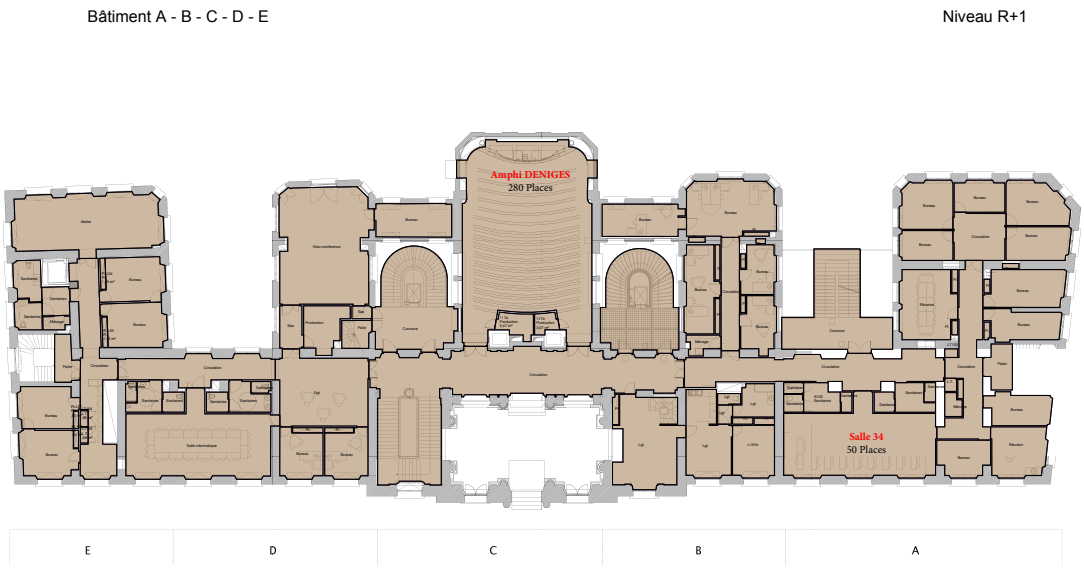
Campus Zones

A partition of Victoire campus per zone rather than per building is described below. A **zone is associated to a floor** that spans over several builings of a given area of the campus. Zones are numbered in sequential order of their cummunitation link (stairway or corridor path).

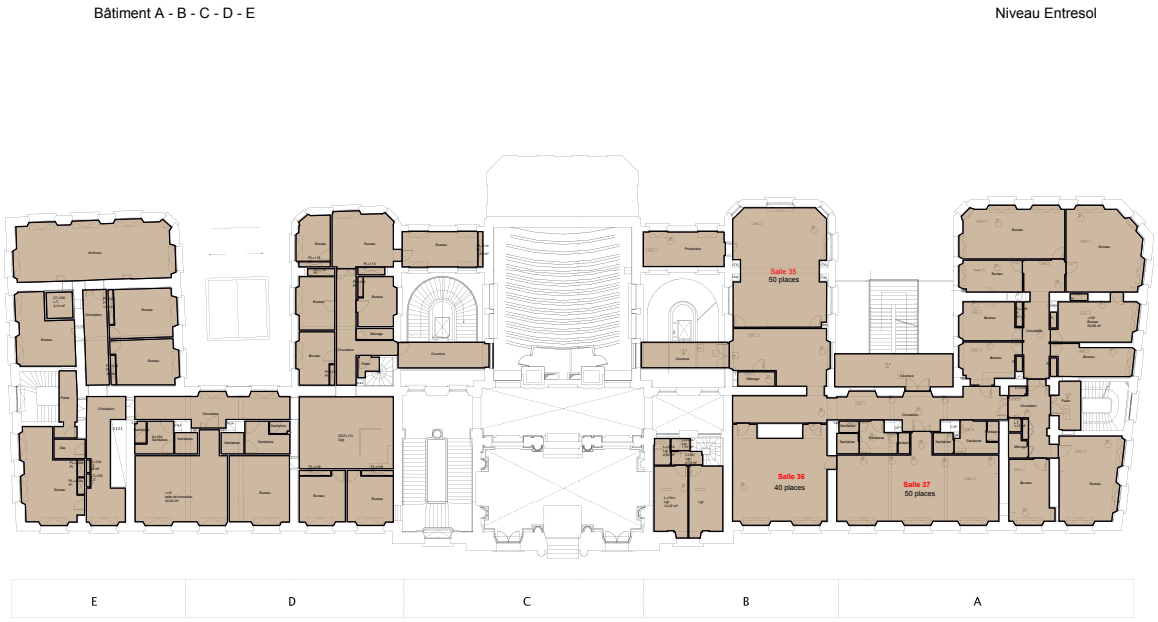
Zone 1 across buildings ABCDE, 3^d floor

Zone 2 across buildings ABCDE, 2^{d} floor

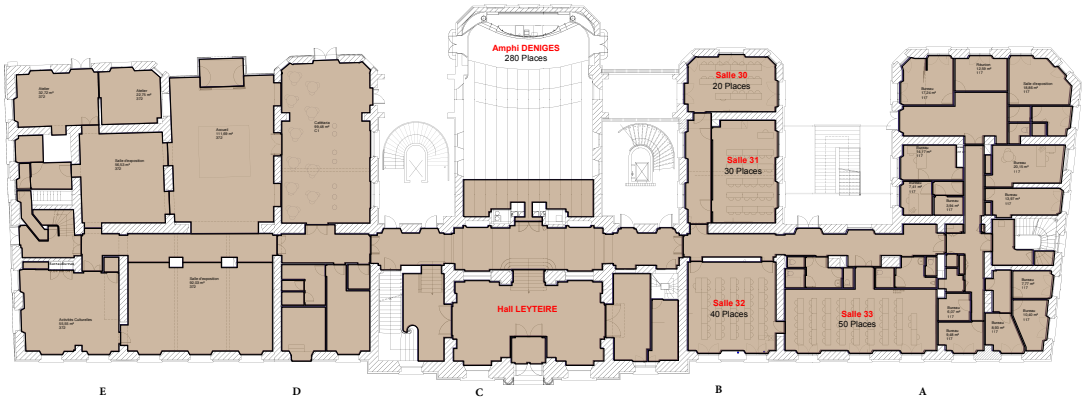
Zone 3 across buildings ABCDE, 1^{th} floor



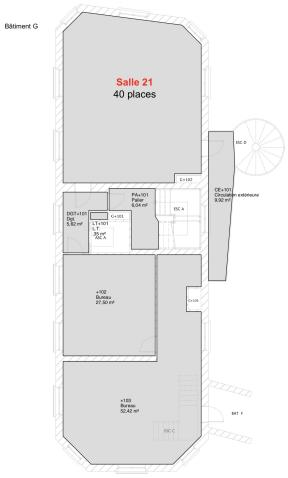
Zone 4 across buildings ABCDE, 1^{th} intermediate floor



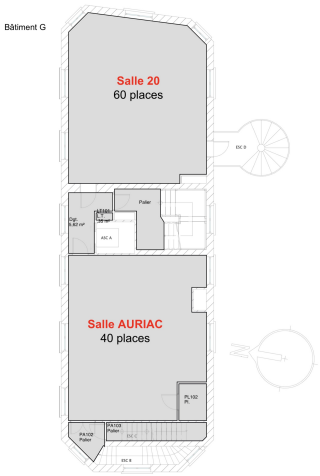
Zone 5 across buildings ABCDE, ground floor



Zone 6 building G, all floors

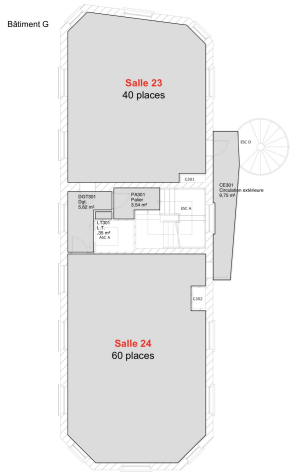


intermediate



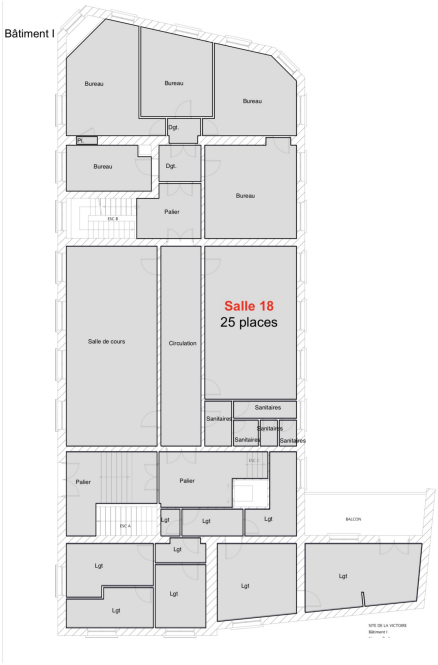
1th floor

2d floor



3d floor

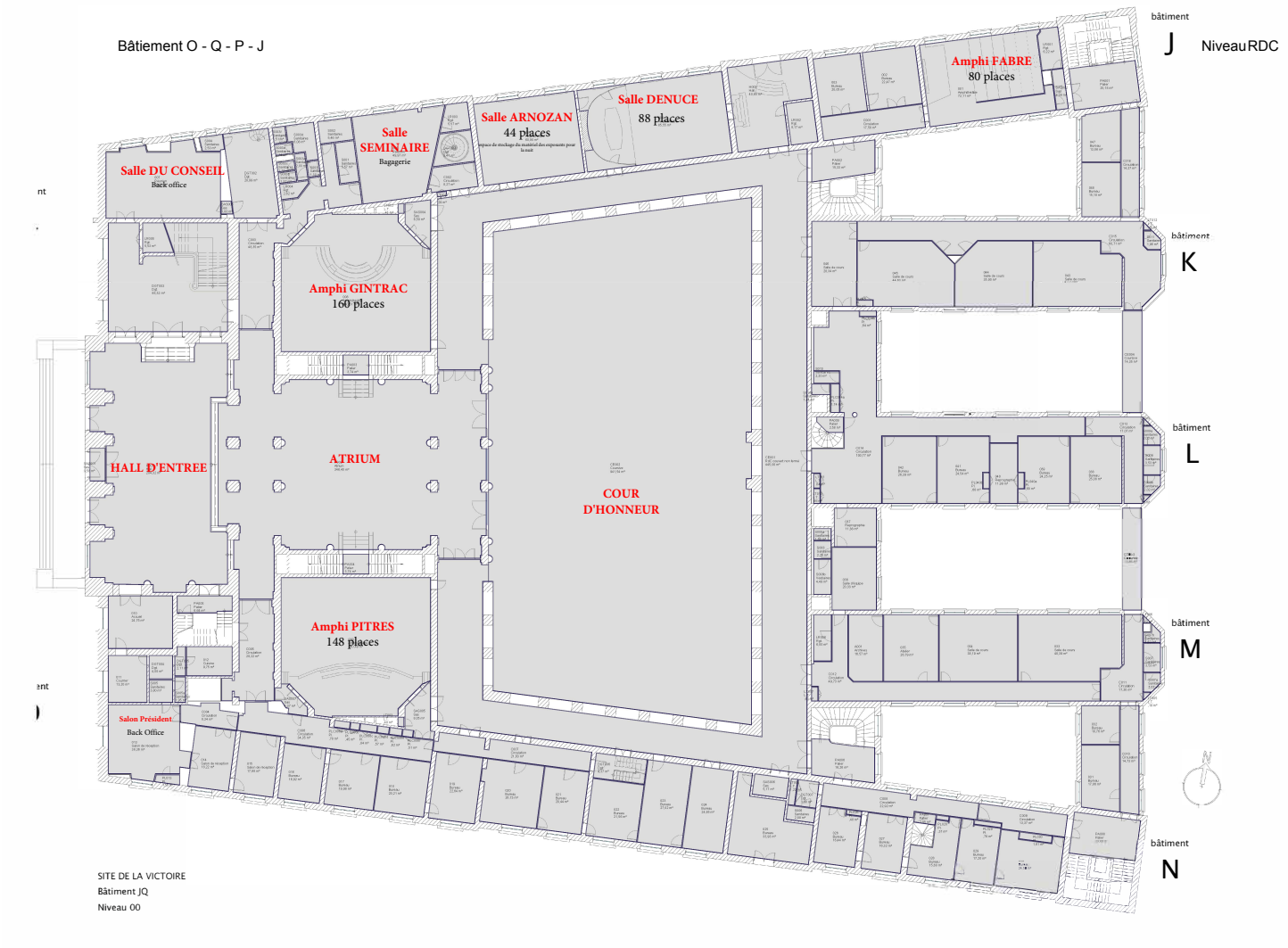
Zone 7 building I, all floors



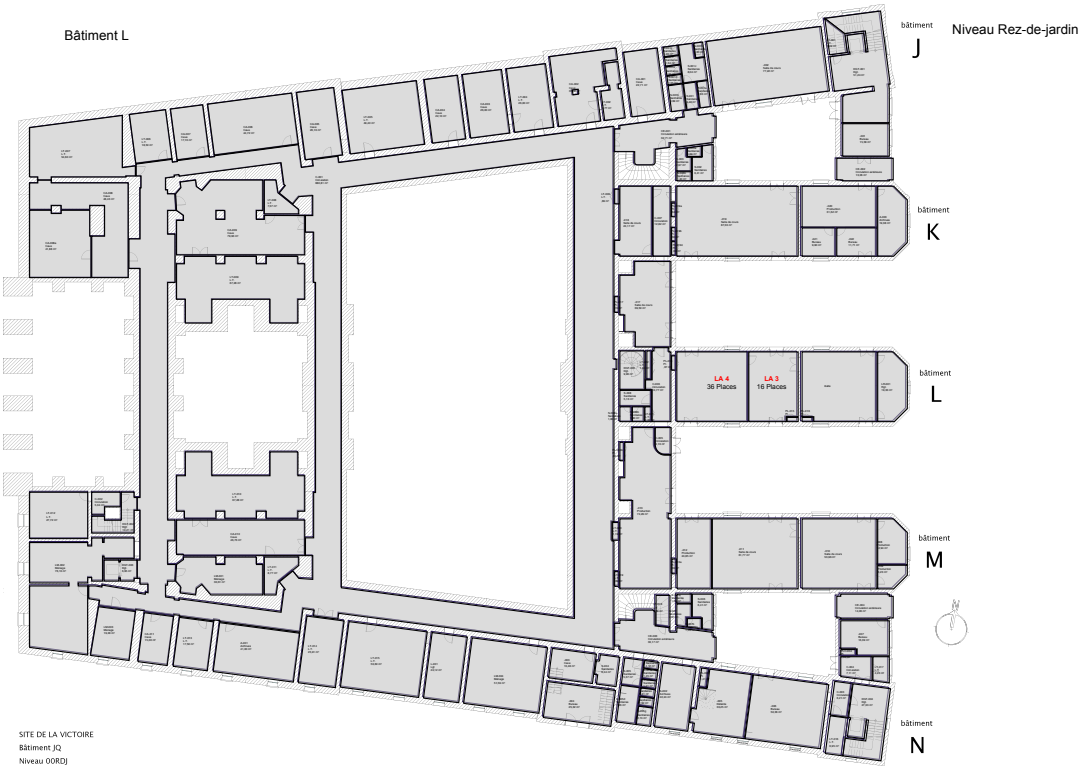
1th floor

2d floor

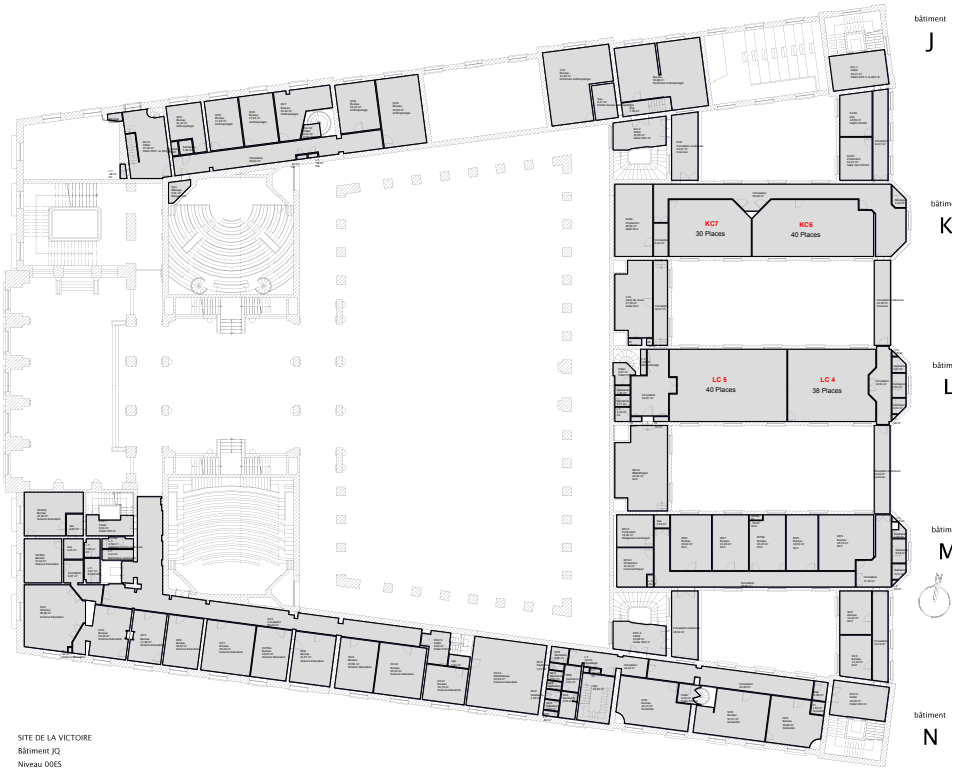
Zone 8 buildings JKLNOQ, ground floor



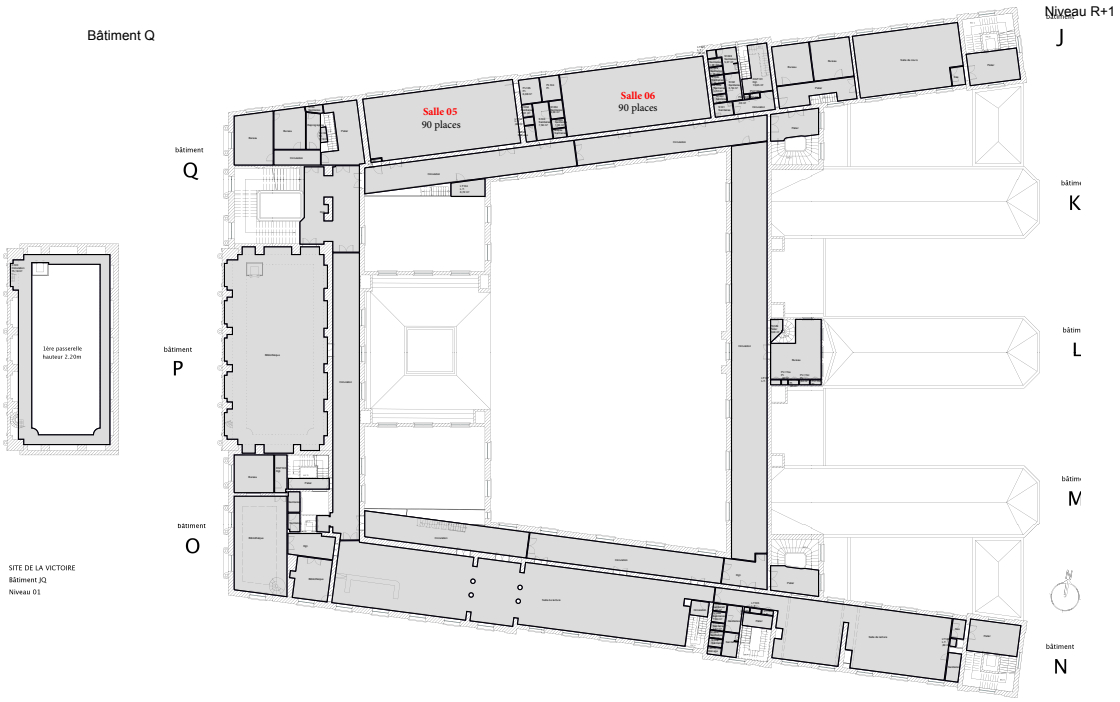
Zone 9 buildings JKLNOQ, 1^{th} intermediate floor



Zone 10 buildings JKLNOQ, 2^{d} intermediate floor



Zone 11 buildings JKLNOQ, 1^{th} floor



Zone 12 buildings JKLNOQ, 4^{th} floor

no picture

Registration

- The registration desk is at the entrance of the main Victoire site.
- Registration is open on Sunday July 1 from 2pm to 8pm. You are invited to collect your badge and goodies on your arrival.
- The registration desk will remain open all week for late arrival, on-site registration, and information queries from Monday to Friday from 8:30 am to 6:30pm.
- Note that no registration is possible at the secondary site of the Auditorium.
- We did send you by email a pdf file with your badge. So, if you cannot make it in time to the registration desk (or wish to avoid the queue) before attending your first session, you may get access to the conference by presenting your own print of your badge. It needs not be in color, a basic black and white copy will do as the access code printed on the badge can be read in B&W. In any case, a color copy is waiting for you at the registration desk.

ISMP App

The ISMP2018 App is available on `https://ismp2018.u-bordeaux.fr/program` . It allows you to consult the conference program, the authors list, and the room map.

- Talks are sorted by day and session. Select a day on the top bar. Click on a session to see the talk details.
- Swipe left on a talk to add it to your favorites. Swipe left on a favorite to remove it.
- For quicker navigation, you can use the filter menu to select only streams that are if interest to you. To unselect streams that you don't want usie the top right filter button.
- For offline mobile consultation: you can easily download the website app as an autonomous application (PWA). Under Android or iOS, go into your browser menu, and select "Add to Home screen".
- To refresh data on the schedule view, swipe down at the top of the page.

The Scheduler

You might be curious to know how the program has been established. From your talk submissions, the scientific committee of each stream has build sessions, indicating the expected attendance and the potential conflicts with other sessions of their own stream or with other streams. They also implemented time restrictions and precedence constraints. The scheduler had this information along side the expected attendance in each stream thanks to your input on the fraction of your time that you plan to spend in each stream. The scheduler went through a sequence of optimization stages to build a program with the following goals: first to minimize the number of parallel tracks in each thematic area; second to spread evenly the high profile sessions, while reducing the spread of the mini-symposia; third to avoid to schedule in parallel sessions that are destined to a same public (including the co-authors whishing to avoid having their talks in parallel); fourth to cluster streams geographically trying to keep their room assignment stable.

Lunch breaks

Lunches are on your own. The late morning and early afternoon sessions are purposely on different sites so as to spread the crowd in town for lunch. There are two food trucks on the Victoire site as well as a sandwich bar (the latter runs only from Tuesday onwards).

Coffee breaks

Coffee breaks are served in the morning from 10:30am to 11am on the ground floor at both end of the Victoire campus (Buildings C and P). French pastries are offered. There are no coffee breaks at the Auditorium. At the afternoon break, no coffee is served. However self-service expresso machines are disseminated on the Victoire campus along with water bottle for your comfort at any time of the day.

Wifi connection

At the Victoire site, you can connect using either your "eduroam" account, or on the REAUMUR network using the ISMP account:

Login: ISMP-n-1 Password: q3#bjkG

Instructions to Speakers

Each lecture room is equipped with a video projector requiring a **VGA connection**. Speakers are expected to bring their own laptop for their presentation. However, for easy transition between talks, we ask that all the speakers of a session collect their talks on a single computer (typically the laptop of the last speaker). Please introduce yourself to the chairman of the session before hand by getting to the lecture room at least 5 minutes prior to the session start time. We strongly advice speakers to have their slides in a **PDF format**. Please avoid powerpoint or any other specific software.

Instructions to Chairpersons

Please get to your lecture room at least 10 minutes prior to the session start time. Collect all the presentations, preferably in a pdf format, on a single computer and check that the video retransmission is working OK for each talk. It is absolutely necessary to keep to the exact time slots that are assigned in the conference program. Sessions do come in two formats, either 30 minute talks or 20 minute talks. Please do not take the liberty to change the length of time that is assigned to a speaker, as it is essential to allow the attendees to synchronize their selection as announced in the program. In the same line, if a talk is canceled, do not move other talks forward but leave the slot empty.

Video Retransmission

The opening ceremony, as well as the plenary and semi-plenary sessions, that take place at the Auditorium, are retransmitted on the Victoire site in the following rooms: **Amphi Broca** (external building, top floor), **Amphi Gintrac** (Building Q, ground floor) and **Amphi Pitres** (Building O, ground floor).

Welcome Event on Sunday

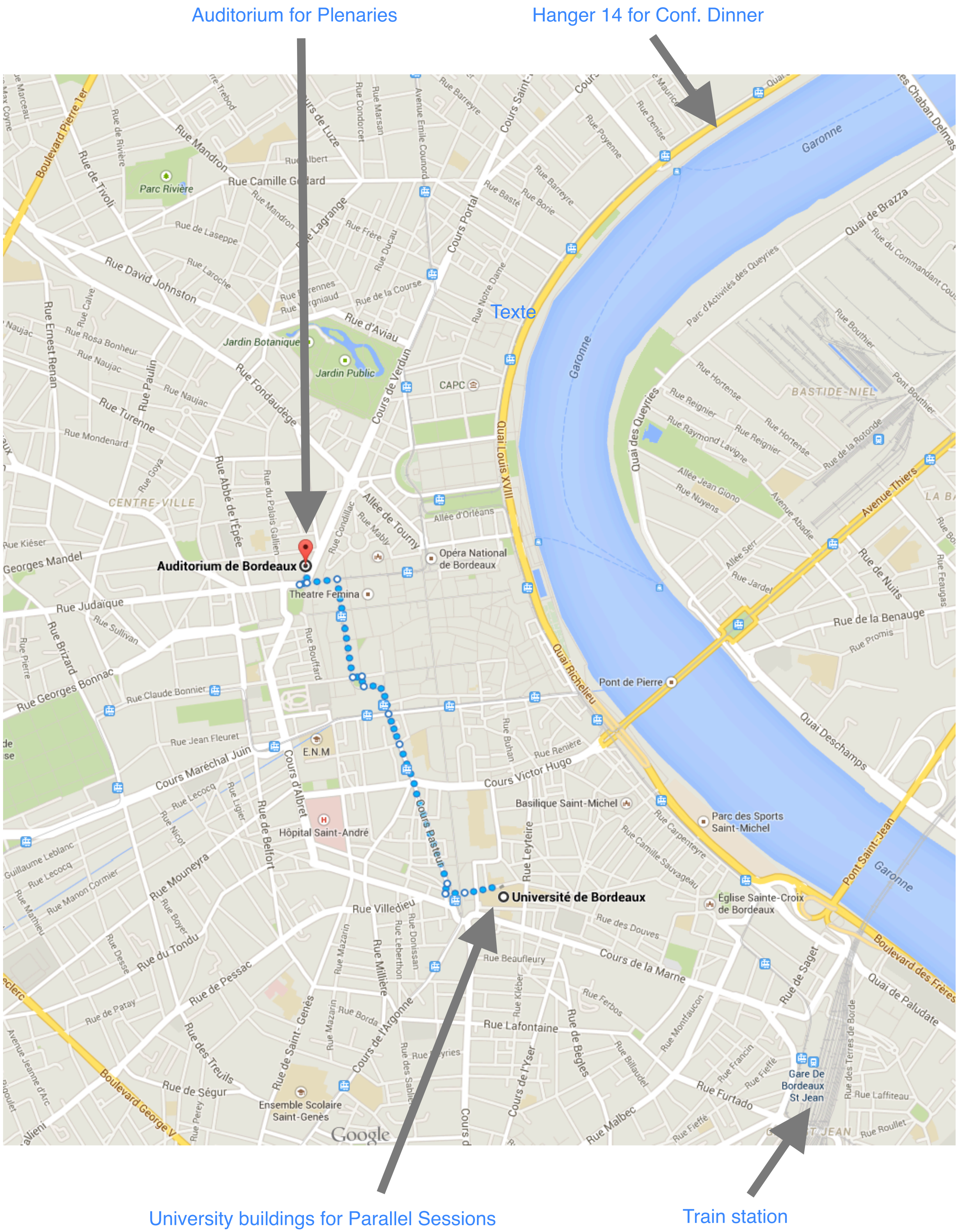
Alongside registration on Sunday afternoon from 2pm to 8pm, we have a wine tasting event at the Victoire site to welcome you in Bordeaux. Attendees who have not registered for this event can do it on site.

Conference Dinner on Wednesday

The conference dinner will take place on the Garonne river bank, at Hangar 14 (see the map below) from 7:30pm to 11:30pm. This casual banquet is organized to induce encountering between the 1000 participants. You will enjoy the wine of Chateau Couhins, a Pessac-Leognan, property of the research institute in agronomy (INRA). The finest catering is delivered by Lacoste.

Farewell Party on Friday

On Friday evening, we hold an informal banquet at the modern art museum, named CAPC (musée d'art contemporain de Bordeaux, Rue Ferrère, Entrepôt Lainé). Finger food and more, wine and draft beer, ... to enjoy the company of your friends before leaving.


Auditorium for Plenaries
Hanger 14 for Conf. Dinner
Auditorium de Bordeaux
Université de Bordeaux
Theatre Femina
Opéra National de Bordeaux
Jardin Public
Jardin Botanique
Parc Rivière
CENTRE-VILLE
BASTIDE-NIEL
Garonne
Texte
Quai Louis XVIII
Quai Richelieu
Pont de Pierre
Cours Victor Hugo
Cours Pasteur
Cours de Verdun
Basilique Saint-Michel
Hôpital Saint-André
Parc des Sports Saint-Michel
Eglise Sainte-Croix de Bordeaux
Gare De Bordeaux St Jean
Ensemble Scolaire Saint-Genès
Cours de la Marne
Quai des Queyries
Quai de Brazza
Quai Deschamps
Boulevard des Frères
Avenue Thiers
Google
University buildings for Parallel Sessions
Train station

		Sun.01	Mon.02	Tue.03	Wed.04	Thu.05	Fri.06
8AM							
				Parallel Sessions 4x30 min	Parallel Sessions 4x30 min	Parallel Sessions 4x30 min	Parallel Sessions 4x30 min
9AM	A		Opening Cerenomy				
10AM							
				Coffee Break	Coffee Break	Coffee Break	Coffee Break
			Break				
11AM	B		Plenary Talk	Semi-Plenary + Keynote speakers	Semi-Plenary + Keynote speakers	Semi-Plenary + Keynote speakers	Semi-Plenary + Keynote speakers
12AM				Meeting of the MPA/B editorial boards	Meeting of MOS and Springer delegations	SIOPT board meeting	
	C		Meeting of the MPC editorial board				
1PM							
			Semi-Plenary + Keynote speakers	Plenary Talk	Plenary Talk	Plenary Talk	Plenary Talk
2PM	D	Registration and wine testing					
			Break	Break	Break	Break	Break
3PM							
4PM	E		Parallel Sessions 3x30 min	Parallel Sessions 3x30 min	Parallel Sessions 3x30 min	Parallel Sessions 3x30 min	Parallel Sessions 3x30 min
5PM	F		Parallel Sessions 4x20/3x30 min	MOS Business Meeting	Parallel Sessions 4x20/3x30 min	Parallel Sessions 4x20/3x30 min	Parallel Sessions 4x20/3x30 min
6PM							
7PM			MOS council meeting	Optimization discussion group			
					Conference Dinner		Farewell Party
8PM	G						
9PM							

Special Events

Business Meetings

- **Meeting of the MPC editorial board**: Monday July 2 at lunch time, salle Arnozan, building Q on the ground floor.
- **MOS council meeting**: Monday, July 2 at 6:30 pm, salle Arnozan, building Q on the ground floor.
- **Meeting of the MPA/B editorial boards**: Tuesday July 3 at lunch time, salle Arnozan, building Q on the ground floor.
- **MOS business meeting**: Tuesday, July 3 at 5:00 pm, Amphi Broca, external building, top floor.
- **Optimization discussion group** (sponsor: INFORMS Optimization Society): Tuesday, July at 6:30 pm, Amphi Deniges, building C, on the ground floor.
- **Meeting of MOS with Springer**: Wednesday at lunch time, salle Arnozan, building Q on the ground floor.
- **SIOPT board meeting**: Thursday at lunch time, salle Arnozan, building Q on the ground floor.

Opening Ceremony

The Opening Ceremony takes place Monday July 2 from 9am to 11am at the Auditorium (place Cambetta). It features the Prize Awards:

1. The **Paul Y. Tseng Memorial Lectureship in Continuous Optimization**, for outstanding contributions in continuous optimization.
2. The **A.W. Tucker Prize**, for an outstanding thesis in mathematical programming.
3. The **Lagrange Prize in Continuous Optimization**, for outstanding work in continuous optimization.
4. The **Beale - Orchard Hays Prize**, for outstanding work in computational mathematical programming.
5. The **Delbert Ray Fulkerson Prize**, for outstanding papers in discrete mathematics. Sponsored jointly by MOS and the American Mathematical Society.
6. The **George B. Dantzig Prize**, for original research having a major impact on mathematical optimization.

The Ceremony will conclude with a show given by the University Chorale, singing a canticorum jubilo by Haendel, a piece of Passereau, and Conquest Paradise by Vangelis.

Plenary Sessions

On the relationship between machine learning and optimization

by **Francis Bach**, INRIA - ENS, FR
PLENARY - Mo 11:00am-12:00am
Invited Session 552
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Michel Goemans, MIT, US

Many machine learning frameworks are naturally formulated as optimization problems. Over the last few decades, this has led to fruitful exchanges between the two fields: optimization provides new learning algorithms, while machine learning requires solving new types of optimization problems with a specific structure. In this talk, I will present recent work at the interface between the two fields, highlighting the specificity of learning problems and some open problems.

Francis Bach is a researcher at Inria, leading since 2011 the machine learning team which is part of the Computer Science Department at Ecole Normale Supérieure. He graduated from Ecole Polytechnique in 1997 and completed his Ph.D. in Computer Science at U.C. Berkeley in 2005, working with Professor Michael Jordan. He spent two years in the Mathematical Morphology group at Ecole des Mines de Paris, then he joined the computer vision project-team at Inria/Ecole Normale Supérieure from 2007 to 2010. Francis Bach is primarily interested in machine learning, and especially in graphical models, sparse methods, kernel-based learning, large-scale convex optimization, computer vision and signal processing. He obtained in 2009 a Starting Grant and in 2016 a Consolidator Grant from the European Research Council, and received in 2012 the Inria young researcher prize. In 2015, he was program co-chair of the International Conference in Machine learning (ICML), and he will be general chair in 2018.

The Resurgence of Proximal Methods in Optimization

by **Marc Teboulle**, Tel Aviv University, IL
PLENARY - Tu 1:30pm-2:30pm
Invited Session 555
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Claudia Sagastizabal, Unicamp, BR

Proximal based methods are nowadays starring in modern optimization algorithms based on first order information, e.g., function values and gradient/subgradients. This renewed interest is motivated by the current high demand in solving large scale problems arising in a wide spectrum of disparate modern applications. This talk will describe the fundamentals of a fairly general proximal framework, and its impact on some iconic first order optimization algorithms, including recent extensions. Convergence properties and applications in both the convex and nonconvex settings will be described.

Marc Teboulle is a Professor at the School of Mathematical Sciences of Tel Aviv University. He received his D.Sc. from the Technion, Israel Institute of Technology in 1985. He has held a position of Applied Mathematician at Israel Aircraft Industries, and academic appointments at Dalhousie University and the University of Maryland. He serves on the editorial board of several leading journals, and is the Area Editor of Continuous Optimization for Mathematics of Operations Research. His research interests are in the area of continuous optimization, including theory, algorithms, and its applications to many areas of science and engineering.

Relaxations and Approximations of Chance Constraints

by **Shabbir Ahmed**, Georgia Tech, US
PLENARY - We 1:30pm-2:30pm
Invited Session 525
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Simge Kucukyavuz, University of Washington, US

A chance constrained optimization problem involves random constraints that are required to be satisfied with a prespecified probability. Such constraints are used to model reliability requirements in a variety of application areas such as finance, energy, service and manufacturing. Except under very special conditions, chance constraints impart severe nonconvexities making the optimization problem extremely difficult. In this talk we will review results on constructing tractable relaxations and approximate solutions for this hard class of problems. Extensions to distributionally robust chance constrained problems will also be discussed.

Shabbir Ahmed is the Anderson-Interface Chair and Professor in the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology. His research interests are in stochastic and discrete optimization. Dr. Ahmed is a past Chair of the Stochastic Programming Society. He serves on the editorial board of several journals including Operations Research, Mathematical Programming and the INFORMS Journal on Optimization. Dr. Ahmed's honors include the INFORMS Computing Society Prize, the National Science Foundation CAREER award, two IBM Faculty Awards, and the INFORMS Dantzig Dissertation award. He is a Senior Member of IEEE and a Fellow of INFORMS.

Randomness, risk and electricity prices

by **Andy Philpott**, University of Auckland, NZ
PLENARY - Th 1:30pm-2:30pm
Invited Session 554
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Michael Ferris, University of Wisconsin, US
Co-Authors: *Michael Ferris*,

Competitive markets for electricity supply have been around for over twenty years. They were introduced to support commercial investment in conventional generation plants with known costs and capacities, under predictable operating conditions. The design of these markets was therefore based primarily on deterministic optimization paradigms. Improvements in stochastic programming models and algorithms allied with the growth of intermittent and distributed generation and energy storage prompts a re-examination of these market designs. We examine the formation of electricity prices and incentives through a stochastic programming lens, where optimization models are used to yield efficient solutions and stochastic equilibrium models are used to study incentives. Differences between solutions to these models occur when agents are risk averse and markets for risk are incomplete. We illustrate using two case studies: stochastic optimization of ramping generation in markets with wind power and hydroelectric reservoir optimization with uncertain inflows.

Andy Philpott is Professor of Operations Research and co-director of the Electric Power Optimization Centre at the University of Auckland. His research interests are in stochastic optimization and game theory and their application to electricity markets. Dr Philpott currently serves on the editorial board of Operations Research, and has previously served on the editorial boards of Mathematical Programming and Operations Research Letters. Dr Philpott is an INFORMS Edelman Laureate and a Fellow of INFORMS.

Bounds for quantum graph parameters by conic and polynomial optimization

by **Monique Laurent**, CWI and Tilburg University, NL
PLENARY - Fr 1:30pm-2:30pm
Invited Session 553
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Frank Vallentin, University of Cologne, DE
Co-Authors: *Sander Gribling*, *David de Laat*, *Sabine Burgdorf*, *Teresa Piovesan*,

Quantum information is a rich source of challenging optimization problems. In particular, the study of quantum correlations, which are used to model the effect of quantum entanglement, leads to hard optimization problems where the variables may be instantiated to positive semidefinite matrices of arbitrary size (instead of nonnegative scalars in the classical case). This also leads to natural quantum analogues of classical graph parameters like minimum graph coloring and maximum stable sets. We will introduce the relevant concepts and discuss how to model and bound these quantum graph parameters, and other problems over quantum correlations, using tools from conic, semidefinite and noncommutative polynomial optimization.

Monique Laurent is researcher at Centrum Wiskunde and Informatica (CWI) in Amsterdam and she has a part-time appointment as full professor at Tilburg University. She received her Ph.D. in Mathematics at the University Paris Diderot in 1986 and was a researcher at CNRS in Paris before joining CWI in 1997. Her research focuses on algebraic and geometric methods for optimization problems in operations research, discrete and polynomial optimization, and quantum information. She co-authored the book Geometry of Cuts and Metrics (Springer) and she is a SIAM Fellow. Presently she serves on the editorial boards of Mathematical Programming, SIAM Journal on Discrete Mathematics and SIAM Journal on Mathematics of Data Science.

Semi-Plenary and Keynote Sessions

What's happening in nonconvex optimization? A couple of stories

by **Emmanuel Candes**, Stanford University, US
KEYNOTE - Mo 1:30pm-2:30pm
Invited Session 536
Room: SIGALAS Building: C, 2nd floor , Zone: 2
Chair: Jean-Baptist Hiriart-Urruty, Paul Sabatier University, FR
Co-Authors: *Yuxin Chen*,

In recent years, there has been astounding progress in the theory and practice (algorithms, professional-grade software development, applications) of convex optimization to the point that it has become a real pillar of modern engineering. On the other hand, the field of non-convex optimization is far less mature and may draw comparisons with 17th century medicine (ad-hoc methods, no performance guarantees, unreliable results, and so on). This is unfortunate because most problems of interest to information scientists are non-convex in nature; e.g. many maximum likelihood estimates are, in fact, solutions to non-convex problems, some of which being notoriously hard. This talk will briefly review a rapidly emerging literature showing that, perhaps surprisingly, some important non-convex problems may not be as hard as they seem. We will discuss some of this exciting research emphasizing applications in signal and image processing such as phase retrieval, and in machine learning such as low-rank factorization.

Emmanuel Candès is the Barnum-Simons Chair in Mathematics and Statistics, and professor of Electrical Engineering (by courtesy) at Stanford University, where he currently chairs the Department of Statistics. Emmanuel's work lies at the interface of mathematics, statistics, information theory, signal processing and scientific computing. Candès graduated from the Ecole Polytechnique in 1993 with a degree in science and engineering, and received his Ph.D. in Statistics from Stanford University in 1998. He received the 2006 Alan T. Waterman Award from NSF, the 2013 Dannie Heineman Prize from the Academy of Sciences at Göttingen, the 2010 George Polya Prize awarded by the Society of industrial and Applied Mathematics (SIAM), and the 2015 AMS-SIAM George David Birkhoff Prize in Applied Mathematics. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. Candès has been named a 2017 MacArthurFellow, an honor popularly known as the genius grant.

Theoretical Analysis of Cutting-Planes in IP Solvers.

by **Santanu Dey**, GaTech, US
KEYNOTE - Mo 1:30pm-2:30pm
Invited Session 538
Room: DENIGES Building: C, Ground Floor , Zone: 5
Chair: Gerard Cornuejols, Carnegie Mellon University, US
Co-Authors: *Marco Molinaro*,

While many classes of cutting-planes are at the disposal of integer programming solvers, our scientific understanding is far from complete with regards to cutting-plane selection, that is the task of selecting a portfolio of cutting-planes to be added to the LP relaxation at a given node of the branch-and-bound tree. In order to keep the underlying linear program sparse, most commercial Mixed integer linear programming solvers consider sparsity of cuts as an important criterion for cutting-plane selection and use. The use of sparse cutting-planes may be viewed as a compromise between two competing objectives. On the one hand, the use of sparse cutting-planes aids in solving the linear programs encountered in the branch-and-bound tree faster. On the other hand, it is possible that important facet-defining or valid inequalities for the convex hull of the feasible solutions are dense and thus without adding these cuts, one may not be able to attain significant integrality gap closure. We analyze various aspects of sparsity in cutting-plane selection and use.

Santanu S. Dey is an Associate Professor in the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Institute of Technology. Dr. Dey holds a Ph.D. in Industrial Engineering from Purdue University. Prior to joining Georgia Tech, he worked as a post-doctoral fellow at the Center for Operations Research and Econometrics (CORE) of the Catholic University of Louvain in Belgium. Dr. Dey's research interests are in the area of non convex optimization, and in particular mixed integer linear and nonlinear programming.

Multiobjective Optimization with PDE Constraints

by **Michael Hintermüller**, WIAS Berlin, DE
SEMI - Mo 1:30pm-2:30pm
Invited Session 550
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Stephen Wright, U Wisconsin-Madison, US

Motivated by engineering applications, but in particular also by applications in economics, where multi-agent market models integrate the physics of underlying processes (e.g., leading to spot markets with transport in connection with production and distribution of gas through a network of pipelines), generalized Nash games with partial differential equations (PDEs) and further private as well as global constraints are considered. The PDE typically models the underlying physics, may be subject to further constraints on the physical state and is influenced by the individual agents through their decision making process. The talk addresses some mathematical modeling issues with a particular focus on the interplay of constraint types and underlying topologies in infinite dimensions and the analysis of existence of Nash equilibria. It also includes aspects of an efficient numerical treatment of the problem class. Concerning the latter, path-following semi smooth Newton schemes are highlighted as they exhibit mesh independent convergence upon discretizing the original infinite dimensional problem. With respect to path-following techniques, sensitivity based Moreau-Yosida approaches, e.g. suitable for pointwise constraints on the state or its derivatives, will be intertwined with Nikaido-Isoda techniques for addressing the underlying game structure. Some numerical results for model problems, but also for a simplified spot market model with transport will be reported on. The talk closes by an outlook on possible future research in the field.

Michael Hintermüller is Professor of Applied Mathematics at Humboldt-Universität zu Berlin, Director of the Weierstrass Institute for Applied Analysis and Stochastics, and Speaker of the Einstein-Center for Mathematics Berlin. He received his PhD from the University of Linz in Austria and held positions at the University of Graz (Austria), Rice University (USA) and Sussex University (UK). He is SIAM Fellow and editor of several international peer-reviewed journals such as SIAM J. Num. Analysis or ESAIM COCV. His research interests include PDE-constrained optimization, quasi-variational inequalities and Nash games as well as variational image processing. Concerning applications, he is involved in interdisciplinary projects, e.g. focusing on energy markets or the design of next generation microprocessor, as well as in cooperations with industry.

Asymptotic Lagrangian duality for nonsmooth optimization

by **Regina Burachik**, UniSA, AU
KEYNOTE - Tu 11:00am-12:00am
Invited Session 541
Room: DENIGES Building: C, Ground Floor , Zone: 5
Chair: Xiaojun Chen, Hong Kong Polytechnic Univ., HK

For nonconvex optimization problems, zero duality gap and saddle-point properties can be established by using a generalized Lagrangian function that verifies suitable properties. The latter fact was originally proved by Rockafellar and Wets in 2007 in finite dimensions and extended in various ways in the last decade. The main advantage of this approach is that the resulting dual problem is convex and hence tractable via standard techniques. In this way, the optimal value, and sometimes even a solution, of the original problem, can be obtained by solving the dual problem using nonsmooth convex techniques. In the first part of the talk, we will recall some recent advances and applications of this fact in nonconvex duality. We will show how techniques from nonsmooth convex analysis can be incorporated into this duality scheme and provide a solution of the original (nonconvex/nonsmooth problem). In the second part of the talk, we will report on some new results involving a sequence of dual problems that converge (in a suitable sense) to a given dual problem (called asymptotic dual problem). This model can be useful within an iterative scheme in which (i) we use a sequence of smooth approximations of a nonsmooth Lagrangian, or (ii) we want to incorporate current information to update the Lagrangian at each iteration. For the asymptotic duality, we establish hypotheses under which zero duality gap holds. We illustrate the new results in the context of equality constrained problems and nonlinear semi-definite problems.

Regina Burachik is an Associate Professor in Optimization at University of South Australia. She publishes extensively in nonsmooth/convex/nonconvex optimization, variational inequalities, and set-valued analysis. She co-authored the Springer research-level book:"Set-Valued Analysis and Monotone Mappings". Her interest is in both theoretical and practical aspects of nonsmooth optimization and related areas, including variational inequalities, maximal monotone maps, convex analysis, and duality theory for nonconvex optimization. She is part of editorial boards of around 10 international journals in the area of optimization, including JOTA, SIOPT, SVVAN and Optimization Letters.

Lower bounds on the size of linear programs

by **Thomas Rothvoss**, University of Washington, US
KEYNOTE - Tu 11:00am-12:00am
Invited Session 545
Room: BROCA Building: W, 3rd floor , Zone: 0
Chair: Volker Kaibel, OVGU Magdeburg, DE

For half a century, proving that certain computational problems cannot be solved efficiently by a computer has turned out to be one of the hardest mathematical questions, with very little to no progress at all. However, in many scenarios it is very natural to consider restricted computational models, and here the situation is more promising. For example, a very standard approach in Operations Research is to model a computational problem as a linear program; this has the natural geometric interpretation of writing the solution space as projection of a higher dimensional polytope with few facets. There has been remarkable progress in the last few years in understanding this model, leading to almost tight lower bounds that we will describe in this talk.

Thomas Rothvoss is Assistant Professor in the Department of Mathematics and the Department of Computer Science and Engineering at the University of Washington. He is working in the intersection of theoretical computer science and discrete optimization. He received a STOC 2010 Best Paper Award, a SODA 2014 Best Paper Award and a STOC 2014 Best Paper Award. His research is supported by an Alfred P. Sloan Research Fellowship (2015), a David and Lucile Packard Foundation Fellowship (2016) as well as an NSF CAREER Award (2016).

Adaptive Robust Optimization with Scenario-wise Ambiguity Sets

by **Melvyn Sim**, NUS, SG
SEMI - Tu 11:00am-12:00am
Invited Session 551
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Daniel Kuhn, EPFL, CH
Co-Authors: *Chen Zhi*, *Peng Xiong*,

We present a tractable format for optimization under uncertainty based on the framework of adaptive robust optimization via a new class of scenario-wise ambiguity sets. The new format naturally unifies classical stochastic programming and robust optimization, and also incorporates the more recent distributionally robust optimization with ambiguity sets based on generalized moments, mixture distribution, Wasserstein (or Kantorovich-Rubinstein) metric, ϕ-divergence, and new ones such as k-means clustering, among others. We introduce a compatible scenario-wise affine recourse approximation, which is developed on the classical affine recourse approximation (a.k.a. linear decision rule or affine policy), to provide tractable solutions to adaptive robust optimization problems.

Dr. Melvyn Sim is Professor and Provost's Chair at the Department of Analytics and Operations, NUS Business school. His research interests fall broadly under the categories of decision making and optimization under uncertainty with applications ranging from finance, supply chain management, healthcare to engineered systems. He is one of the active proponents of Robust Optimization and has given invited talks in this field at international conferences.

Monotone Operator Theory in Convex Optimization

by **Patrick Combettes**, North Carolina State Univ., US
KEYNOTE - We 11:00am-12:00am
Invited Session 537
Room: BROCA Building: W, 3rd floor , Zone: 0
Chair: Samir Adly, Laboratoire XLIM, FR

Several aspects of the interplay between monotone operator theory and convex optimization are discussed. The crucial role played by monotone operators in the analysis and the numerical solution of convex minimization problems is emphasized. We review the properties of subdifferentials as maximally monotone operators and, in tandem, investigate those of proximity operators as resolvents. In particular, we study transformations which map proximity operators to proximity operators, and establish connections with self-dual classes of firmly nonexpansive operators. In addition, algorithmic considerations are discussed.

Online Competitive Algorithms for Resource Allocation

by **Maryam Fazel**, Univ. of Washington, US
KEYNOTE - We 11:00am-12:00am
Invited Session 539
Room: DENIGES Building: C, Ground Floor , Zone: 5
Chair: Frank Curtis, Lehigh University, US

In online optimization with budgets, the data in the optimization problem is revealed over time, and at each step a decision variable needs to be set without knowing the future inputs, while there is a budget constraint that couples the decisions across time. In this talk, we consider an online optimization setup that includes problems such as online (budgeted) resource allocation with a fixed inventory, and the 'Adwords' problem popular in online advertising. We examine two classes of primal-dual algorithms, with a focus on the competitive ratio, i.e., the ratio of the objective achieved by the algorithm to that of the optimal offline sequence of decisions. We give a bound on this ratio and show how certain smoothing of the objective function can improve the bound, and how to seek the optimal smoothing by solving a convex design problem. This approach allows us to design effective smoothing customized for a given cost function and problem structure. We will illustrate this approach in several classical examples, as well as a few new ones.

Maryam Fazel is an Associate Professor of Electrical Engineering at the University of Washington, with adjunct appointments in Computer Science and Engineering, Mathematics, and Statistics. Maryam received her MS and PhD from Stanford University, her BS from Sharif University of Technology in Iran, and was a postdoctoral scholar at Caltech before joining UW. Her current research interests are in mathematical optimization and applications in machine learning. She is a recipient of the NSF Career Award, the UWEE Outstanding Teaching Award, UAI conference Best Student Paper Award (with her student), and coauthored a paper on low-rank matrix recovery selected as a Fast-Breaking paper by Science Watch (2011). She co-leads the NSF Algorithmic Foundations for Data Science Institute at UW, and is an associate editor of SIAM journals on Optimization and on Mathematics of Data Science.

Model-Based Methods, Sampling Models, and A New Second-Order Model-Based Method

by **Luis Nunes Vicente**, University of Coimbra, PT
KEYNOTE - We 11:00am-12:00am
Invited Session 546
Room: LEYTEIRE Building: E, 3rd floor , Zone: 1
Chair: Stefan Wild, Argonne National Laboratory, US

The use of modeling in numerical optimization is ubiquitous. The accuracy of a model depends on how much we know about

the problem function, in particular about its derivatives. A model can be used as a surrogate either to directly compute an approximate solution to the problem at hand or in a subproblem for the step computation of some iterative method, such as a trust-region method. In this talk we will first review new complexity results for trust-region methods when the exact gradient is not available, covering the cases of inexact gradients, random models whose accuracy is provided with some probability, and derivative-free optimization where models are recovered using only function values. Such a rich background can deliver a model recovery in other scenarios. One can sample Hessian vector products where we do function values to build models with approximate curvature. Based on this idea, we will present a new Hessian free second-order model-based method.

Luis Nunes Vicente is a Professor of Mathematics at the University of Coimbra, Portugal. His research interests include Continuous Optimization, Computational Science and Engineering, and Machine Learning and Data Science. He obtained his PhD from Rice University in 1996, under a Fulbright scholarship, receiving from Rice the Ralph Budd Thesis Award. He was one of the three finalists of the 94-96 A. W. Tucker Prize of the Mathematical Optimization Society (MOS). In 2015, he was awarded the Lagrange Prize of SIAM (Society for Industrial and Applied Mathematics) and MOS for the co-authorship of the book - Introduction to Derivative-Free Optimization, MPS-SIAM Series on Optimization, SIAM, Philadelphia, 2009. He held visiting positions at the IBM T.J. Watson Research Center and the IMA/University of Minnesota in 2002/2003, at the Courant Institute of Mathematical Sciences/NYU and the Université Paul Verlaine of Metz in 2009/2010, and at Roma/Sapienza and Rice University in 2016/2017. He has served on numerous editorial boards, including SIAM Journal on Optimization (2009-2017), EURO Journal on Computational Optimization, and Optimization Methods and Software. He is currently Editor-in-Chief of Portugaliae Mathematica, the Portuguese Mathematical research journal published by the European Mathematical Society.

Insights via volumetric comparison of polyhedral relaxations

by **Jon Lee**, University of Michigan, US
SEMI - We 11:00am-12:00am
Invited Session 548
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Andrea Lodi, Polytechnique Montreal, CA

I will survey some mathematical results (many quite recent) concerning volumes of polytopes of interest in non-convex optimization. The motivation is in geometrically comparing relaxations in the context of mixed-integer linear and nonlinear optimization, with the goal of gaining modeling and algorithmic insights. We consider relaxations of: fixed-charge formulations, vertex packing, boolean-quadric polytopes, and relaxations of graphs of monomials on box domains. Besides surveying the area, I will highlight some good open problems.

Jon Lee is the G. Lawton and Louise G. Johnson Professor of Engineering at the University of Michigan. He received his Ph.D. from Cornell University. Jon is the author of the text - A First Course in Combinatorial Optimization- (Cambridge University Press), and the open-source book - A First Course in Linear Optimization- (Reex Press). He was the founding Managing Editor of the journal Discrete Optimization, he is currently Editor-in-Chief of the journal Mathematical Programming. Jon was Chair of the Executive Committee of the Mathematical Optimization Society, and Chair of the INFORMS Optimization Society. He was awarded the INFORMS Computing Society Prize, and he is a Fellow of INFORMS.

Cutting Planes in the Extended Space

by **Oktay Gunluk**, IBM Research, US
KEYNOTE - Th 11:00am-12:00am
Invited Session 543
Room: BROCA Building: W, 3rd floor , Zone: 0
Chair: Adam Letchford, Lancaster University, GB

For a given formulation of an optimization problem, an extended formulation is one which uses additional variables to represent the same problem in an extended space. In integer programming literature there is a significant body of work that focuses

on constructing compact polyhedral descriptions of integer programs in this framework. In this talk, we take a different approach and study the effect of adding cutting planes in the extended space for mixed-integer programs. We show that for 0-1 problems, even when the initial extended formulation is not stronger than the original LP formulation, it is possible to obtain the convex hull of integer solutions after adding one round of split cuts. This idea also leads to an lift-and-project operator with better theoretical properties than other similar operators. We also consider what we call binarization schemes that produce extended formulations by expressing each bounded integer variable with a collection of auxiliary binary variables. We present a hierarchy of such binarization schemes and present numerical experiments.

Oktay Gunluk is a research staff member at IBM Research. He has received his BS and MS degrees from Bogazici University and his Ph.D. in operations research from Columbia University. His research interests are mainly mixed-integer programming and discrete optimization. His applied work spans various industrial problems including production planning, fleet scheduling, port optimization, vehicle routing, oil pipeline scheduling and site selection in agriculture. He has served on the editorial boards of Networks, Mathematical Programming Computation, and MOS/SIAM Book Series on Optimization. He is currently an associate editor for Operations Research and Optimization and Engineering journals. He has served on the program committees for MIP, IPCO, and ISCO and currently serves in the IPCO steering committee.

Effective Scenarios and Scenario Reduction for Risk-Averse Stochastic Programs

by **Tito Homem-de-Mello**, Universidad Adolfo Ibanez, CL
KEYNOTE - Th 11:00am-12:00am
Invited Session 544
Room: DENIGES Building: C, Ground Floor , Zone: 5
Chair: Jim Luedtke, University of Wisconsin-Madiso, US
Co-Authors: *Sebastian Arpon*, *Bernardo Pagnoncelli*, *Hamed Rahimian*, *Guzin Bayraksan*,

In this talk we discuss some scenario reduction methods for risk-averse stochastic optimization problems. Scenario reduction techniques have received some attention in the literature and are used by practitioners, as such methods allow for an approximation of the random variables in the problem with a moderate number of scenarios, which in turn makes the optimization problem easier to solve. The majority of works for scenario reduction are designed for classical risk-neutral stochastic optimization problems; however, it is intuitive that in the risk-averse case one is more concerned with critical scenarios that correspond to high cost. The identification of such critical scenarios can be accomplished using the notion of effective scenarios recently introduced in the literature in the context of distributionally robust optimization problems. According to that notion, a scenario is effective if the removal of that scenario — defined in a precise way — causes a change in the optimal objetive function value; in some cases, it is posible to identify the effective scenarios analytically. By building upon these tools, we propose a scenario reduction technique for stochastic optimization problems where the objective function is a Conditional Value-at-Risk. The numerical results presented with problems from the literature illustrate the performance of the method and indicate the general cases where we expect it to perform well.

Tito Homem-de-Mello is a Professor in the School of Business at Universidad Adolfo Ibañez, Santiago, Chile. He obtained his Ph.D. in Industrial and Systems Engineering from Georgia Institute of Technology, and a B.Sc. in Computer Science and M.S. in Applied Mathematics from University of São Paulo, Brazil. His research focuses on optimization of systems under uncertainty. In particular, he studies theory and algorithms for stochastic optimization as well as applications of such methods in several areas such as risk management, energy, and transportations. He was co-Chair of the Program Committee of the XIV International Conference on Stochastic Programming, held in Brazil in 2016. Dr. Homem-de-Mello has been awarded prizes for Best Paper from IIE Transactions (2012), INFORMS Revenue Management and Pricing Section (2007), and INFORMS George Nicholson student paper competition (1998).

The BARON software for MINLP

by **Nikolaos Sahinidis**, Carnegie Mellon University, US
SEMI - Th 11:00am-12:00am
Invited Session 547
Room: Auditorium Building: Symphony Hall, Zone: 0

Chair: Claudia D Ambrosio, LIX, FR

The BARON project for the global optimization of NLPs and MINLPs began in the early 1990s. The project has led to the introduction of a number of methodologies to the forefront of global optimization, including domain reduction techniques, finite branching schemes for continuous problems, polyhedral relaxations, dynamic convexity detection, and the use of multi-term relaxations, multi-constraint relaxations, integer programming relaxations, and portfolios of relaxations in branch-and-bound algorithms. In this talk, we review key developments in the history of BARON, and present computational results on benchmarks and an application in symbolic regression.

Nick Sahinidis is John E. Swearingen Professor and Director of the Center for Advanced Process Decision-making at Carnegie Mellon University. He joined Carnegie Mellon in 2007 after a sixteen-year long career at the University of Illinois at Urbana, where he taught in Industrial Engineering and Chemical Engineering. His research addresses the development of theory, algorithms, and the BARON software for global optimization of mixed-integer nonlinear programs, as well as applications in a variety of fields, including process systems optimization and machine learning. His honors have included the INFORMS Computing Society Prize, the Beale-Orchard-Hays Prize, the Computing in Chemical Engineering Award, the Constantin Carathéodory Prize, and the National Award and Gold Medal from HELORS. Professor Sahinidis is a fellow of INFORMS and AIChE. He is the Editor-in-Chief of Optimization and Engineering.

Majority judgment

by **Michel Balinski**, CNRS and Ecole Polytechnique, FR
KEYNOTE - Fr 11:00am-12:00am
Invited Session 535
Room: LEYTEIRE Building: E, 3rd floor , Zone: 1
Chair: Martine Labbé, Université Libre de Bruxelles, BE

Every well-known voting procedure in use today hides important vices that can deny the will of the electorate including majority vote with only two candidates (the domination paradox), approval voting, and all methods that ask voters to rank-order candidates. The reason: voters cannot adequately express their opinions. Majority judgment asks voters to express their opinions by evaluating every candidate in a common language of ordinal grades such as: Great, Good, Average, Poor, or Terrible. Majorities determine the electorate's evaluation of each candidate and the ranking between every pair of candidates (necessarily transitive), with the first-placed among them the winner. Majority judgment is described together with real examples of its use. It was specifically designed to (1) permit voters to express their opinions, (2) be meaningful in the sense of measurement theory, (3) guarantee a transitive order-of-finish (avoiding Condorcet's paradox), (4) avoid Arrow's paradox (when the order-of-finish of two candidates depends on the presence/absence of another candidate), (5) combat strategic manipulation and encourage the honest expression of opinions. References M. Balinski and R. Laraki, Majority Judgment: Measuring, Ranking, and Electing, M.I.T. Press 2011. – and –, "Judge: Don't Vote!" Operations Research 62 (2014) 483-511.

Michel Balinski, a Williams College graduate, completed an M.S. in economics at MIT and a Ph.D. in mathematics at Princeton. He has taught at Princeton, Penn, CUNY Graduate Center, Yale and SUNY, Stony Brook. Beginning in 1982 he was Directeur de Recherche de classe exceptionnelle of the CNRS at the Ecole Polytechnique, Paris. He was awarded INFORMS's Lanchester Prize in 1965, the MAA's Lester R. Ford Award in 1976 and in 2009, an honorary degree in mathematics from the University of Augsburg in 2004, and INFORMS's John von Neumann Theory Prize in 2013. He is the founding editor of Mathematical Programming and a past President of the Mathematical Optimization Society. He is the author of Fair Representation: Meeting the Ideal of One Man, One Vote (1982, reissued 2001, with H. P. Young), Le suffrage universel inachevé (2004), and Majority Judgment: Measuring, Ranking and Electing (2011, with R. Laraki), and the author or co-author of about 150 articles. His principal current interest is the design of electoral systems. One of his electoral systems is used in several Swiss cantons.

Submodularity in mixed-integer quadratic and conic quadratic optimization

by **Alper Atamturk**, UC Berkeley, US
KEYNOTE - Fr 11:00am-12:00am

Invited Session 540
Room: DENIGES Building: C, Ground Floor , Zone: 5
Chair: Daniel Bienstock, Columbia University, US

Submodularity plays an important role in developing effective methods for numerous combinatorial optimization problems. However, its use beyond 0-1 optimization, especially for problems with continuous variables, has been limited. In this talk, we review the recent progress in exploiting submodularity or partial submodularity in mixed 0-1 quadratic and conic quadratic optimization for deriving strong formulations and effective algorithms.

Alper Atamturk is a Professor of Industrial Engineering and Operations Research at the University of California, Berkeley. He received his Ph.D. from the Georgia Institute of Technology in 1998 with a major in Operations Research and minor in Computer Science. His research interests are in optimization, integer programming, optimization under uncertainty with applications to energy, portfolio and network design, cancer therapy, and defense. Dr. Atamturk is a national security fellow (NSSEFF) of the US Department of Defense. He serves on the editorial boards of Mathematical Programming A, Mathematical Programming C, Discrete Optimization, and Journal of Risk.

Modern Branch-and-Cut Implementation

by **Matteo Fischetti**, University of Padua, IT
KEYNOTE - Fr 11:00am-12:00am
Invited Session 542
Room: BROCA Building: W, 3rd floor , Zone: 0
Chair: Marc Pfetsch, TU Darmstadt, DE

The Branch and Cut (B and C) method was proposed in 1990's by Manfred Padberg and Giovanni Rinaldi, and is nowadays the method of choice for the exact solution of Mixed-Integer Linear Programs (MILPs). A typical use of the MILP technology consists in writing a computer program (in any high-level programming language such as C/C++, Python, Matlab, etc.) that reads the input data, internally generates the model of interest, and solves it by invoking appropriate functions provided by the solver. Open-source and commercial MILP solvers provide a wide set of parameters to control its execution. In some cases, however, one is interested in customizing the solver even further, by exploiting some problem-specific knowledge. To this end, modern MILP codes provide so-called "callback functions" that are automatically invoked by the solver at some critical points of its execution. By default, the callbacks are not installed, meaning that they are not active and the solver uses its own default solution strategy. By installing her own callbacks, an advanced user can then take control of the solution algorithm and fully customize it. In the talk we will quickly describe the most-used callback functions for a generic B and C solver for MILPs. As an example of application, we will show how callback functions can be used to allow a given MILP solver to handle (nonconvex) bilinear terms of the form $z_i = x_i y_i$, thus producing a fully-general B and C solver for mixed-integer quadratic problems.

Matteo Fischetti is full professor of Operations Research at the Department of Information Engineering of the University of Padova, Italy. He is Associate Editor of the international journals "Operations Research" and "Mathematical Programming Computation". He won, among others, the Best Ph.D. Dissertation on Transportation prize awarded by the Operations Research Society of America (1987) and the INFORMS Edelman award (2008). In 2015 he was awarded the Harold Larnder Prize by the Canadian Operational Research Society. His research interests include Integer Programming, Combinatorial Optimization, Railway Optimization, Vehicle Routing and Crew Scheduling Problems.

Tseng Memorial Lectureship in Continuous Optimization

SEMI - Fr 11:00am-12:00am
Invited Session 549
Room: Auditorium Building: Symphony Hall, Zone: 0
Chair: Yaxiang Yuan, Chinese Academy of Sciences, CN

Mini-Symposia

A.W. Tucker Prize Session

A.W. Tucker Prize Session

INTERFACE - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 559
Chair: Simge Kucukyavuz, University of Washington, US

Interface

Stochastic optimization

INTERFACE - We 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 314
Chair: Alexei Gaivoronski, NTNU, NO

Logistics

INTERFACE - We 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 388
Chair: Frieder Smolny, Technical University Berlin, DE

Solvers and softwares

INTERFACE - We 5:00pm-6:30pm, Format: 4x20 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 390
Chair: François Clautiaux, Université de Bordeaux, FR

Energy

INTERFACE - Th 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 387
Chair: Kazem Abbaszadeh, UoA, NZ

Planning

INTERFACE - Th 5:00pm-6:30pm, Format: 4x20 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 389
Chair: Jeanjean Antoine, Recommerce Group, FR

Mixed-integer optimization with differential equations

Optimal Control Problems with Discrete Switches

MINLP - Fr 8:30am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 102
Organizer: Christian Kirches, TU Braunschweig, DE

1 - An Algorithm for Model-Predictive Control of Switched Nonlinear Dynamic Systems
Speaker: Adrian Bürger, Karlsruhe UAS, DE, talk 828
Co-Authors: *Angelika Altmann-Dieses*, *Moritz Diehl*, *Clemens Zeile*, *Sebastian Sager*,
2 - Approximation algorithms for MIOCPs with discontinuous switch costs
Speaker: Felix Bestehorn, TU Braunschweig, DE, talk 1043

Co-Authors: *Christian Kirches*,
3 - Numerical Modeling of Switched Systems with Jumps in Optimal Control Problems
Speaker: Matthias Schloeder, IAM Heidelberg University, DE, talk 570
Co-Authors: *Ekaterina Kostina*,

Outer Convexification and Mixed-Integer Optimal Control

MINLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 103
Organizer: Sebastian Sager, University Magdeburg, DE

1 - Improved Regularity Assumptions for Partial Outer Convexification of MIPDECOs
Speaker: Paul Manns, TU Braunschweig, DE, talk 833
Co-Authors: *Christian Kirches*,
2 - Combinatorial Integral Approximation Decompositions for Mixed-Integer Control
Speaker: Clemens Zeile, University of Magdeburg, DE, talk 505
Co-Authors: *Tobias Weber*, *Sebastian Sager*,
3 - Global optimization of ODE constrained network problems
Speaker: Oliver Habeck, TU Darmstadt, DE, talk 376
Co-Authors: *Marc Pfetsch*, *Stefan Ulbrich*,

Mixed-Integer PDE-Constrained Optimization

MINLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 63
Organizer: Sven Leyffer, Argonne National Laboratory, US

1 - Inversion of Convection-Diffusion PDE with Discrete Source
Speaker: Meenarli Sharma, IIT Bombay, IN, talk 1094
Co-Authors: *Sven Leyffer*, *Lars Ruthotto*,
2 - Shape optimization towards binary variables with PDE constraints
Speaker: Martin Siebenborn, Universität Hamburg, DE, talk 607
3 - Set-valued steepest descent for binary topology and control optimization
Speaker: Mirko Hahn, OvGU Magdeburg, DE, talk 1036
Co-Authors: *Sebastian Sager*, *Sven Leyffer*,

Convexification and more

Convexification and more (I)

MINLP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 62
Organizer: Jon Lee, University of Michigan, US

1 - Treating indefinite quadratic and bilinear forms in MINLP
Speaker: Marcia Fampa, UFRJ, BR, talk 620
Co-Authors: *Jon Lee*,
2 - Valid inequalities for QCQPs
Speaker: Amélie Lambert, Cedric-Cnam, FR, talk 745
3 - More Virtuous Smoothing
Speaker: Luze Xu, University of Michigan, US, talk 772
Co-Authors: *Jon Lee*, *Daphne Skipper*,

Convexification and more (II)

MINLP - Th 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 106
Organizer: Akshay Gupte, Clemson University, US

1 - Binary Programming with Semilinear Elliptic PDE-constraints
Speaker: Christoph Buchheim, TU Dortmund, DE, talk 374
Co-Authors: *Renke Kuhlmann*, *Christian Meyer*,
2 - Using algebraic structure to accelerate polyhedral approximation
Speaker: Christopher Coey, MIT, US, talk 692
Co-Authors: *Juan Pablo Vielma*,
3 - Quadratic optimization with M-matrices and semi-continuous variables
Speaker: Andres Gomez, University of Pittsburgh, US, talk 220
Co-Authors: *Alper Atamturk*,

MIP under Uncertainty

MIP under Uncertainty 1

IPtheory - Tu 8:30am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 231
Organizer: Fatma Kilinc-Karzan, Carnegie Mellon University, US

1 - Distributionally Robust Combinatorial Optimization
Speaker: Shabbir Ahmed, Georgia Tech, US, talk 1562
Co-Authors: *Ruiwei Jiang*, *Mohit Singh*,
2 - Risk-Averse Set Covering Problems
Speaker: Simge Kucukyavuz, University of Washington, US, talk 927
Co-Authors: *Hao-Hsiang Wu*,
3 - Mixed-Integer Recourse via Prioritization
Speaker: Ruiwei Jiang, University of Michigan, US, talk 1189
Co-Authors: *Yuanyuan Guo*,

MIP under Uncertainty 2

IPtheory - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 232
Organizer: Simge Kucukyavuz, University of Washington, US

1 - Two-stage stochastic p-order conic mixed integer programs
Speaker: Manish Bansal, Virginia Tech, US, talk 154
Co-Authors: *Yingqiu Zhang*,
2 - Inexact cutting plane techniques for two-stage stochastic mixed-integer programs
Speaker: Ward Romeijnders, University of Groningen, NL, talk 228
Co-Authors: *Niels van der Laan*, *Suvrajeet Sen*,
3 - Solving Stochastic and Bilevel Mixed-Integer Programs via a Generalized Value F.
Speaker: Andrew Schaefer, Rice University, US, talk 560
Co-Authors: *Onur Tavaslioglu*, *Oleg Prokopyev*,

Decomposition for multistage stochastic problems

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 1

Stoch - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 246
Organizer: Vincent Leclère, ENPC, FR

1 - Computing parameter sensitivities for discrete time Markov decision processes
Speaker: David Wozabal, Technical University of Munich, DE, talk 1002
Co-Authors: *Goncalo Terca*,
2 - Modeling time-dependent randomness in stochastic dual dynamic programming

Speaker: Nils Löhndorf, University of Luxembourg, LU, talk 849
Co-Authors: *Alexander Shapiro*,
3 - Computing ellipsoidal controlled invariant sets for stochastic programming
Speaker: Benoît Legat, UCLouvain, BE, talk 1243
Co-Authors: *Raphaël Jungers*,

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 2

STOCH - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

INVITED SESSION 247
Organizer: Vincent Leclère, ENPC, FR

1 - The practitioners guide to SDDP: lessons from SDDP.jl
Speaker: Oscar Dowson, University of Auckland, NZ, talk 439
2 - Decomposing Dynamic Programming equations: from global to nodal value functions
Speaker: François Pacaud, CERMICS, FR, talk 615
Co-Authors: *Carpentier Pierre*, *Michel De Lara*,
3 - Energy portfolio optimization for Brazilian distribution companies: a multistage
Speaker: Vitor de Matos, Plan4, BR, talk 1373
Co-Authors: *Guilherme Ramalho*, *Paulo Larroyd*, *Rodrigo Antunes*, *Luis Baran*, *Julia Paul*, *Marcos Coelho*,
4 - Stochastic programming framework for risk aversion representation with SDDP
Speaker: Luiz Carlos da Costa Junior, PSR, BR, talk 1498
Co-Authors: *Raphael Chabar*, *Joaquim Dias Garcia*,

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 3

STOCH - Fr 8:30am-10:30am, Format: 4x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

INVITED SESSION 245
Organizer: Vincent Leclère, ENPC, FR

1 - Distributionally Robust Dual Dynamic Programming
Speaker: David Morton, Northwestern University, US, talk 435
Co-Authors: *Daniel Duque*,
2 - Stochastic dual dynamic integer programming
Speaker: Andy Sun, Georgia Institute of Technolog, US, talk 943
Co-Authors: *Shabbir Ahmed*, *Jikai Zou*,
3 - A deterministic algorithm for solving stochastic minimax dynamic programmes
Speaker: Regan Baucke, University of Auckland, NZ, talk 900
Co-Authors: *Anthony Downward*, *Golbon Zakeri*,
4 - Exact converging bounds for Stochastic Dual Dynamic Programming
Speaker: Vincent Leclère, ENPC, FR, talk 349
Co-Authors: *François Pacaud*, *Arnaud Lenoir*, *Jean-Philipp Chancelier*, *Carpentier Pierre*,

First-order methods for large-scale convex problems

First-order methods for large-scale convex problems

LEARNING - Th 8:30am-10:30am, Format: 4x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

INVITED SESSION 316
Organizer: Stephen Vavasis, University of Waterloo, CA

1 - A single potential governing convergence of CG, AG and Geometric Descent
Speaker: Stephen Vavasis, University of Waterloo, CA, talk 582
Co-Authors: *Sahar Karimi*,
2 - Robust Accelerated Gradient Method
Speaker: Mert Gurbuzbalaban, Rutgers University, US, talk 1106
3 - Randomized methods for convex feasibility problems and applications to ML

Speaker: Peter Richtarik, KAUST, SA, talk 385
Co-Authors: *Ion Necoara*, *Andrei Patrascu*,
4 - Bregman Divergence for Stochastic Variance Reduction
Speaker: Yaoliang Yu, University of Waterloo, CA, talk 937
Co-Authors: *Xinhua Zhang*, *Zhan Shi*,

First-order methods for large-scale convex problems II

LEARNING - Th 5:00pm-6:30pm, Format: 4x20 min
Room: FABRE Building: J, Ground Floor, Zone: 8

INVITED SESSION 318
Organizer: Stephen Vavasis, University of Waterloo, CA

1 - Convex Low Rank Semidefinite Optimization
Speaker: Madeleine Udell, Cornell, US, talk 770
Co-Authors: *Lijun Ding*, *Volkan Cevher*, *Joel Tropp*, *Alp Yurtsever*,
2 - Frank-Wolfe Splitting via Augmented Lagrangian Method
Speaker: Simon Lacoste-Julien, Université de Montréal, CA, talk 1514
Co-Authors: *Gautheir Gidel*, *Fabian Pedregosa*,
3 - Extending performance estimation beyond exact convex fixed-step methods
Speaker: Francois Glineur, UCLouvain, BE, talk 1072
Co-Authors: *Adrien Taylor*, *Théo Golvet*,
4 - Low-Storage Conditional Gradient Method for Low-Rank and Sparse Optimization
Speaker: Xuan Vinh Doan, The University of Warwick, GB, talk 1286
Co-Authors: *Stephen Vavasis*, *Jimit Majmudar*,

Advances in MINLP

MINLP (I)

MINLP - We 8:30am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

INVITED SESSION 65
Organizer: Daniel Bienstock, Columbia University, US

1 - Time-Varying Semidefinite Programs
Speaker: Bachir El Khadir, Princeton University, US, talk 1194
Co-Authors: *Amir Ali Ahmadi*,
2 - Strengthened Relaxations for Quadratic Optimization with Switching Variables
Speaker: Kurt Anstreicher, University of Iowa, US, talk 147
3 - A Simple Nearly-Optimal Restart Scheme For Speeding-Up First Order Methods
Speaker: James Renegar, Cornell University, US, talk 117
Co-Authors: *Benjamin Grimmer*,

MINLP (II)

MINLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

INVITED SESSION 66
Organizer: Daniel Bienstock, Columbia University, US

1 - Polyhedral relaxations for nonconvex quadratic functions
Speaker: Akshay Gupte, Clemson University, US, talk 1144
2 - Product convexification: A new relaxation framework for nonconvex programs
Speaker: Mohit Tawarmalani, Purdue University, US, talk 93
Co-Authors: *Taotao He*,
3 - Sparse conic optimization: low-rank solutions and near-linear time algorithms
Speaker: Javad Lavaei, UC Berkeley, US, talk 110
Co-Authors: *Richard Zhang*,

MINLP (III)

MINLP - We 5:00pm-6:30pm, Format: 3x30 min

Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 67
Organizer: Daniel Bienstock, Columbia University, US

1 - Cardinality-constrained linear regression with sparse matrices
Speaker: Alberto Del Pia, UW-Madison, US, talk 167
Co-Authors: *Robert Weismantel*, *Santanu Dey*,
2 - Computational evaluation of new dual bounding techniques for sparse PCA
Speaker: Guanyi Wang, Georgia Tech, US, talk 935
Co-Authors: *Santanu Dey*, *Rahul Mazumder*,
3 - Cutting Planes for Linear Programs with Complementarity Constraints
Speaker: Jeff Linderoth, Univ. of Wisconsin-Madison, US, talk 1327
Co-Authors: *Alberto Del Pia*, *Haoran Zhu*,

Efficient Methods for Piecewise Algorithmic Differentiation

Numerically Efficient Methods for Piecewise Algorithmic Differentiation I

Algo - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 269
Organizer: Torsten Bosse, FSU Jena, DE

1 - Study of the numerical efficiency of structured abs-normal forms
Speaker: Sri Hari Narayanan, Argonne National Laboratory, US, talk 1505
Co-Authors: *Torsten Bosse*,
2 - (Almost) Matrix-free solver for piecewise linear functions in Abs-Normal form
Speaker: Torsten Bosse, FSU Jena, DE, talk 962
3 - An active signature method for piecewise differentiable/linear optimization.
Speaker: Andreas Griewank, Yachay Tech, EC, talk 1545
Co-Authors: *Andrea Walther*, *Lisa Hegerhorst*,
4 - Solving l_1 regularized minimax problems by successive piecewise linearization
Speaker: Angel Rojas, Yachay Tech, EC, talk 1549
Co-Authors: *Andreas Griewank*,

Numerically Efficient Methods for Piecewise Algorithmic Differentiation II

Algo - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 270
Organizer: Torsten Bosse, FSU Jena, DE

1 - Pushing the Algorithmic Differentiation tool Tapenade towards new languages
Speaker: Laurent Hascoet, INRIA, FR, talk 1534
Co-Authors: *Valerie Pascual*,
2 - Generalized Sensitivity Analysis of Nonlinear Programs
Speaker: Peter Stechlinski, University of Maine, US, talk 340
Co-Authors: *Kamil Khan*, *Paul Barton*, *Amir Akbari*, *Johannes Jaschke*,
3 - Evaluating generalized derivatives efficiently for nonsmooth composite functions
Speaker: Kamil Khan, McMaster University, CA, talk 1435
4 - Optimality Conditions for Nonsmooth Constrained Optimization Problems
Speaker: Lisa Hegerhorst, Leibniz Universität Hannover, DE, talk 726

Progress in Conic and MIP Solvers

Progress in MIP Solvers I

Algo - We 8:30am-10:30am, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 235

Organizer: Michael Winkler, Gurobi, DE

1 - New features and improvements in the SAS/OR optimization package
Speaker: Imre Polik, SAS Institute, US, talk 898
2 - MIPLIB 2017+1
Speaker: Thorsten Koch, ZIB and TU Berlin, DE, talk 370
Co-Authors: *The MIPLIB-team*,
3 - Benchmarks of commercial and noncommercial optimization software
Speaker: Hans Mittelmann, Arizona State University, US, talk 41

Progress in Conic and MIP Solvers

Algo - We 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 237
Organizer: Imre Polik, SAS Institute, US

1 - Artelys Knitro 11.0, a new conic solver and other novelties
Speaker: Jean-Hubert Hours, Artelys, FR, talk 556
Co-Authors: *Richard Waltz*, *Figen Oztoprak Topkaya*, *Michaël Gabay*, *Sylvain Mouret*,
2 - MOSEK version 9
Speaker: Erling Andersen, MOSEK, DK, talk 346
3 - Recent enhancements in MATLAB Optimization Toolbox solvers for LP and MILP
Speaker: Franz Wesselmann, The MathWorks GmbH, DE, talk 737

Progress in MIP Solvers II

Algo - We 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 234
Organizer: Hans Mittelmann, Arizona State University, US

1 - Benders Decomposition in IBM CPLEX
Speaker: Andrea Tramontani, IBM, IT, talk 895
2 - Gurobi 8.0 - What's new
Speaker: Michael Winkler, Gurobi, DE, talk 1393
3 - Recent Progress in the Xpress Solvers
Speaker: Michael Perregaard, FICO, GB, talk 658

Computational Integer Programming

Computational Integer Programming I

Algo - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 273
Organizer: Domenico Salvagnin, University of Padova, IT

1 - Exploiting Degeneracy in MIP
Speaker: Tobias Achterberg, Gurobi, DE, talk 412
Co-Authors: *Zonghao Gu*, *Edward Rothberg*,
2 - Online Estimation of the Size of the Branch and Bound Tree in MIP Solvers
Speaker: Pierre Le Bodic, Monash University, AU, talk 197
3 - Multi-Row Intersection Cuts based on the Infinity Norm
Speaker: Alinson Xavier, Argonne National Laboratory, US, talk 858
Co-Authors: *Ricardo Fukasawa*, *Laurent Poirrier*,

Computational Integer Programming II

Algo - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 274

Organizer: Domenico Salvagnin, University of Padova, IT

1 - Tighter LP relaxations for configuration knapsacks using extended formulations
Speaker: Gregor Hendel, Zuse Institute Berlin, DE, talk 381
Co-Authors: *Ralf Borndörfer*, *Marika Karbstein*, *Timo Berthold*, *Heide Hoppmann*,
2 - Lexicographic Optimization and Recovery in Two-Stage Robust Scheduling
Speaker: Dimitrios Letsios, Imperial College London, GB, talk 504
Co-Authors: *Ruth Misener*,
3 - Dynamic Row Disablement: a practical Implementation of the Kernel Simplex Method
Speaker: Roland Wunderling, IBM, AT, talk 861

Interior-point methods for large-scale problems

Implementation of interior-point methods for large-scale problems and applications I

Algo - Mo 3:15pm-4:45pm, Format: 2x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 353
Organizer: Jordi Castro, Univ. Politècnica de Catalunya, ES

1 - A feasible direction interior point algorithm for linear programming
Speaker: Jose Herskovits, UFRJ, BR, talk 31
Co-Authors: *Miluzca Victorio*, *Nelson Maculan*,
2 - A specialized interior-point algorithm for very large minimum cost flows in bipa
Speaker: Stefano Nasini, IESEG School of Management, FR, talk 38
Co-Authors: *Jordi Castro*,

Implementation of interior-point methods for large-scale problems and applications II

Algo - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 352
Organizer: Jordi Castro, Univ. Politècnica de Catalunya, ES

1 - On the implementation of the crossover algorithm
Speaker: Csaba Meszaros, FICO, GB, talk 992
2 - Interior point methods applied to context-free grammar parameter estimation
Speaker: Aurelio Oliveira, University of Campinas, BR, talk 1040
Co-Authors: *Sofia Lopez*,
3 - A new specialized interior-point method for support vector machines
Speaker: Jordi Castro, Univ. Politècnica de Catalunya, ES, talk 81

High-Performance Computing in Optimization

High-Performance Computing in Optimization I

Algo - Th 8:30am-10:30am, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Invited Session 271
Organizer: Kibaek Kim, ANL, US

1 - Performance Assessment for Parallel MILP Solvers
Speaker: Ted Ralphs, Lehigh University, US, talk 1347
Co-Authors: *Stephen Maher*, *Yuji Shinano*,
2 - Ubiquity Generator Framework to parallelize state-of-the-art B and B based solvers
Speaker: Yuji Shinano, Zuse Institute Berlin, DE, talk 1181
3 - Branching Strategies on Decomposition Methods for Mixed-Integer Programming
Speaker: Kibaek Kim, ANL, US, talk 1510

Co-Authors: *Brian Dandurand*,

High-Performance Computing in Optimization II

ALGO - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

CONTRIBUTED SESSION 466
Chair: Joaquim Dias Garcia, PSR and PUC-Rio, BR

1 - High-Performance Solver for Binary Quadratic Problems
Speaker: Timotej Hrga, University of Ljubljana, SI, talk 969
Co-Authors: *Janez Povh*, *Angelika Wiegele*,
2 - Bilevel optimization approaches for power system security
Speaker: Brian Dandurand, Argonne National Laboratory, US, talk 1413
Co-Authors: *Kibaek Kim*, *Sven Leyffer*,
3 - Genesys: Simulating Power Systems by Solving Millions of MIPs
Speaker: Joaquim Dias Garcia, PSR and PUC-Rio, BR, talk 1091
Co-Authors: *André Pinto*, *Raphael Chabar*, *Julio Dias*, *Luiz Carlos da Costa Junior*, *John Fazio*, *John Ollis*, *Dan Hua*,

MINLP methods in gas transport optimization

MINLP methods in gas transport optimization (I)

MINLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

INVITED SESSION 162
Organizer: Lars Schewe, FAU, DE

1 - MIP techniques for instationary gas transport optimization and gas market models
Speaker: Lars Schewe, FAU, DE, talk 1298
2 - Solving MINLPs by Simultaneous Convexification with Application to Gas Networks
Speaker: Nick Mertens, TU Dortmund, DE, talk 742
Co-Authors: *Maximilian Merkert*, *Dennis Michaels*, *Frauke Liers*, *Alexander Martin*,
3 - Complementarity-Based Nonlinear Programming Techniques for Optimal Mixing in Gas
Speaker: Falk Hante, FAU Erlangen-Nürnberg, DE, talk 1288
Co-Authors: *Martin Schmidt*,

MINLP methods in gas transport optimization (II)

MINLP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

INVITED SESSION 163
Organizer: Lars Schewe, FAU, DE

1 - Exploiting acyclic orientations to solve nonlinear potential-based flow problems
Speaker: Benjamin Hiller, Zuse Institute Berlin, DE, talk 905
Co-Authors: *Kai-Helge Becker*,
2 - ASTS-Orientations on Undirected Graphs - A tool for optimizing network flows
Speaker: Kai Becker, Zuse-Institute Berlin, DE, talk 1446
Co-Authors: *Benjamin Hiller*,
3 - Robust Optimal Discrete Arc Sizing for Tree-Shaped Potential Networks
Speaker: Johannes Thürauf, Universität Erlangen-Nürnberg, DE, talk 546
Co-Authors: *Lars Schewe*, *Martin Schmidt*, *Martin Robinius*, *Detlef Stolten*, *Lara Welder*,

Parallel Sessions

Monday 02

CLUSTER: Discrete Optimization & Integer Programming

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
IPtheory		Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **Provable guarantees for Cut Generating Functions** Organizer: Amitabh Basu, session 220	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Lattice methods in Integer Optimisation** Organizer: Iskander Aliev, session 78
IPpractice		Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **IP Practice I** Chair: Maurice Queyranne, session 506	Salle 44 Bld C, 3rd floor Z 1 F 4x20 min **Data Mining** Chair: Marcus Poggi, session 504
IPpractice			Salle 36 Bld B, Intermediate Z 4 F 4x20 min **IP Practice II** Chair: Petra Bartmeyer, session 508
MINLP		Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Exact Optimization Algorithms for Compressed Sensing** Organizer: Marc Pfetsch, session 56	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Mixed-Integer Conic Optimization** Organizer: Sven Wiese, session 57
MINLP		Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Tight relaxations in nonconvex MINLP** Organizer: Ambros Gleixner, session 128	Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Polynomial optimization in binary variables** Organizer: Elisabeth Rodriguez-Heck, session 58
MINLP		Salle 35 Bld B, Intermediate Z 4 F 3x30 min **MINLP methods in gas transport optimization (I)** Organizer: Lars Schewe, session 162	Salle 35 Bld B, Intermediate Z 4 F 3x30 min **MINLP methods in gas transport optimization (II)** Organizer: Lars Schewe, session 163
APPROX		LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Geometry of Polynomials and Applications in Approximate Counting** Organizer: Shayan Oveis Gharan, session 99	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Scheduling and File Migration** Chair: Asaf Levin, session 345
APPROX		Salle 36 Bld B, Intermediate Z 4 F 3x30 min **Matching and Matroids** Organizer: José Soto, session 341	Salle 43 Bld C, 3rd floor Z 1 F 4x20 min **Algorithms for matching markets** Organizer: Amin Saberi, session 467
COMB		SIGALAS Bld C, 2nd floor Z 2 F 3x30 min **On the Tree Augmentation Problem** Organizer: Laura Sanità, session 240	SIGALAS Bld C, 2nd floor Z 2 F 4x20 min **Combinatorial optimization and convexity** Chair: Yu Yokoi, session 424
COMB		Salle 41 Bld C, 3rd floor Z 1 F 3x30 min **Scheduling with setup, uncertainty and precedences** Organizer: Monaldo Mastrolilli, session 419	Salle 41 Bld C, 3rd floor Z 1 F 4x20 min **Practical aspects of network optimization** Chair: Kai Hoppmann, session 427
CP		DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Global Optimization** Organizer: Hassan Hijazi, session 299	

Monday 02

CLUSTER: Optimization under Uncertainty

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Stoch		Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Scenario discretization techniques in stochastic optimization** Organizer: Fabian Bastin, session 287	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Distributionally Robust Stochastic Programming: Theory and Applications** Organizer: Ran Ji, session 250
Stoch			Salle 30 Bld B, Ground Floor Z 5 F 3x20 min **Differentiability, convexity, and modeling in stochastic optimization** Chair: Kai Spuerkel, session 493
Robust		DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Preference robust optimization** Organizer: Erick Delage, session 166	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Advances in Adjustable Robust Optimization** Organizer: Do Young Yoon, session 350
Robust		Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **Distributionally Robust Optimization - New Theory and Applications** Organizer: Zhichao Zheng, session 356	Salle 37 Bld B, Intermediate Z 4 F 3x20 min **New models in robust optimization** Chair: Juan Borrero, session 459
Markov		Salle 31 Bld B, Ground Floor Z 5 F 3x30 min **Approximate dynamic programming** Organizer: David Brown, session 159	Salle 31 Bld B, Ground Floor Z 5 F 2x30 min **Learning and dynamic programming** Chair: Boxiao Chen, session 381
Game		Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Risk and Energy Markets** Chair: Julio Deride, session 376	

Monday 02

CLUSTER: Continuous Optimization

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
NLP		GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Polynomial and tensor optimization I** Organizer: Jiawang Nie, session 5	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Gradient Methods for Constrained Optimization Problems** Organizer: Igor Konnov, session 4
NLP		Salle 05 Bld Q, 1st floor Z 11 F 3x30 min **Convex regularization and inverse problems** Organizer: Pierre Weiss, session 216	Salle 05 Bld Q, 1st floor Z 11 F 4x20 min **Polynomial and tensor optimization III** Organizer: Jiawang Nie, session 7
NLP		Salle KC7 Bld K, Intermediate 2 Z 10 F 3x30 min **Sparse Recovery** Chair: Mustafa Pinar, session 432	Salle 9 Bld N, 4th floor Z 12 F 3x20 min **Modeling in NLP** Chair: Laura Balzano, session 433
NonSmooth		Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Nonconvex Optimization: Theory and Methods - Part 1** Organizer: Shoham Sabach, session 184	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Extending the Reach of First-Order Methods, Part I** Organizer: Haihao Lu, session 285
NonSmooth		Salle 9 Bld N, 4th floor Z 12 F 2x30 min **Adaptivity in non smooth optimization** Organizer: Masaru Ito, session 558	
SDP		Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Using SDP relaxations and solving them faster** Organizer: Elisabeth Gaar, session 113	Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Solving large scale convex composite programming** Organizer: Kim-Chuan Toh, session 130
SDP		Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Algorithms for nonlinear conic problems** Chair: Takayuki Okuno, session 463	Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Convergence and Approximation in Conic Programming** Chair: Tamás Terlaky, session 465
Variat		Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Proximal Methods for Structured Problems** Organizer: Ting Kei Pong, session 147	Salle 06 Bld Q, 1st floor Z 11 F 4x20 min **Nonlinear Optimization and Variational Inequalities VI** Organizer: Cong Sun, session 146
Variat		Salle ARNOZAN Bld Q, Ground Floor Z 8 F 3x30 min **Algorithms for optimization and variational problems with possibly nonisolated solutions I** Organizer: Andreas Fischer, session 152	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x20 min **Variational Analysis 4** Organizer: Jo Brueggemann, session 370
RandomM		Salle KC6 Bld K, Intermediate 1 Z 10 F 3x30 min **Coordinate Descent and Randomized Direct Search Methods** Organizer: Martin Takac, session 211	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x20 min **Complexity of Randomized Algorithms** Organizer: Raghu Pasupathy, session 347
DerFree		Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Mixed-integer derivative-free optimization** Chair: Clément Royer, session 80	Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Advances in DFO I** Chair: Sébastien Le Digabel, session 40
Control		Salle AURIAC Bld G, 1st floor Z 6 F 3x30 min **Theory and Methods for ODE- and PDE-Constrained Optimization 1** Chair: Carl Greiff, session 331	Salle AURIAC Bld G, 1st floor Z 6 F 4x20 min **Advances in optimization methods for time dependent problems:I** Organizer: Matthias Heinkenschloss, session 223

Monday 02

CLUSTER: Specific Models, Algorithms, and Software

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Learning		FABRE Bld J, Ground Floor Z 8 F 3x30 min **Distributed Optimization** Organizer: Franck Iutzeler, session 325	FABRE Bld J, Ground Floor Z 8 F 4x20 min **Riemannian geometry in optimization for learning** Organizer: Nicolas Boumal, session 320
Learning		Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Decisions and learning from data** Chair: Christopher McCord, session 481	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x20 min **Exploiting structure in constrained optimization** Organizer: Mihai Cucuringu, session 334
Learning			Salle 22 Bld G, 2nd floor Z 6 F 4x20 min **Sparsity, variable selection and efficient algorithms** Chair: Alex Sholokhov, session 475
Logistics		PITRES Bld O, Ground Floor Z 8 F 3x30 min **Facility Layout** Chair: Anders Gullhav, session 450	Salle 16 Bld I, 2nd floor Z 7 F 3x20 min **Packing and Capacity Management** Chair: Eugene Zak, session 452
Scheduling		Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Combinatorial Optimization in Chip Design** Organizer: Stefan Hougardy, session 257	Salle 18 Bld I, 1st floor Z 7 F 4x20 min **Manufacturing** Chair: Younsoo Lee, session 530
Energy		Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Progress in Algorithms for Optimal Power Flow Problems I** Organizer: Miguel Anjos, session 8	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Novel data-driven OR techniques for power system operations and planning** Organizer: Juan Morales, session 52
Energy		Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Topics in power systems** Organizer: Alberto Lamadrid, session 438	Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Structure and Learning in Power Grid Optimization** Organizer: Deepjyoti Deka, session 135
Sciences		Salle LA4 Bld L, Basement Z 8 F 3x30 min **Portfolio Optimization** Chair: Bernardo Pagnoncelli, session 393	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Structure from evidence** Organizer: Peter Gritzmann, session 386
Algo		Salle 22 Bld G, 2nd floor Z 6 F 2x30 min **Implementation of interior-point methods for large-scale problems and applications I** Organizer: Jordi Castro, session 353	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Implementation of interior-point methods for large-scale problems and applications II** Organizer: Jordi Castro, session 352
Algo		Salle 18 Bld I, 1st floor Z 7 F 3x30 min **Advances in Linear, Non Linear and Mixed-Integer Optimization** Chair: Hiroshige Dan, session 400	

Tuesday 03

CLUSTER: Discrete Optimization & Integer Programming

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
IPtheory	Salle 43 Bld C, 3rd floor Z 1 F 4x30 min **Extended formulations** Organizer: Stefan Weltge, session 219	Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **MIP under Uncertainty 2** Organizer: Simge Kucukyavuz, session 232	
IPtheory	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **MIP under Uncertainty 1** Organizer: Fatma Kilinc-Karzan, session 231		
IPtheory	Salle 35 Bld B, Intermediate Z 4 F 4x30 min **Cutting Planes for Integer Programs** Chair: Matthias Köppe, session 512		
IPpractice	Salle 44 Bld C, 3rd floor Z 1 F 4x30 min **Machine Learning for Optimization** Organizer: Bistra Dilkina, session 138	Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **Symmetry Handling in Integer Programs** Organizer: Christopher Hojny, session 129	
MINLP		DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Applications in Mixed-Integer Quadratic Programming** Organizer: Boshi Yang, session 107	
MINLP		Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Convex relaxations in MINLP** Organizer: Adam Letchford, session 278	
MINLP		Salle 35 Bld B, Intermediate Z 4 F 3x30 min **Applications of MINLP** Organizer: Dolores Romero Morales, session 281	
APPROX	LEYTEIRE Bld E, 3rd floor Z 1 F 4x30 min **Streaming** Organizer: Michael Kapralov, session 228	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Algorithms in the Sharing Economy** Organizer: David Shmoys, session 22	
APPROX	Salle 36 Bld B, Intermediate Z 4 F 4x30 min **Approximation Algorithms for Clustering** Organizer: Chaitanya Swamy, session 256	Salle 36 Bld B, Intermediate Z 4 F 3x30 min **Local Search and Facility Location** Organizer: Felix Willamowski, session 342	
COMB	SIGALAS Bld C, 2nd floor Z 2 F 4x30 min **Matching games and beyond** Organizer: Jochen Koenemann, session 241	Salle 41 Bld C, 3rd floor Z 1 F 3x30 min **New developments in prophet inequalities and related settings** Organizer: Ruben Hoeksma, session 258	
COMB	Salle 41 Bld C, 3rd floor Z 1 F 4x30 min **Equilibrium Computation in Congestion Games** Organizer: Umang Bhaskar, session 242	Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Submodular optimization and beyond** Chair: Satoru Iwata, session 418	
COMB	Salle 39 Bld E, 3rd floor Z 1 F 4x30 min **Exact approaches for problems over lattices and graphs** Chair: Daniele Catanzaro, session 425		
CP	DURKHEIM Bld A, 3rd floor Z 1 F 4x30 min **Graphical Optimization Model 1** Organizer: Joris Kinable, session 295		

Tuesday 03

CLUSTER: Optimization under Uncertainty

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Stoch	DENIGES Bld C, Ground Floor Z 5 F 4x30 min **Risk-averse stochastic programming** Organizer: Andrzej Ruszczynski, session 252	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Distributionally Robust and Stochastic Optimization: A Sampling/Scenario Perspective** Organizer: Guzin Bayraksan, session 249	
Robust	Salle 37 Bld B, Intermediate Z 4 F 3x30 min **Nonlinear Optimization with Uncertain Constraints** Organizer: Charlie Vanaret, session 110	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **Recent Advances in Robust Optimization I** Organizer: Phebe Vayanos, session 442	
Robust	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **Robust Optimization and Operations Mangement** Organizer: Chaithanya Bandi, session 410	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Recent Advances in Robust Optimization II** Organizer: Wolfram Wiesemann, session 445	
Markov	Salle 31 Bld B, Ground Floor Z 5 F 4x30 min **Algorithms for stochastic games : new approaches** Organizer: Hugo Gimbert, session 137	Salle 31 Bld B, Ground Floor Z 5 F 3x30 min **Market places and dynamic programming** Chair: Dan Iancu, session 380	
Game	Salle 30 Bld B, Ground Floor Z 5 F 4x30 min **Algorithmic Game Theory I** Organizer: Luce Brotcorne, session 311	Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Game Theory and Energy Markets** Chair: Didier Aussel, session 375	

Tuesday 03

CLUSTER: Continuous Optimization

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
NLP	GINTRAC Bld Q, Ground Floor Z 8 F 4x30 min **Stochastic and Nonlinear Optimization I** Organizer: Jorge Nocedal, session 47	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Sum-of-squares and moment problems: methods and applications** Organizer: Etienne De Klerk, session 2	
NLP	Salle 05 Bld Q, 1st floor Z 11 F 4x30 min **Machine learning and sparse optimisation** Organizer: Coralia Cartis, session 109	Salle KC7 Bld K, Intermediate 2 Z 10 F 3x30 min **Bridging NLP and Theoretical Computer Science** Organizer: Aleksander Madry, session 51	
NLP	Salle KC7 Bld K, Intermediate 2 Z 10 F 4x30 min **Unconstrained Optimization** Chair: Ekkehard Sachs, session 401	Salle 05 Bld Q, 1st floor Z 11 F 2x30 min **Interior Point Methods in Engineering Applications II** Organizer: Jacek Gondzio, session 61	
NLP		Salle 9 Bld N, 4th floor Z 12 F 3x30 min **Linear Optimization III** Chair: Rodrigo Mendoza Smith, session 439	
NonSmooth	Salle LC4 Bld L, Intermediate 1 Z 9 F 4x30 min **Advances in Bundle Methods for Convex Optimization** Organizer: Christoph Helmberg, session 93	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Nonconvex Optimization: Theory and Methods - Part 2** Organizer: Russell Luke, session 186	
NonSmooth	Salle 8 Bld N, 4th floor Z 12 F 4x30 min **Addressing problems with complex geometries** Organizer: Edouard Pauwels, session 229		
SDP	Salle 20 Bld G, 1st floor Z 6 F 4x30 min **Algebraic and geometric aspects of semidefinite programming** Organizer: Hamza Fawzi, session 85	Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Recent Advances in Conic Programming I** Organizer: Makoto Yamashita, session 82	
SDP	Salle LC5 Bld L, Intermediate 1 Z 10 F 4x30 min **Theory and algorithms in conic linear programming 1** Organizer: Gabor Pataki, session 88	Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Relative Entropy Optimization II** Organizer: Venkat Chandrasekaran, session 112	
Variat	Salle 06 Bld Q, 1st floor Z 11 F 4x30 min **Nonlinear Optimization and Variational Inequalities V** Organizer: Xin Liu, session 145	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Nonlinear Optimization and Variational Inequalities III** Organizer: Xin Liu, session 143	
Variat	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x30 min **Optmization Algorithms and Variational Inequalites I** Organizer: Bo Jiang, session 148		
RandomM	Salle KC6 Bld K, Intermediate 1 Z 10 F 4x30 min **Larges Scale and Distributed Optimization** Organizer: Ermin Wei, session 214	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x30 min **Recent Advances in Stochastic and Nonconvex Optimization II** Organizer: Mingyi Hong, session 304	
DerFree	Salle 21 Bld G, Intermediate Z 6 F 4x30 min **Bayesian and Randomized Optimization II** Chair: Youssef Diouane, session 79	Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Advances in DFO II** Chair: Warren Hare, session 37	
Control	Salle AURIAC Bld G, 1st floor Z 6 F 4x30 min **Optimization Methods for PDE Constrained Problems** Organizer: Michael Ulbrich, session 221	Salle AURIAC Bld G, 1st floor Z 6 F 3x30 min **Optimal Control and PDE Constrained Optimization** Organizer: Hasnaa Zidani, session 233	

Tuesday 03

CLUSTER: Specific Models, Algorithms, and Software

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Learning	FABRE Bld J, Ground Floor Z 8 F 4x30 min **Optimization in Statistical Learning** Organizer: Quentin Berthet, session 326	Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Distributed and Asynchronous Learning** Organizer: Ion Necoara, session 323	
Learning	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x30 min **Statistics meets optimization: going beyond convexity** Organizer: John Duchi, session 337	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Advances in large-scale machine learning** Organizer: Mark Schmidt, session 327	
Learning	Salle 22 Bld G, 2nd floor Z 6 F 4x30 min **Pricing** Chair: Anastasiya Ivanova, session 478	Salle 22 Bld G, 2nd floor Z 6 F 2x30 min **Learning for mixed integer optimization** Chair: Hari Bandi, session 482	
Network	Salle 18 Bld I, 1st floor Z 7 F 4x30 min **Path and tree problems** Chair: Arthur Delarue, session 360		
Logistics	Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Facility Location** Chair: Ivan Contreras, session 414	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Pricing Methods** Organizer: Rafael Martinelli, session 182	
Scheduling		Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Supply Chain and Lot Sizing** Chair: Simon Thevenin, session 534	
Energy	Salle 23 Bld G, 3rd floor Z 6 F 4x30 min **Electric Vehicles and Decarbonization** Chair: Martim Joyce-Moniz, session 519	Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Equilibrium Modelling in Energy** Organizer: Thomas Kallabis, session 290	
Energy	Salle 24 Bld G, 3rd floor Z 6 F 4x30 min **Risk Models for Electricity Markets** Chair: Michael Ferris, session 521	Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Optimization Models for Renewable Energy Integration 2** Chair: Michel Denault, session 523	
Sciences	Salle LA4 Bld L, Basement Z 8 F 4x30 min **Interval Global Optimization** Organizer: Frederic Messine, session 339	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Optimization in Medicine** Organizer: Sebastian Sager, session 394	
Algo	PITRES Bld O, Ground Floor Z 8 F 4x30 min **LP, Mixed Integer Convex Programming and Decomposition** Organizer: Thorsten Koch, session 236	Salle 18 Bld I, 1st floor Z 7 F 3x30 min **Optimization software and applications** Chair: Bartolomeo Stellato, session 399	

Wednesday 04

CLUSTER: Discrete Optimization & Integer Programming

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
IPtheory	Salle 43 Bld C, 3rd floor Z 1 F 4x30 min **Determinantal structures of IPs** Organizer: Martin Henk, session 131		Salle 43 Bld C, 3rd floor Z 1 F 2x30 min **IP-Formulations** Chair: Temitayo Ajayi, session 516
IPtheory	Salle 35 Bld B, Intermediate Z 4 F 4x30 min **Advances in Integer Programming** Organizer: Santanu Dey, session 230		
IPtheory	Salle 42 Bld C, 3rd floor Z 1 F 4x30 min **Primal Algorithms for Integer Programming Problems** Organizer: Daniel Aloise, session 338		
IPpractice	Salle 44 Bld C, 3rd floor Z 1 F 4x30 min **Benders Decomposition for Combinatorial and Bilevel Optimization** Organizer: Fabio Furini, session 171	Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **Knapsack Problems** Organizer: Enrico Malaguti, session 185	Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **Exact Approaches for Vehicle Routing and Variants** Organizer: Ricardo Fukasawa, session 288
IPpractice		Salle 36 Bld B, Intermediate Z 4 F 3x30 min **Decomposition I** Chair: Dieter Weninger, session 486	
MINLP	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **MINLP (I)** Organizer: Daniel Bienstock, session 65	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Decomposition methods for MINLP** Organizer: Ivo Nowak, session 55	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **MINLP (III)** Organizer: Daniel Bienstock, session 67
MINLP		Salle 34 Bld B, 1st floor Z 3 F 3x30 min **MINLP (II)** Organizer: Daniel Bienstock, session 66	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Robust Approaches for Challenging Uncertain Optimization Problems** Organizer: Frauke Liers, session 124
MINLP		Salle 35 Bld B, Intermediate Z 4 F 3x30 min **MINLP for Data Science** Organizer: Vanesa Guerrero, session 108	Salle 35 Bld B, Intermediate Z 4 F 3x30 min **Advances in MINLP** Organizer: Laura Palagi, session 165
APPROX	LEYTEIRE Bld E, 3rd floor Z 1 F 4x30 min **Approximation Algorithms for the Traveling Salesman Problem** Organizer: Anke van Zuylen, session 23	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Clustering** Organizer: Mohammad Salavatipour, session 30	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Approximation Algorithms for Geometric Packing Problems** Organizer: Fabrizio Grandoni, session 28
APPROX	Salle 36 Bld B, Intermediate Z 4 F 4x30 min **Approximation Algorithms for Scheduling Problems** Organizer: Nicole Megow, session 72	Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **Network Design and Routing** Chair: Yuko Kuroki, session 346	Salle 36 Bld B, Intermediate Z 4 F 3x30 min **Online Optimization** Organizer: Kevin Schewior, session 35
COMB	Salle 41 Bld C, 3rd floor Z 1 F 4x30 min **Discrete Convex Analysis** Organizer: Akiyoshi Shioura, session 243	Salle 41 Bld C, 3rd floor Z 1 F 3x30 min **Variants of the Assignment problem** Organizer: Kavitha Telikepalli, session 266	Salle 41 Bld C, 3rd floor Z 1 F 4x20 min **Connectivity problems and Steiner trees** Chair: Andreas Feldmann, session 421
COMB	Salle 39 Bld E, 3rd floor Z 1 F 4x30 min **Optimization under uncertainty** Organizer: Marco Molinaro, session 261	Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Polyhedral aspects of combinatorial optimization problems** Chair: Guillerme Duvillié, session 404	Salle 39 Bld E, 3rd floor Z 1 F 4x20 min **Shortest paths and cutting stock** Chair: Arnaud Vandaele, session 426
CP	DURKHEIM Bld A, 3rd floor Z 1 F 4x30 min **Learning in CP** Organizer: Arnaud Lallouet, session 301		

Wednesday 04

CLUSTER: Optimization under Uncertainty

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Stoch	DENIGES Bld C, Ground Floor Z 5 F 4x30 min **Chance Constraint and Its Applications** Organizer: Jianqiang Cheng, session 253	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Learning and Stochastic Programming** Organizer: Matthias Poloczek, session 254	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Stochastic Programming and Distributionally Robust Optimization Models with Endogenous Uncertainty** Organizer: Miguel Lejeune, session 248
Stoch	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Sampling and stability in stochastic optimization** Chair: Harsha Honnappa, session 488		Salle 32 Bld B, Ground Floor Z 5 F 4x20 min **Stochastic optimization models and applications** Chair: F.-Javier Heredia, session 495
Robust	Salle 37 Bld B, Intermediate Z 4 F 4x30 min **Interfaces of Applied Probability and Optimization** Organizer: Omar El Housni, session 409	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Dynamic Optimization: Theory and Algorithms** Organizer: Vineet Goyal, session 100	Salle 37 Bld B, Intermediate Z 4 F 2x30 min **Robust Adaptive Control and Learning** Organizer: Siqian Shen, session 97
Robust	Salle 33 Bld B, Ground Floor Z 5 F 4x30 min **Robust combinatorial optimization IV** Chair: Arie Koster, session 449	Salle 37 Bld B, Intermediate Z 4 F 3x30 min **Cursing the Dimensionality: Two-Stage and Multi-Stage Robust Optimization** Organizer: Angelos Tsoukalas, session 443	Salle 33 Bld B, Ground Floor Z 5 F 4x20 min **Robust combinatorial optimization III** Organizer: Moritz Mühlenthaler, session 255
Markov		Salle 31 Bld B, Ground Floor Z 5 F 2x30 min **Dynamic programming applications** Chair: Susanne Hoffmeister, session 379	
Game	Salle 30 Bld B, Ground Floor Z 5 F 4x30 min **Risk and Financial Markets** Chair: Markku Kallio, session 377	Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Nonconvex and Complex Problems in Multiobjective Optimization** Chair: Gabriele Eichfelder, session 268	Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Aspects of Multiobjective Combinatorial Optimization** Organizer: Matthias Ehrgott, session 87

Wednesday 04

CLUSTER: Continuous Optimization

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
NLP	GINTRAC Bld Q, Ground Floor Z 8 F 4x30 min **Stochastic and Nonlinear Optimization III** Organizer: Jorge Nocedal, session 31	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **The power and limits of the Lasserre hierarchy** Organizer: Markus Schweighofer, session 9	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Software for Nonlinear Optimization** Organizer: Sven Leyffer, session 133
NLP	Salle 05 Bld Q, 1st floor Z 11 F 4x30 min **Optimality conditions in NLP and conic problems** Organizer: Roberto Andreani, session 43	Salle 05 Bld Q, 1st floor Z 11 F 3x30 min **Subspace methods in NLP I** Organizer: Michal Kocvara, session 45	Salle 05 Bld Q, 1st floor Z 11 F 3x30 min **Conjugate Gradient Methods** Chair: Giovanni Fasano, session 362
NLP	Salle KC7 Bld K, Intermediate 2 Z 10 F 4x30 min **Computational advances in NLP** Chair: Jeffrey Pang, session 434	Salle 9 Bld N, 4th floor Z 12 F 3x30 min **Quadratic Optimization** Chair: Anders Forsgren, session 417	Salle 9 Bld N, 4th floor Z 12 F 3x30 min **Linear Optimization II** Chair: Julian Hall, session 416
NLP	Salle 9 Bld N, 4th floor Z 12 F 4x30 min **Fixed Point Approaches** Chair: Poom Kumam, session 435		Salle ARNOZAN Bld Q, Ground Floor Z 8 F 3x30 min **Interior Point Methods in LP and NLP** Chair: Andre Tits, session 430
NonSmooth	Salle LC4 Bld L, Intermediate 1 Z 9 F 4x30 min **Recent advances in first-order algorithms for non-smooth optimization** Organizer: Thomas Pock, session 198	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Adaptivity in non-smooth optimization** Organizer: Volkan Cevher, session 187	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Methods and Analysis for Nonsmooth Optimization** Organizer: Michael Overton, session 86
NonSmooth	Salle 8 Bld N, 4th floor Z 12 F 4x30 min **Dynamical Systems and Optimization** Organizer: Hedy Attouch, session 351		
SDP	Salle AURIAC Bld G, 1st floor Z 6 F 4x30 min **Recent Advances in Conic Programming II** Organizer: Sena Safarina, session 83	Salle 20 Bld G, 1st floor Z 6 F 3x30 min **SDP approaches to combinatorial and global optimization problems** Organizer: Etienne De Klerk, session 15	Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information I** Organizer: Monique Laurent, session 20
SDP	Salle 20 Bld G, 1st floor Z 6 F 4x30 min **Theory and algorithms in conic linear programming 2** Organizer: Gabor Pataki, session 89	Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Reformulation-based solution methods for quadratic programming** Organizer: Dominique Quadri, session 215	Salle LC5 Bld L, Intermediate 1 Z 10 F 4x20 min **Completely Positive Cones and Applications** Chair: Patrick Groetzner, session 464
SDP	Salle LC5 Bld L, Intermediate 1 Z 10 F 4x30 min **New trends II** Chair: Frank Permenter, session 500		
Variat	Salle 06 Bld Q, 1st floor Z 11 F 2x30 min **Stochastic Optimization and Variational Inequalities II** Organizer: Alejandro Jofre, session 156	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Optimization Algorithms and Variational Inequalities II** Organizer: Xiaoqi Yang, session 150	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Complementarity Problems** Organizer: Samir Neogy, session 173
Variat	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x30 min **Variational Analysis 1** Organizer: Samir Adly, session 364	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 3x30 min **Nash equilibrium and games 1** Organizer: Lorenzo Lampariello, session 365	
RandomM	Salle KC6 Bld K, Intermediate 1 Z 10 F 4x30 min **First Order Methods for Non-Smooth Constrained Optimization** Organizer: Qihang Lin, session 305	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x30 min **Fast Converging Stochastic Optimization Algorithms** Organizer: Francis Bach, session 213	Salle KC6 Bld K, Intermediate 1 Z 10 F 4x20 min **Non-Convex and Second-order Methods in Machine Learning** Organizer: Martin Takac, session 33
DerFree	Salle 21 Bld G, Intermediate Z 6 F 4x30 min **New derivative-free algorithms** Chair: Margherita Porcelli, session 34	Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Surrogate-based algorithms for constrained derivative-free problems** Chair: Phillipe Sampaio, session 126	Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Progress in methods and theory of derivative-free optimization** Chair: Serge Gratton, session 42
Control		Salle AURIAC Bld G, 1st floor Z 6 F 3x30 min **Risk-Averse PDE-Constrained Optimization–Methods and Applications** Organizer: Harbir Antil, session 222	Salle AURIAC Bld G, 1st floor Z 6 F 4x20 min **Advances in optimization methods for time dependent problems II** Organizer: Denis Ridzal, session 225

Wednesday 04

CLUSTER: Specific Models, Algorithms, and Software

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Learning	Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **First-Order Methods for Machine Learning** Organizer: Fabian Pedregosa, session 319	Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Second order methods for training ML models** Chair: Julien Mairal, session 474	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Problems in the intersection of machine learning and optimization** Chair: Ross Anderson, session 328
Learning	FABRE Bld J, Ground Floor Z 8 F 4x30 min **Structured Optimization for Machine Learning and Signal Processing** Organizer: Lin Xiao, session 330	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Convex optimization, distances and constraints** Chair: Pablo Parrilo, session 476	Salle 22 Bld G, 2nd floor Z 6 F 2x20 min **Large-scale convex optimization** Chair: Alexander Rogozin, session 479
Network	Salle 18 Bld I, 1st floor Z 7 F 4x30 min **Robust network optimization** Organizer: Dimitri Papadimitriou, session 357		
Logistics		Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Rail and Maritime Transportation** Chair: Kazuhiro Kobayashi, session 454	Salle 24 Bld G, 3rd floor Z 6 F 4x20 min **Location and Routing** Chair: Mustapha Oudani, session 451
Logistics			Salle 16 Bld I, 2nd floor Z 7 F 3x20 min **Production-Routing** Chair: Feng Gao, session 456
Scheduling		Salle 18 Bld I, 1st floor Z 7 F 3x30 min **Scheduling in Networks** Chair: Hamish Waterer, session 532	Salle 18 Bld I, 1st floor Z 7 F 3x20 min **Machine Scheduling 2** Chair: Guopeng Song, session 529
Energy	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x30 min **Decomposition Techniques to Solve Large-Scale Optimization Problems for Electricity and Natural Gas Systems** Organizer: Ramteen Sioshansi, session 136	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Conic Optimization and Power Systems** Organizer: Jakub Marecek, session 68	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x20 min **Optimization and modeling of integrated energy systems** Organizer: Jalal Kazempour, session 71
Energy	Salle 23 Bld G, 3rd floor Z 6 F 4x30 min **Energy-aware planning and scheduling 1** Organizer: Sandra U. Ngueveu, session 177	Salle 24 Bld G, 3rd floor Z 6 F 2x30 min **Emerging Energy Markets** Organizer: Dennice Gayme, session 291	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Energy Market Models** Chair: Sauleh Siddiqui, session 522
Energy	Salle 24 Bld G, 3rd floor Z 6 F 4x30 min **Distribution and Demand Flexibility** Chair: Golbon Zakeri, session 510		
Sciences	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Energy markets** Organizer: Martine Labbé, session 50	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Air Transportation and Air Traffic Management** Organizer: Sonia Cafieri, session 315	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Resource-constrained assignment and scheduling** Organizer: Fabian Bastin, session 398
Algo	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Progress in MIP Solvers I** Organizer: Michael Winkler, session 235	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Progress in Conic and MIP Solvers** Organizer: Imre Polik, session 237	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Progress in MIP Solvers II** Organizer: Hans Mittelmann, session 234
Algo	Salle 22 Bld G, 2nd floor Z 6 F 4x30 min **Numerically Efficient Methods for Piecewise Algorithmic Differentiation I** Organizer: Torsten Bosse, session 269	Salle 22 Bld G, 2nd floor Z 6 F 3x30 min **Structure Detection in Integer Programming** Organizer: Taghi Khaniyev, session 272	

Thursday 05

CLUSTER: Discrete Optimization & Integer Programming

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
IPtheory	Salle 34 Bld B, 1st floor Z 3 F 4x30 min **Integer linear programming, convex geometry, and lattices** Organizer: Sinai Robins, session 142	Salle 42 Bld C, 3rd floor Z 1 F 3x30 min **Non-Standard IP Methods** Chair: Ulf Friedrich, session 513	Salle 43 Bld C, 3rd floor Z 1 F 4x20 min **Advances in Integer Programming** Organizer: Robert Hildebrand, session 227
IPtheory	Salle 35 Bld B, Intermediate Z 4 F 4x30 min **Convexity and Polytopes** Chair: David Warme, session 518	Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **Polynomial Time Solvable Problems and Complete Descriptions** Chair: Andreas Bärmann, session 520	Salle 42 Bld C, 3rd floor Z 1 F 3x30 min **Cutting Planes for Special Problems** Chair: Eleazar Madriz, session 517
IPpractice	Salle 44 Bld C, 3rd floor Z 1 F 4x30 min **Advanced Linear(ized) MIP Formulations for Zero-One Programs** Organizer: Sven Mallach, session 127	Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **Computational Issues in Integer Programming** Organizer: Ricardo Fukasawa, session 289	Salle 36 Bld B, Intermediate Z 4 F 4x20 min **Matching Problems** Organizer: Sergio García Quiles, session 175
IPpractice			Salle 44 Bld C, 3rd floor Z 1 F 4x20 min **Cutting Planes** Chair: Fabrizio Marinelli, session 485
MINLP		Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Convexification and more (I)** Organizer: Jon Lee, session 62	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Convexification and more (II)** Organizer: Akshay Gupte, session 106
MINLP		Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Heuristics in MINLP** Chair: Bertrand Travacca, session 276	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Relaxations in MINLP** Chair: Jan Kronqvist, session 280
MINLP		Salle 35 Bld B, Intermediate Z 4 F 3x30 min **MINLP with quadratic terms** Chair: Enrico Bettiol, session 282	Salle 35 Bld B, Intermediate Z 4 F 3x30 min **Applications in MINLP** Chair: Justo Puerto, session 283
APPROX	LEYTEIRE Bld E, 3rd floor Z 1 F 4x30 min **Submodular Maximization** Organizer: Moran Feldman, session 29	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Approximation Algorithms for Clustering.** Organizer: Deeparnab Chakrabarty, session 32	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Approximation Algorithms for Optimization under Uncertainty** Organizer: Marc Uetz, session 95
APPROX	Salle 43 Bld C, 3rd floor Z 1 F 4x30 min **Cycles and Trees** Organizer: Tobias Mömke, session 90	Salle 36 Bld B, Intermediate Z 4 F 3x30 min **Routing and Inventory** Organizer: Dorit Hochbaum, session 343	
APPROX	Salle 36 Bld B, Intermediate Z 4 F 4x30 min **Bin Packing** Chair: Frits Spieksma, session 344		
COMB	Salle 41 Bld C, 3rd floor Z 1 F 4x30 min **Graphs and clutters** Organizer: Gerard Cornuejols, session 263	SIGALAS Bld C, 2nd floor Z 2 F 3x30 min **Algorithms for TSP** Organizer: Ola Svensson, session 239	Salle 41 Bld C, 3rd floor Z 1 F 3x30 min **Approximation algorithms for combinatorial optimization problems** Organizer: Thomas Rothvoss, session 265
COMB	Salle 39 Bld E, 3rd floor Z 1 F 4x30 min **Graph theory** Chair: Thomas Bellitto, session 422		Salle 39 Bld E, 3rd floor Z 1 F 4x20 min **Heuristics for combinatorial optimization problems** Chair: Evren Guney, session 428
CP	DURKHEIM Bld A, 3rd floor Z 1 F 4x30 min **Parallel Computing and Sustainability** Organizer: Bistra Dilkina, session 296	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Applications of CP** Organizer: Louis-Martin Rousseau, session 284	
CP	Salle 47 Bld A, 3rd floor Z 1 F 4x30 min **Performance Analysis** Organizer: Charlotte Truchet, session 298		

Thursday 05

CLUSTER: Optimization under Uncertainty

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Stoch	DENIGES Bld C, Ground Floor Z 5 F 4x30 min **New results in chance-constrained optimization** Chair: Bismark Singh, session 489	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 1** Organizer: Vincent Leclère, session 246	Salle 32 Bld B, Ground Floor Z 5 F 4x20 min **Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 2** Organizer: Vincent Leclère, session 247
Stoch	Salle 32 Bld B, Ground Floor Z 5 F 4x30 min **Topics in multistage and integer stochastic optimization** Organizer: Jim Luedtke, session 490		Salle 30 Bld B, Ground Floor Z 5 F 3x20 min **Topics in multistage stochastic optimization** Chair: Felipe Beltrán, session 492
Robust	Salle 37 Bld B, Intermediate Z 4 F 4x30 min **K-adaptability** Organizer: Anirudh Subramanyam, session 1	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Distributionally Robust Optimization With Marginals and Cones** Organizer: Divya Padmanabhan, session 354	DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Robust Optimization under Data Uncertainty** Organizer: Omid Nohadani, session 98
Robust	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **New applications of robust optimizations** Chair: Mirjam Duer, session 461	Salle 37 Bld B, Intermediate Z 4 F 3x30 min **Non-linear robust optimization** Chair: Laurent Alfandari, session 460	Salle 37 Bld B, Intermediate Z 4 F 4x20 min **Combinatorial robust optimization I** Organizer: Marc Goerigk, session 167
Markov			Salle 31 Bld B, Ground Floor Z 5 F 3x30 min **Approximation in dynamic programming** Chair: Philip Placek, session 382
Game	Salle 30 Bld B, Ground Floor Z 5 F 4x30 min **Stackelberg Games** Chair: Stefano Coniglio, session 374	Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Generation and Representation Algorithms in Multiobjective Optimization** Organizer: Michael Stiglmayr, session 267	

Thursday 05

CLUSTER: Continuous Optimization

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
NLP	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x30 min **First-order methods: advances and applications** Organizer: Immanuel Bomze, session 3	Salle 05 Bld Q, 1st floor Z 11 F 3x30 min **Methods of Optimization in Riemannian Manifolds** Organizer: Orizon Ferreira, session 21	Salle 05 Bld Q, 1st floor Z 11 F 4x20 min **Polynomial and tensor optimization II** Organizer: Jiawang Nie, session 6
NLP	GINTRAC Bld Q, Ground Floor Z 8 F 4x30 min **Recent advances in interior point methods and NLP** Organizer: Michael Todd, session 77		Salle KC7 Bld K, Intermediate 2 Z 10 F 3x20 min **First Order Methods II** Chair: Guillaume Berger, session 437
NLP	Salle 05 Bld Q, 1st floor Z 11 F 4x30 min **Machine learning for optimisation** Organizer: Coralia Cartis, session 176		
NLP	Salle KC7 Bld K, Intermediate 2 Z 10 F 4x30 min **First Order Methods I** Chair: Sandra Santos, session 436		
Global			Salle 20 Bld G, 1st floor Z 6 F 4x20 min **Global Optimization 3** Chair: Jean-Baptist Hiriart-Urruty, session 503
NonSmooth	Salle LC4 Bld L, Intermediate 1 Z 9 F 4x30 min **Universal methods in non-smooth analysis** Organizer: Alexander Gasnikov, session 53	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Extending the Reach of First-Order Methods, Part II** Organizer: Robert Freund, session 286	Salle LC4 Bld L, Intermediate 1 Z 9 F 3x30 min **Efficient Semismooth Newton Methods for Large Scale Statistical Optimization Problems** Organizer: Defeng Sun, session 123
NonSmooth	Salle 8 Bld N, 4th floor Z 12 F 4x30 min **First-order methods for nonconvex and pathological convex problems** Organizer: Wotao Yin, session 183		Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Different faces of nonsmoothness in optimization** Organizer: Tim Hoheisel, session 212
NonSmooth	Salle 9 Bld N, 4th floor Z 12 F 4x30 min **Non smooth optimization for lage scale poblems** Organizer: Yu Du, session 556		
SDP	Salle 20 Bld G, 1st floor Z 6 F 4x30 min **Computer-assisted analyses of optimization algorithms I** Organizer: Adrien Taylor, session 19	Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information II** Organizer: Monique Laurent, session 18	Salle AURIAC Bld G, 1st floor Z 6 F 4x20 min **Recent Advances in Conic Programming III** Organizer: Masakazu Muramatsu, session 84
SDP	Salle LC5 Bld L, Intermediate 1 Z 10 F 4x30 min **Geometry and duality in convex optimization** Organizer: Javier Pena, session 160		Salle LC5 Bld L, Intermediate 1 Z 10 F 4x20 min **Using coning programming in problems solving** Chair: Kurt Majewski, session 497
Variat	Salle 06 Bld Q, 1st floor Z 11 F 4x30 min **Nonlinear Optimization and Variational Inequalities I** Organizer: Xin Liu, session 140	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Nonlinear Optimization and Variational Inequalities II** Organizer: Cong Sun, session 141	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **VU-decomposition techniques for nonsmooth optimization** Organizer: Claudia Sagastizabal, session 158
Variat			Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x20 min **Variational Analysis 5** Organizer: David Sossa, session 371
RandomM	Salle KC6 Bld K, Intermediate 1 Z 10 F 4x30 min **Recent Advances on Stochastic Algorithms and Machine Learning** Organizer: Shiqian Ma, session 202	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x30 min **Asynchronous Parallel and Distributed Optimization** Organizer: Wotao Yin, session 200	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x20 min **Recent Progress on Second-order Type Optimization Methods** Organizer: Andre Milzarek, session 302
DerFree	Salle 21 Bld G, Intermediate Z 6 F 4x30 min **Bayesian and Randomized Optimization I** Chair: Stefan Wild, session 39		Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Advances in DFO III** Chair: Juan Meza, session 496
Control	Salle AURIAC Bld G, 1st floor Z 6 F 4x30 min **Optimal Control of Variational Inequalities and Complementarity Systems** Chair: Alexandre Vieira, session 336	Salle AURIAC Bld G, 1st floor Z 6 F 2x30 min **Theory and Methods for ODE- and PDE-Constrained Optimization 2** Chair: Johann Schmitt, session 333	

Thursday 05

CLUSTER: Specific Models, Algorithms, and Software

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Learning	FABRE Bld J, Ground Floor Z 8 F 4x30 min **First-order methods for large-scale convex problems** Organizer: Stephen Vavasis, session 316	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Accelerating Learning** Organizer: Martin Takac, session 322	FABRE Bld J, Ground Floor Z 8 F 4x20 min **First-order methods for large-scale convex problems II** Organizer: Stephen Vavasis, session 318
Learning	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x30 min **Large-scale learning** Organizer: Lorenzo Rosasco, session 335	Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Robust first order methods** Organizer: Fatma Kilinc-Karzan, session 332	Salle 16 Bld I, 2nd floor Z 7 F 4x20 min **Advances in Reinforcement Learning Algorithms** Organizer: Lin Xiao, session 329
Learning	Salle 16 Bld I, 2nd floor Z 7 F 4x30 min **Dynamical systems, control and optimization** Chair: Benjamin Recht, session 470		Salle 22 Bld G, 2nd floor Z 6 F 4x20 min **Ranking and recommendation** Chair: Aleksandra Burashnikova, session 472
Network	Salle LA4 Bld L, Basement Z 8 F 4x30 min **Multi-commodity flows** Organizer: Ralf Borndörfer, session 358		
Logistics	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Vehicle Routing I** Chair: Guy Desaulniers, session 411	PITRES Bld O, Ground Floor Z 8 F 2x30 min **Path Problems** Chair: Yanchao Liu, session 453	Salle 24 Bld G, 3rd floor Z 6 F 3x20 min **Vehicle Routing III** Chair: Raquel Bernardino, session 413
Scheduling		Salle 18 Bld I, 1st floor Z 7 F 3x30 min **Production Planning** Chair: Michel Siemon, session 531	Salle 18 Bld I, 1st floor Z 7 F 4x20 min **Supply Chain** Chair: Daniel Ramón-Lumbierres, session 533
Energy	Salle 23 Bld G, 3rd floor Z 6 F 4x30 min **Unit Commitment Problem and Applications** Organizer: Tiziano Parriani, session 94	Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Optimization Models for Renewable Energy Integration 1** Organizer: Luis Zuluaga, session 120	Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Equilibrium and Optimization in Energy Markets** Organizer: Asgeir Tomasgard, session 151
Energy	Salle 24 Bld G, 3rd floor Z 6 F 4x30 min **Mining Applications** Organizer: Alexandra Newman, session 172	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Progress in Algorithms for Optimal Power Flow Problems II** Chair: Miguel Anjos, session 509	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Gas Network and Market Optimization** Organizer: Jonas Schweiger, session 293
Energy		Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Electricity Generation Scheduling and Dispatch** Chair: Christophe Duhamel, session 511	
Sciences		Salle LA4 Bld L, Basement Z 8 F 3x30 min **Inverse Problems in Physics** Chair: Leo Liberti, session 391	Salle LA4 Bld L, Basement Z 8 F 4x20 min **Medicine and Metabolic engineering** Chair: Mahdi Doostmohammadi, session 396
Algo	Salle 22 Bld G, 2nd floor Z 6 F 4x30 min **Numerically Efficient Methods for Piecewise Algorithmic Differentiation II** Organizer: Torsten Bosse, session 270	Salle 22 Bld G, 2nd floor Z 6 F 3x30 min **High-Performance Computing in Optimization II** Chair: Joaquim Dias Garcia, session 466	Salle 9 Bld N, 4th floor Z 12 F 4x20 min **Large-scale combinatorial optimization implementations** Organizer: Aaron Archer, session 96
Algo	Salle 18 Bld I, 1st floor Z 7 F 3x30 min **High-Performance Computing in Optimization I** Organizer: Kibaek Kim, session 271		PITRES Bld O, Ground Floor Z 8 F 3x30 min **Computational OR in Julia/JuMP** Organizer: Miles Lubin, session 238

Friday 06

CLUSTER: Discrete Optimization & Integer Programming

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
IPtheory	Salle 43 Bld C, 3rd floor Z 1 F 4x30 min **Recent advances in Integer Optimization** Organizer: Alberto Del Pia, session 218	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Polyhedral theory in practice** Organizer: Mourad Baiou, session 309	Salle 34 Bld B, 1st floor Z 3 F 4x20 min **Machine Learning and Discrete Optimization** Organizer: Sebastian Pokutta, session 308
IPtheory	Salle 35 Bld B, Intermediate Z 4 F 4x30 min **Mixed Integer Programming Representability** Organizer: Juan Pablo Vielma, session 275	Salle 42 Bld C, 3rd floor Z 1 F 3x30 min **Extended Formulations** Chair: Bartosz Filipecki, session 514	
IPpractice	Salle 44 Bld C, 3rd floor Z 1 F 4x30 min **Integer Programming and Crew Scheduling** Organizer: Francois Soumis, session 292	Salle 44 Bld C, 3rd floor Z 1 F 3x30 min **Routing** Chair: Cole Smith, session 484	Salle 44 Bld C, 3rd floor Z 1 F 4x20 min **Decomposition II** Chair: Natashia Boland, session 487
IPpractice		Salle 36 Bld B, Intermediate Z 4 F 3x30 min **IP Practice III** Chair: Samuel Brito, session 507	Salle 36 Bld B, Intermediate Z 4 F 2x20 min **Dual Ascent** Chair: Sara Maqrot, session 505
MINLP	Salle 34 Bld B, 1st floor Z 3 F 3x30 min **Optimal Control Problems with Discrete Switches** Organizer: Christian Kirches, session 102	Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Outer Convexification and Mixed-Integer Optimal Control** Organizer: Sebastian Sager, session 103	DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Mixed-Integer PDE-Constrained Optimization** Organizer: Sven Leyffer, session 63
MINLP		DURKHEIM Bld A, 3rd floor Z 1 F 3x30 min **Intersection cuts, disjunctions, and valid inequalities** Organizer: Eli Towle, session 180	Salle 39 Bld E, 3rd floor Z 1 F 3x30 min **Global Optimization for nonconvex MINLPs** Organizer: Hassan Hijazi, session 92
MINLP		Salle 35 Bld B, Intermediate Z 4 F 3x30 min **Branch-and-cut techniques** Organizer: Teodora Dan, session 277	Salle 35 Bld B, Intermediate Z 4 F 3x30 min **Recent Advances and Applications of MINLP** Organizer: Jose Ucha, session 139
APPROX	LEYTEIRE Bld E, 3rd floor Z 1 F 4x30 min **Data-Driven Revenue Management with Customer Choice** Organizer: Jacob Feldman, session 81	LEYTEIRE Bld E, 3rd floor Z 1 F 3x30 min **Submodular Maximization.** Organizer: Justin Ward, session 179	LEYTEIRE Bld E, 3rd floor Z 1 F 4x20 min **Algorithmic Fairness and Optimization** Organizer: Nisheeth Vishnoi, session 161
APPROX	Salle 36 Bld B, Intermediate Z 4 F 4x30 min **Clustering.** Organizer: Zac Friggstad, session 155	Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **Submodular and Incremental Maximization** Organizer: Martin Gross, session 340	Salle 43 Bld C, 3rd floor Z 1 F 3x30 min **Algorithmic Discrepancy** Organizer: Nikhil Bansal, session 164
COMB	SIGALAS Bld C, 2nd floor Z 2 F 4x30 min **Matching and scheduling** Organizer: Seffi Naor, session 54	SIGALAS Bld C, 2nd floor Z 2 F 3x30 min **Combinatorial aspects of Linear Programming** Organizer: Daniel Dadush, session 259	SIGALAS Bld C, 2nd floor Z 2 F 3x30 min **Packing Steiner Trees** Organizer: Stephan Held, session 260
COMB	Salle 41 Bld C, 3rd floor Z 1 F 4x30 min **Recent progress in graph cut problems** Organizer: Karthekeyan Chandrasekaran, session 244		Salle 41 Bld C, 3rd floor Z 1 F 4x20 min **Optimization problems in graphs and related** Chair: Claudio Arbib, session 423
COMB	Salle 39 Bld E, 3rd floor Z 1 F 4x30 min **Algorithmic aspects of connectivity in network design** Organizer: Neil Olver, session 264		
CP	DURKHEIM Bld A, 3rd floor Z 1 F 4x30 min **Graphical Optimization Model 2** Organizer: Maria Restrepo, session 297		

Friday 06

CLUSTER: Optimization under Uncertainty

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Stoch	DENIGES Bld C, Ground Floor Z 5 F 4x30 min **Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 3** Organizer: Vincent Leclère, session 245	Salle 32 Bld B, Ground Floor Z 5 F 3x30 min **Risk-aware decision making** Organizer: Minseok Ryu, session 251	Salle 30 Bld B, Ground Floor Z 5 F 3x20 min **Topics in stochastic optimization** Chair: Quentin Mercier, session 494
Stoch	Salle 32 Bld B, Ground Floor Z 5 F 4x30 min **New methods for stochastic optimization and variational inequalities** Chair: Yunxiao Deng, session 491		
Robust	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **New Horizons in Robust Optimization** Organizer: Angelos Georghiou, session 447	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **Distributionally Robust Optimization: Models and Applications** Organizer: Selin Ahipasaoglu, session 355	Salle 37 Bld B, Intermediate Z 4 F 4x20 min **Robust Combinatorial Optimization II** Organizer: Agostinho Agra, session 168
Robust		DENIGES Bld C, Ground Floor Z 5 F 3x30 min **Distributionally Robust Optimization** Organizer: Daniel Kuhn, session 446	Salle 33 Bld B, Ground Floor Z 5 F 3x30 min **Wasserstein Distributionally Robust Optimization** Organizer: Peyman Mohajerin Esfaha, session 448
Markov	Salle 31 Bld B, Ground Floor Z 5 F 4x30 min **Advances in theory of dynamic programming** Chair: Stephane Gaubert, session 385	Salle 31 Bld B, Ground Floor Z 5 F 3x30 min **Discrete stochastic dynamic programming** Chair: Adam Narkiewicz, session 384	Salle 31 Bld B, Ground Floor Z 5 F 3x30 min **Tractability and approximation algorithms in dynamic programming** Chair: Alexander Hopp, session 383
Game	Salle 30 Bld B, Ground Floor Z 5 F 4x30 min **Algorithmic Game Theory II** Chair: Margarida Carvalho, session 372	Salle 30 Bld B, Ground Floor Z 5 F 3x30 min **Scalarization, representation and the comparison of methods in Multiobjective Optimization** Chair: Tyler Perini, session 378	

Friday 06

CLUSTER: Continuous Optimization

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
NLP	Salle 05 Bld Q, 1st floor Z 11 F 4x30 min **First order methods** Organizer: Gerardo Toraldo, session 27	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Interior Point Methods in Engineering Applications I** Organizer: Jacek Gondzio, session 60	GINTRAC Bld Q, Ground Floor Z 8 F 3x30 min **Moment relaxations for polynomial optimization with symmetries** Organizer: Markus Schweighofer, session 10
NLP	GINTRAC Bld Q, Ground Floor Z 8 F 4x30 min **Stochastic and Nonlinear Optimization II** Organizer: Jorge Nocedal, session 48	Salle 05 Bld Q, 1st floor Z 11 F 3x30 min **Nonlinear Optimization** Chair: Marc Steinbach, session 429	Salle KC7 Bld K, Intermediate 2 Z 10 F 3x30 min **Subspace methods in NLP II** Organizer: Panos Parpas, session 44
NLP	Salle KC7 Bld K, Intermediate 2 Z 10 F 4x30 min **Regularization and Iterative Methods in Large-Scale Optimization** Organizer: Jacek Gondzio, session 59		Salle 05 Bld Q, 1st floor Z 11 F 4x20 min **Primal-dual and ADMM algorithms for nonlinear programming** Organizer: Marco Sciandrone, session 91
NLP	Salle 9 Bld N, 4th floor Z 12 F 4x30 min **Decomposition Methods** Chair: Roger Behling, session 431		Salle 9 Bld N, 4th floor Z 12 F 3x20 min **Linear Optimization I** Chair: Jianming Shi, session 415
Global		Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Global Optimization 2** Chair: Mirjam Duer, session 502	Salle 20 Bld G, 1st floor Z 6 F 3x30 min **Global Optimization 1** Chair: Jean-Baptist Hiriart-Urruty, session 501
NonSmooth	Salle LC4 Bld L, Intermediate 1 Z 9 F 4x30 min **Geometry in complexity analysis of nonsmooth optimization methods** Organizer: Jalal Fadili, session 199	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Advances in the first-order methods for convex optimization** Organizer: Angelia Nedich, session 73	Salle 8 Bld N, 4th floor Z 12 F 3x30 min **Nonsmooth DC optimization with applications** Chair: Napsu Karmitsa, session 46
NonSmooth	Salle 8 Bld N, 4th floor Z 12 F 4x30 min **Convergence analysis for non smooth optimization** Organizer: Robert Csetnek, session 557		Salle LC4 Bld L, Intermediate 1 Z 9 F 3x30 min **Nonconvex Optimization: Theory and Methods - Part 3** Organizer: Genaro Lopez, session 188
SDP	Salle 20 Bld G, 1st floor Z 6 F 4x30 min **Copositive and completely positive optimization** Organizer: Olga Kuryatnikova, session 24	Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Relative Entropy Optimization I** Organizer: Venkat Chandrasekaran, session 111	Salle AURIAC Bld G, 1st floor Z 6 F 3x30 min **Computer-assisted analyses of optimization algorithms II** Organizer: Adrien Taylor, session 16
SDP	Salle LC5 Bld L, Intermediate 1 Z 10 F 4x30 min **Stability and scaling in conic programming** Chair: Diego Cifuentes, session 498		Salle LC5 Bld L, Intermediate 1 Z 10 F 3x30 min **Sparse Semidefinite Programming** Organizer: Somayeh Sojoudi, session 17
Variat	Salle 06 Bld Q, 1st floor Z 11 F 4x30 min **Stochastic Optimization and Variational Inequalites** Organizer: Hailin Sun, session 149	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Algorithms for optimization and variational problems with possibly nonisolated solutions II** Organizer: Alexey Izmailov, session 153	Salle 06 Bld Q, 1st floor Z 11 F 3x30 min **Nonlinear Optimization and Variational Inequalities IV** Organizer: Cong Sun, session 144
Variat	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x30 min **Variational Analysis 3** Organizer: Johanna Burtscheidt, session 369	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 3x30 min **Nash equilibrium and Games 2** Organizer: Giancarlo Bigi, session 366	Salle ARNOZAN Bld Q, Ground Floor Z 8 F 4x20 min **Variational Analysis 2** Organizer: David Salas, session 367
RandomM	Salle KC6 Bld K, Intermediate 1 Z 10 F 3x30 min **Recent Advances in Coordinate Descent and Constrained Problems** Organizer: Ion Necoara, session 208		Salle KC6 Bld K, Intermediate 1 Z 10 F 4x20 min **Algorithms for Structured Statistical Optimization** Chair: Ilker Birbil, session 349
DerFree	Salle 21 Bld G, Intermediate Z 6 F 4x30 min **Challenging applications in DFO** Chair: Francesco Rinaldi, session 38	Salle 21 Bld G, Intermediate Z 6 F 3x30 min **Advances in DFO IV** Chair: Katya Scheinberg, session 125	Salle 21 Bld G, Intermediate Z 6 F 2x30 min **Derivative-free global optimization algorithms** Chair: Zaikun Zhang, session 41
Control	Salle AURIAC Bld G, 1st floor Z 6 F 3x30 min **Optimal Control in Engineering Applications** Chair: Maxime Grangereau, session 310		

Friday 06

CLUSTER: Specific Models, Algorithms, and Software

Stream	8:30-10:30 AM	3:15-4:45 PM	5:00-6:30 PM
Learning	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Dimensionality reduction tools for learning: A sketchy session** Organizer: Robert Gower, session 313	Salle 16 Bld I, 2nd floor Z 7 F 3x30 min **Discrete methods for data centers and graphs** Organizer: Aaron Archer, session 477	FABRE Bld J, Ground Floor Z 8 F 4x20 min **Spectral and Semidefinite Methods for Learning** Organizer: Martin Jaggi, session 321
Learning	Salle 16 Bld I, 2nd floor Z 7 F 4x30 min **Dealing with non-convexity** Chair: Damek Davis, session 473	FABRE Bld J, Ground Floor Z 8 F 3x30 min **Classification, regression and clustering** Chair: Dimitris Bertsimas, session 480	
Network	Salle 18 Bld I, 1st floor Z 7 F 4x30 min **Telecommunications** Organizer: Edoardo Amaldi, session 361		Salle 18 Bld I, 1st floor Z 7 F 4x20 min **Transportation networks** Chair: Bernard Gendron, session 359
Logistics	PITRES Bld O, Ground Floor Z 8 F 4x30 min **Hybrid Algorithms and Matheuristics for VRP** Organizer: Thibaut Vidal, session 181	Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Vehicle Routing II** Chair: Chris Potts, session 412	Salle 16 Bld I, 2nd floor Z 7 F 2x20 min **Logistics Networks** Chair: El Hassan Laaziz, session 468
Scheduling	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Scheduling Applications** Chair: Mauricio de Souza, session 526	Salle 18 Bld I, 1st floor Z 7 F 3x30 min **Machine Scheduling 1** Chair: Renan Trindade, session 527	
Energy	Salle 24 Bld G, 3rd floor Z 6 F 3x30 min **Power Systems Models with Discrete Decision Variables** Organizer: Adolfo Escobedo, session 26	Salle DENUCE Bld Q, Ground Floor Z 8 F 3x30 min **Estimation and Learning for Power Systems** Organizer: Javad Lavaei, session 25	Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Energy-aware planning and scheduling 2** Organizer: Christian Artigues, session 178
Energy	Salle DENUCE Bld Q, Ground Floor Z 8 F 4x30 min **Machine Learning in State Estimation and Situational Awareness in Power Grids** Organizer: Deepjyoti Deka, session 134	Salle 22 Bld G, 2nd floor Z 6 F 3x30 min **Optimization in Energy** Chair: Andrea Simonetto, session 515	Salle 24 Bld G, 3rd floor Z 6 F 3x20 min **Stochastic Methods for Energy Optimization** Chair: Tristan Rigaut, session 294
Energy		Salle 23 Bld G, 3rd floor Z 6 F 3x30 min **Optimization for Energy System Planning** Chair: Andrew Liu, session 524	
Sciences	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Finance and Portfolio Optimization** Organizer: Asaf Shupo, session 395	Salle LA4 Bld L, Basement Z 8 F 3x30 min **Industrial dynamics and Environmental policy** Organizer: Inmaculada Garcia Fernandez, session 392	Salle LA4 Bld L, Basement Z 8 F 4x20 min **Optimization and Game Theory** Organizer: Veerle Timmermans, session 402
Algo	Salle 22 Bld G, 2nd floor Z 6 F 4x30 min **New Developments in Optimization Modeling Software** Organizer: Robert Fourer, session 101	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Computational Integer Programming I** Organizer: Domenico Salvagnin, session 273	PITRES Bld O, Ground Floor Z 8 F 3x30 min **Computational Integer Programming II** Organizer: Domenico Salvagnin, session 274

Program per Time Slot

Room	Invited Talks - Monday 11:00 AM – 12:00 AM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**On the relationship between machine learning and optimization**, *Organizer*: Michel Goemans, session 552 Francis Bach, On the relationship between machine learning and optimization			**PLENARY**

Room	Invited Talks - Monday 1:30 PM – 2:30 PM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Multiobjective Optimization with PDE Constraints**, *Organizer*: Stephen J Wright, session 550 Michael Hintermüller, Multiobjective Optimization with PDE Constraints			**SEMI**
SIGALAS Build C, Z 2 2nd floor 1x60 min	**What's happening in nonconvex optimization? A couple of stories**, *Organizer*: Jean-Baptist Hiriart-Urruty, session 536 Emmanuel Candes, What's happening in nonconvex optimization? A couple of stories			**KEYNOTE**
DENIGES Build C, Z 5 Ground Floor 1x60 min	**Theoretical Analysis of Cutting-Planes in IP Solvers.**, *Organizer*: Gerard Cornuejols, session 538 Santanu Dey, Theoretical Analysis of Cutting-Plane Selection in IP Solvers.			**KEYNOTE**

Room	Discrete Optimization & Integer Programming - Monday 3:15 PM – 4:45 PM			
Salle 43 Build C, Z 1 3rd floor 3x30 min	**Provable guarantees for Cut Generating Functions**, *Organizer*: Amitabh Basu, session 220 Joseph Paat, Using the geometry of S-free sets to find mixed-integer cut-generating functions	Sriram Sankaranarayanan, Can cut generating functions be good and efficient?	Amitabh Basu, Optimal cutting planes from the group relaxations	**IPtheory**
Salle 44 Build C, Z 1 3rd floor 3x30 min	**IP Practice I**, *Chair*: Maurice Queyranne, session 506 Raphael Hauser, IP models for dimensionality reduction and feature selection in categorical da	Carlos Cardonha, Network models for multiobjective discrete optimization	Maurice Queyranne, Optimum Turn-Restricted Paths, Nested Compatibility, and Optimum Convex Polygons	**IPpractice**
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Exact Optimization Algorithms for Compressed Sensing**, *Organizer*: Marc E Pfetsch, session 56 Christoph Brauer, A primal-dual homotopy algorithm for sparse recovery with inf. norm constraints	Andreas Tillmann, SparkMIP: Mixed-Integer Programming for the (Vector) Matroid Girth Problem	Frederic Matter, Complex-valued ℓ_0 minimization problems with constant modulus constraints	**MINLP**
Salle 34 Build B, Z 3 1st floor 3x30 min	**Tight relaxations in nonconvex MINLP**, *Organizer*: Ambros Gleixner, session 128 Emily Speakman, Using mixed volume theory to compute convex hull volume for trilinear monomials	Stefan Vigerske, Revising the handling of nonlinear constraints in SCIP	Ambros Gleixner, Two-dimensional Projections for Separation and Propagation of Bilinear Terms	**MINLP**
Salle 35 Build B, Z 4 Intermediate 3x30 min	**MINLP methods in gas transport optimization (I)**, *Organizer*: Lars Schewe, session 162 Lars Schewe, MIP techniques for instationary gas transport optimization and gas market models	Nick Mertens, Solving MINLPs by Simultaneous Convexification with Application to Gas Networks	Falk Hante, Complementarity-Based Nonlinear Programming Techniques for Optimal Mixing in Gas	**MINLP**
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Geometry of Polynomials and Applications in Approximate Counting**, *Organizer*: Shayan Oveis Gharan, session 99 Guus Regts, On a conjecture of Sokal on the location of roots of the independence polynomial	Piyush Srivastava, Zeros of polynomials and Ising partition functions	Nima Anari, A Deterministic Approximation Algorithm for Counting Bases of Matroids	**APPROX**
Salle 36 Build B, Z 4 Intermediate 3x30 min	**Matching and Matroids**, *Organizer*: José A Soto, session 341 Maximilien Burq, Maximizing Efficiency in Dynamic Matching Markets	Morteza Zadimoghaddam, Online Weighted Matching: Beating the 1/2 Barrier	José Soto, Strong Algorithms for the Ordinal Matroid Secretary Problem	**APPROX**
SIGALAS Build C, Z 2 2nd floor 3x30 min	**On the Tree Augmentation Problem**, *Organizer*: Laura Sanità, session 240 David Adjiashvili, Beating Approximation Factor 2 For Weighted Tree Augmentation With Bounded Costs	Jochen Koenemann, Improved Approximation for Tree Augmentation via Chvatal Gomory Cuts	Rico Zenklusen, Improved Approximation for Tree Augmentation: Saving by Rewiring	**COMB**
Salle 41 Build C, Z 1 3rd floor 3x30 min	**Scheduling with setup, uncertainty and precedences**, *Organizer*: Monaldo Mastrolilli, session 419 Kim-Manuel Klein, Empowering the Configuration-IP	Nicole Megow, Scheduling under Explorable Uncertainty	Jose Verschae, Min-sum scheduling under precedence constraints	**COMB**
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Global Optimization**, *Organizer*: Hassan Hijazi, session 299 Adam Ouorou, A class of proximal algorithms based on Chebychev centers for nonsmooth convex o	Kaarthik Sundar, Convex relaxations for Mixed-Integer Multilinear Functions	Tillmann Weisser, Sparse Certificates for Polynomial Optimization	**CP**

Room	Optimization under Uncertainty - Monday 3:15 PM – 4:45 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Scenario discretization techniques in stochastic optimization**, *Organizer*: Fabian Bastin, session 287			**Stoch**
	Thuy Anh Ta, On a two-stage stochastic optimization problem with stochastic constraints	Julien Keutchayan, Multistage stochastic optimization: discretization of probability distributions	Michel Gendreau, Effective Heuristics for the Short-Term Hydro-Generation Planning Problem	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Preference robust optimization**, *Organizer*: Erick Delage, session 166			**Robust**
	William Haskell, Robust choice with multi-attribute quasi-concave choice functions	Jonathan Li, Optimizing aspirational preferences when the choice of a measure is ambiguous	Erick Delage, Utility-based Shortfall Risk Models when Preference Information is Incomplete	
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**Distributionally Robust Optimization - New Theory and Applications**, *Organizer*: Zhichao Zheng, session 356			**Robust**
	Yini Gao, Data-Driven Bounded Rationality in Games- A Robust Framework	Cagil Kocyigit, Distributionally Robust Mechanism Design	Zhichao Zheng, Schedule Reliability in Liner Shipping by Distributionally Robust Optimization	
Salle 31 Build B, Z 5 Ground Floor 3x30 min	**Approximate dynamic programming**, *Organizer*: David Brown, session 159			**Markov**
	Martin Haugh, Information Relaxation Bounds for Partially Observed Markov Decision Processes	Huseyin Topaloglu, Approximate Dynamic Programming for Dynamic Assortment Optimization	David Brown, Approximations to Stochastic Dynamic Programs via Information Relaxation Duality	
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Risk and Energy Markets**, *Chair*: Julio Deride, session 376			**Game**
	Olivier Huber, On solving risk-averse equilibrium problems via reformulations	Henri Gerard, On risk averse competitive equilibrium	Julio Deride, Stochastic General Equilibrium Model with Application to Energy Markets	

Room	Continuous Optimization - Monday 3:15 PM – 4:45 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Polynomial and tensor optimization I**, *Organizer*: Jiawang Nie, session 5			**NLP**
	Jean Lasserre, Sparse Polynomial Interpolation: Compressed Sensing, Super-resolution, or Prony?	Stephane Gaubert, Eigenvalues inequalities for nonnegative tensors and their tropical analogues	Harm Derksen, Signal Denoising, Tensors and Singular Values	
Salle 05 Build Q, Z 11 1st floor 3x30 min	**Convex regularization and inverse problems**, *Organizer*: Pierre Weiss, session 216			**NLP**
	Vincent Duval, T-systems for super-resolution microscopy	Frederic De Gournay, Convex regularisation, sparsity and representation theorem	Jonas Kahn, Bounds on the size of polyedral cones	
Salle KC7 Build K, Z 10 Intermediate 2 3x30 min	**Sparse Recovery**, *Chair*: Mustafa C Pinar, session 432			**NLP**
	John Chinneck, LP-based Sparse Solutions Revisited	Mustafa Pinar, Sparse Recovery and Convex Quadratic Splines	Olof Troeng, Efficient ℓ_0 Trend Filtering	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Nonconvex Optimization: Theory and Methods - Part 1**, *Organizer*: Shoham Sabach, session 184			**NonSmooth**
	Jerome Bolte, From error bounds to the complexity of first-order descent methods	Yakov Vaisbourd, Globally Solving the Trust Region Subproblem Using Simple First-Order Methods	Shoham Sabach, Nonconvex Lagrangian-Based Optimization: Schemes and Global Convergence	
Salle 9 Build N, Z 12 4th floor 2x30 min	**Adaptivity in non smooth optimization**, *Organizer*: Masaru Ito, session 558			**NonSmooth**
	Masaru Ito, An adaptive first order method for weakly smooth and uniformly convex problems	Somayya Komal, A Subgradient Algorithm for solving variational Inequality Problem		
Salle 20 Build G, Z 6 1st floor 3x30 min	**Using SDP relaxations and solving them faster**, *Organizer*: Elisabeth Gaar, session 113			**SDP**
	Samuel Burer, Exact SDPs for a Class of (Random and Non-Random) Nonconvex QCQPs	Nicolo Gusmeroli, SDP Based Solution Methods for Binary Quadratic Problems	Yuzixuan Zhu, Sieve-SDP: A simple facial reduction algorithm to preprocess SDPs	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Algorithms for nonlinear conic problems**, *Chair*: Takayuki Okuno, session 463			**SDP**
	Leonardo Mito, Augmented Lagrangian for nonlinear SDPs applied to the covering problem	Cunlu Zhou, Long-Step Path-Following Algorithm for Nonlinear Symmetric Programming Problems	Takayuki Okuno, A primal-dual path following method for nonlinear semi-infinite SDPs	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Proximal Methods for Structured Problems**, *Organizer*: Ting Kei Pong, session 147			**Variat**
	Tianxiang Liu, A successive DC approximation method for nonconvex nonsmooth optimization	Man-Chung Yue, Cubic Regularization Revisited: Faster (Local) Rates under Weaker Assumptions	Ting Kei Pong, Iteratively reweighted l1 algorithms with extrapolation	
Salle ARNOZAN Build Q, Z 8 Ground Floor 3x30 min	**Algorithms for optimization and variational problems with possibly nonisolated solutions I**, *Organizer*: Andreas Fischer, session 152			**Variat**
	Nico Strasdat, A special complementarity function revisited	Alexey Izmailov, Critical solutions of nonlinear equations: attraction for Newton-type methods	Andreas Fischer, Local attraction of Newton methods to critical solutions of constrained systems	
Salle KC6 Build K, Z 10 Intermediate 1 3x30 min	**Coordinate Descent and Randomized Direct Search Methods**, *Organizer*: Martin Takac, session 211			**RandomM**
	Asu Ozdaglar, When Cyclic Coordinate Descent Outperforms Randomized Coordinate Descent	El houcine Bergou, Random direct search method for unconstrained smooth minimization	Dimitri Papageorgiou, Active Metric Learning for Supervised Classification	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Mixed-integer derivative-free optimization**, *Chair*: Clément Royer, session 80			**DerFree**
	Andrew Conn, Underlying algorithms and theory to our approach to MINLP without derivatives	Delphine Sinoquet, Benchmark of a trust region method for solving black-box mixed-integer problems	Ubaldo Garcia Palomares, A unified approach for solving mixed integer Box-Constrained optimization	
Salle AURIAC Build G, Z 6 1st floor 3x30 min	**Theory and Methods for ODE- and PDE-Constrained Optimization 1**, *Chair*: Carl M Greiff, session 331			**Control**
	Behzad Azmi, On the Barzilai-Borwein step-sizes in Hilbert spaces	Benjamin Horn, Shape Optimization with Stress Constraints for Frictional Contact Problems	Carl Greiff, Quadratic programmimg for time-optimal control in differentially flat systems	

Room	Specific Models, Algorithms, and Software - Monday 3:15 PM – 4:45 PM			
FABRE Build J, Z 8 Ground Floor 3x30 min	**Distributed Optimization**, *Organizer*: Franck Iutzeler, session 325			**Learning**
	Franck Iutzeler, Distributed Optimization with Sparse Communications and Structure Identification	Guanghui Lan, Random gradient extrapolation for distributed and stochastic optimization	Alexander Gasnikov, Distributed Computation of Wasserstein Barycenters over Networks	
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Decisions and learning from data**, *Chair*: Christopher McCord, session 481			**Learning**
	Cédric Rommel, Gaussian mixture penalization for trajectory optimization problems	Christopher McCord, Optimization over Continuous Decisions with Observational Data	Oskar Schneider, Combining Machine Learning and Optimization: Learning to emulate an expert	
PITRES Build O, Z 8 Ground Floor 3x30 min	**Facility Layout**, *Chair*: Anders N Gullhav, session 450			**Logistics**
	Mirko Dahlbeck, Combinatorial Bounds for the (extended) Double Row Facility Layout Problem	Anders Gullhav, A Matheuristic Approach to the Hospital Facility Layout Problem	Hanane Khamlichi, A Multi task robot layout optimization with inventory lot-sizing problem	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Combinatorial Optimization in Chip Design**, *Organizer*: Stefan Hougardy, session 257			**Scheduling**
	Ulrich Brenner, Faster Adder Circuits for Inputs with Prescribed Arrival Times	Pascal Cremer, BonnCell: Automatic Cell Layout for 7nm Processors	Siad Daboul, Provably Fast and Near-Optimum Gate Sizing	
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Progress in Algorithms for Optimal Power Flow Problems I**, *Organizer*: Miguel F Anjos, session 8			**Energy**
	Manuel Ruiz, Solving an Optimal Power Flow (OPF) problem with preventive security constraints	Miguel Anjos, Tight-and-Cheap Conic Relaxation for the AC Optimal Power Flow Problem	Mostafa Sahraei Ardakani, Coordinated Planning and Operation of M-FACTS and Transmission Switching	
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Topics in power systems**, *Organizer*: Alberto J Lamadrid, session 438			**Energy**
	Giulia De Zotti, Consumers Flexibility Estimation at the TSO Level for Balancing Services	Joshua Taylor, Decentralized control of DC-segmented power systems	Alberto Lamadrid, Response to Disruptions in Electricity with Stochastic Microgrids	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Portfolio Optimization**, *Chair*: Bernardo K. Pagnoncelli, session 393			**Sciences**
	Luca Mencarelli, A Multiplicative Weights Update Algorithm for Portfolio Selection Problems	Bernardo Pagnoncelli, Regularized portfolio optimization with risk measures	Sina Yansori, Log-optimal portfolios under random horizon	
Salle 22 Build G, Z 6 2nd floor 2x30 min	**Implementation of interior-point methods for large-scale problems and applications I**, *Organizer*: Jordi Castro, session 353			**Algo**
	Jose Herskovits, A feasible direction interior point algorithm for linear programming	Stefano Nasini, A specialized interior-point algorithm for very large minimum cost flows in bipa		
Salle 18 Build I, Z 7 1st floor 3x30 min	**Advances in Linear, Non Linear and Mixed-Integer Optimization**, *Chair*: Hiroshige Dan, session 400			**Algo**
	Erik Mühmer, Computational Experiments with Nested Dantzig-Wolfe Decompositions	Xavier Schepler, Restrict-and-fix: a constructive heuristic for mixed-integer programs	Hiroshige Dan, Automatic Differentiation Software for Indexed Optimization Problems	

Room	Discrete Optimization & Integer Programming - Monday 5:00 PM – 6:30 PM			
Salle 34 Build B, Z 3 1st floor 3x30 min	**Lattice methods in Integer Optimisation**, *Organizer*: Iskander Aliev, session 78			**IPtheory**
	Gennadiy Averkov, Approximation of corner polyhedra with intersection cuts	Timm Oertel, The Support of Integer Optimal Solutions	Iskander Aliev, Distances to Lattice Points in Knapsack Polyhedra	
Salle 44 Build C, Z 1 3rd floor 4x20 min	**Data Mining**, *Chair*: Marcus V Poggi, session 504			**IPpractice**
	Takahiro Kan, A weighting local search for huge assignment problems in item recommendation	Atsushi Miyauchi, Exact Clustering via Integer Programming and Maximum Satisfiability	Dennis Kreber, The best subset selection problem in regression	Marcus Poggi, Cut and Column Generation for Process Discovery
Salle 36 Build B, Z 4 Intermediate 4x20 min	**IP Practice II**, *Chair*: Petra M. Bartmeyer, session 508			**IPpractice**
	Gaël Guillot, Application of the SSSDP method to combinatorial optimisation problems	Yi-Shuai Niu, A Parallel Branch and Bound with DC Algorithm for Mixed Integer Optimization	Quentin Viaud, Two-dimensional bin packing problem with defects on bins	Petra Bartmeyer, A new approach to relax the binary variables on binary quadratic problems
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Mixed-Integer Conic Optimization**, *Organizer*: Sven Wiese, session 57			**MINLP**
	Lucas Letocart, Exact methods based on SDP for the k-item quadratic knapsack problem	Tristan Gally, Knapsack Constraints over the Positive Semidefinite Cone	Sven Wiese, The Mixed-integer Conic Optimizer in MOSEK	
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Polynomial optimization in binary variables**, *Organizer*: Elisabeth Rodriguez-Heck, session 58			**MINLP**
	Arnaud Lazare, Unconstrained 0-1 polynomial optimization through convex quadratic reformulation	Anja Fischer, A study of specially structured polynomial matroid optimization problems	Elisabeth Rodriguez-Heck, Linear and quadratic reformulations of nonlinear 0-1 optimization problems	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**MINLP methods in gas transport optimization (II)**, *Organizer*: Lars Schewe, session 163			**MINLP**
	Benjamin Hiller, Exploiting acyclic orientations to solve nonlinear potential-based flow problems	Kai Becker, ASTS-Orientations on Undirected Graphs - A tool for optimizing network flows	Johannes Thürauf, Robust Optimal Discrete Arc Sizing for Tree-Shaped Potential Networks	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Scheduling and File Migration**, *Chair*: Asaf Levin, session 345			**APPROX**
	Liliana Grigoriu, Scheduling on Uniform Nonsimultaneous Parallel Machines	Marcin Bienkowski, On phase-based algorithms for online file migration	Asaf Levin, A unified framework for designing EPTAS's for load balancing on parallel machine	
Salle 43 Build C, Z 1 3rd floor 4x20 min	**Algorithms for matching markets**, *Organizer*: Amin Saberi, session 467			**APPROX**
	Arash Asadpour, Concise Bidding Through Dependent Randomized Rounding	Balasubraman Sivan, Robust Repeated Auctions under Heterogeneous Buyer Behavior	Vahab Mirrokni, Proportional Allocation: Simple, Distributed, and Diverse Matching w High Entropy	Amin Saberi, Matching in dynamic environments
SIGALAS Build C, Z 2 2nd floor 4x20 min	**Combinatorial optimization and convexity**, *Chair*: Yu Yokoi, session 424			**COMB**
	Yuni Iwamasa, Discrete convexity in binary VCSPs	Fei Wang, Low matrix completion by a majorized penalty approach	Georg Loho, Abstract tropical linear programming	Yu Yokoi, List Supermodular Coloring
Salle 41 Build C, Z 1 3rd floor 4x20 min	**Practical aspects of network optimization**, *Chair*: Kai Hoppmann, session 427			**COMB**
	Sonia Vanier, Energy-Efficient in Multi-Hop Wireless Networks Problem	Keisuke Hotta, Optimal division for the multi-member constituency system	Saman Eskandarzadeh, Maintenance Scheduling in a Railway Corridor	Kai Hoppmann, Pushing a Network to its Limits - Finding Maximum Min-Cost-Flows

Room	Optimization under Uncertainty - Monday 5:00 PM – 6:30 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Distributionally Robust Stochastic Programming: Theory and Applications**, *Organizer*: Ran Ji, session 250			**Stoch**
	Yiling Zhang, Ambiguous Chance-constrained Binary Programs Under Mean-covariance Information	Karthyek Murthy, Distributionally Robust Optimization with optimal transport (Wasserstein) costs	Ran Ji, Distributionally Robust Chance-Constrained Optimization with Wasserstein Metric	
Salle 30 Build B, Z 5 Ground Floor 3x20 min	**Differentiability, convexity, and modeling in stochastic optimization**, *Chair*: Kai A. Spuerkel, session 493			**Stoch**
	Holger Heitsch, Stochastic optimization with probabilistic/robust (probust) constraints	Pedro Perez-Aros, Subdifferential characterization of probability functions	Kai Spuerkel, Strong Convexity in Stochastic Programming with Deviation Risk Measures	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Advances in Adjustable Robust Optimization**, *Organizer*: Do Young Yoon, session 350			**Robust**
	Dick den Hertog, Robust optimization for models with uncertain SOC and SDP constraints	Ernst Roos, Approximation of uncertain convex inequalities	Do Young Yoon, Monitoring with Limited Information	
Salle 37 Build B, Z 4 Intermediate 3x20 min	**New models in robust optimization**, *Chair*: Juan S Borrero, session 459			**Robust**
	Jaeyoong Lim, On using cardinality constrained uncertainty for objective coefficients	Philip Kolvenbach, Robust optimization of PDE-constrained problems using second-order methods	Juan Borrero, Robust optimization with non-convex uncertainty sets	
Salle 31 Build B, Z 5 Ground Floor 2x30 min	**Learning and dynamic programming**, *Chair*: Boxiao Chen, session 381			**Markov**
	Manu Gupta, A unifying computation of Whittle's Index for Markovian bandits	Jose Nino-Mora, A verification theorem for indexability of real-state restless bandits		

Room	Continuous Optimization - Monday 5:00 PM – 6:30 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Gradient Methods for Constrained Optimization Problems**, *Organizer*: Igor Konnov, session 4			**NLP**
	Igor Konnov, Simple Adaptive Versions of Iterative Optimization Methods	Alexander Zaslavski, Subgradient Projection Algorithm with Computational Errors	Andrea Cristofari, An active-set framework for minimizing nonconvex functions over the simplex	
Salle 05 Build Q, Z 11 1st floor 4x20 min	**Polynomial and tensor optimization III**, *Organizer*: Jiawang Nie, session 7			**NLP**
	Lek-Heng Lim, Higher order cone programming	Ke Ye, Ranks and decompositions of Hankel tensors	Annie Raymond, Symmetric Sums of Squares over k-Subset Hypercubes	Jiawang Nie, Tight relaxations for polynomial optimization and lagrange multiplier expression
Salle 9 Build N, Z 12 4th floor 3x20 min	**Modeling in NLP**, *Chair*: Laura Balzano, session 433			**NLP**
	Laura Balzano, Low Algebraic Dimension Matrix Completion	Mirai Tanaka, DC programming algorithm for fully convex bilevel optimization	Nuttapol Pakkaranang, An inertial proximal point methods for solving minimization problems	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Extending the Reach of First-Order Methods, Part I**, *Organizer*: Haihao Lu, session 285			**NonSmooth**
	Benjamin Grimmer, Subgradient Method Convergence Rates without Lipschitz Continuity or Convexity	Yurii Nesterov, Relative smoothness condition and its application to third-order methods.	Haihao Lu, Generalized Stochastic Frank-Wolfe Method	
Salle 20 Build G, Z 6 1st floor 3x30 min	**Solving large scale convex composite programming**, *Organizer*: Kim-Chuan Toh, session 130			**SDP**
	Kim-Chuan Toh, A block symmetric Gauss-Seidel decomposition theorem for convex composite QP	Xin Yee Lam, Fast algorithms for large scale generalized distance weighted discrimination	Yancheng Yuan, An Efficient Semismooth Newton Based Algorithm for Convex Clustering	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Convergence and Approximation in Conic Programming**, *Chair*: Tamás Terlaky, session 465			**SDP**
	Nuri Vanli, Convergence Rate of Block Coordinate Ascent for Nonconvex Burer-Monteiro Method	Yuriy Zinchenko, Towards efficient approximation of p-cones	Tamás Terlaky, Quadratic convergence to the optimal solution of second-order conic optimization	
Salle 06 Build Q, Z 11 1st floor 4x20 min	**Nonlinear Optimization and Variational Inequalities VI**, *Organizer*: Cong Sun, session 146			**Variat**
	Fengmin Xu, Balance analysis of sparsity and robustness for portfolio adjustment problem	Chao Zhang, Two-stage stochastic program and stochastic variational inequalities	Xiao Wang, Proximal Stochastic Quasi-Newton methods for Nonconvex Composite Optimization	Zhongming Wu, General inertial proximal gradient method for nonconvex nonsmooth optimization
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x20 min	**Variational Analysis 4**, *Organizer*: Jo A. Brueggemann, session 370			**Variat**
	Jo Brueggemann, Path-following method for a class of obstacle problems with integral constraints	Yboon García Ramos, Nonconvex integration using ϵ-subdifferentials	Yakui Huang, A family of two-point step-size gradient methods	Khoa Nguyen, Proximal alternating direction method of multipliers in the nonconvex setting
Salle KC6 Build K, Z 10 Intermediate 1 3x20 min	**Complexity of Randomized Algorithms**, *Organizer*: Raghu Pasupathy, session 347			**RandomM**
	Martin Morin, On the Convergence of SAGA-like Algorithms	Bang Vu, On the linear convergence of the projected stochastic gradient method	Raghu Pasupathy, The Complexity of Adaptive Sampling Accelerated Gradient Dsescent	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Advances in DFO I**, *Chair*: Sébastien Le Digabel, session 40			**DerFree**
	Warren Hare, Calculus Rules of the Simplex Gradient	Miguel Munoz Zuniga, Derivative free global Optimization with categorical-continuous variables	Stefan Wild, A Taxonomy of Constraints for Blackbox-Based Optimization	
Salle AURIAC Build G, Z 6 1st floor 4x20 min	**Advances in optimization methods for time dependent problems:I**, *Organizer*: Matthias Heinkenschloss, session 223			**Control**
	Mihai Anitescu, Exponentially convergent receding horizon constrained optimal control	Carl Laird, Parallel strategies for DAE optimization with direct Schur-complement decomp.	Johannes Haubner, Shape optimization for unsteady fluid-structure interaction	Matthias Heinkenschloss, A parallel-in-time gradient-type method for optimal control problems

Room	Specific Models, Algorithms, and Software - Monday 5:00 PM – 6:30 PM			
FABRE Build J, Z 8 Ground Floor 4x20 min	**Riemannian geometry in optimization for learning**, *Organizer*: Nicolas Boumal, session 320			**Learning**
	Nicolas Boumal, Global rates of convergence for nonconvex optimization on manifolds	Ronny Bergmann, A parallel Douglas-Rachford algorithm for data on Hadamard manifolds	Paul Breiding, Riemannian optimization for the canonical tensor rank approximation problem	Junyu Zhang, Primal-Dual Optimization Algorithms over Riemannian Manifolds
Salle DENUCE Build Q, Z 8 Ground Floor 4x20 min	**Exploiting structure in constrained optimization**, *Organizer*: Mihai Cucuringu, session 334			**Learning**
	Hemant Tyagi, Provably robust estimation of modulo 1 samples of a smooth function	Akiko Takeda, Efficient DC Algorithm for constrained sparse optimization problems	Nikitas Rontsis, Distributionally Ambiguous Optimization Techniques for Batch Bayesian Optimizati	Andre Uschmajew, On critical points of quadratic low-rank matrix optimization problems
Salle 22 Build G, Z 6 2nd floor 4x20 min	**Sparsity, variable selection and efficient algorithms**, *Chair*: Alex Sholokhov, session 475			**Learning**
	Sam Tajbakhsh, Distributed algorithms for statistical learning with structured sparsity	Jean Pauphilet, Sparse regression: Scalable algorithms and empirical performance	Alex Sholokhov, Sparsified Huge-Scale Optimization for Regularized Regression Problems	Zixin Shen, Forward stepwise variable selection based on relative weights
Salle 16 Build I, Z 7 2nd floor 3x20 min	**Packing and Capacity Management**, *Chair*: Eugene Zak, session 452			**Logistics**
	Marina Andretta, Solving Irregular Strip Packing Problems with free rotations	Alexandre Le Jean, A 3D-knapsack problem with truncated pyramids and static stability constraint	Eugene Zak, Minimization of sum of inverse sawtooth functions	
Salle 18 Build I, Z 7 1st floor 4x20 min	**Manufacturing**, *Chair*: Younsoo Lee, session 530			**Scheduling**
	Sébastien Beraudy, Detailed production planning models for semiconductor manufacturing with profit	Teun Janssen, Scheduling in the Photolithography Bay	Hugo Harry Kramer, Column generation and fix-and-optimize for the lot-sizing with remanufacturing	Younsoo Lee, On the discrete lot-sizing and scheduling problem with sequence-dependent setup
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Novel data-driven OR techniques for power system operations and planning**, *Organizer*: Juan M. Morales, session 52			**Energy**
	Salvador Pineda Morente, Chronological Time-Period Clustering for Optimal Capacity Expansion Planning	Christos Ordoudis, Energy and Reserve Dispatch with Distributionally Robust Joint Chance Constraints	Juan Morales, Predicting the electricity demand response via data-driven inverse optimization	
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Structure and Learning in Power Grid Optimization**, *Organizer*: Deepjyoti Deka, session 135			**Energy**
	Gal Dalal, Chance-Constrained Outage Scheduling using a Machine Learning Proxy	Sidhant Misra, Statistical Learning For DC Optimal Power Flow	Apurv Shukla, Non-Stationary Streaming PCA	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Structure from evidence**, *Organizer*: Peter Gritzmann, session 386			**Sciences**
	Douglas Gonçalves, Mathematical Programming in Quantum Information and Computation	Jorge Barreras, Detection of Uninformed Experts	Peter Gritzmann, On constrained flow and multi assignment problems for plasma particle tracking	
PITRES Build O, Z 8 Ground Floor 3x30 min	**Implementation of interior-point methods for large-scale problems and applications II**, *Organizer*: Jordi Castro, session 352			**Algo**
	Csaba Meszaros, On the implementation of the crossover algorithm	Aurelio Oliveira, Interior point methods applied to context-free grammar parameter estimation	Jordi Castro, A new specialized interior-point method for support vector machines	

Room	Discrete Optimization & Integer Programming - Tuesday 8:30 AM – 10:30 AM			
Salle 43 Build C, Z 1 3rd floor 4x30 min	**Extended formulations**, *Organizer*: Stefan Weltge, session 219			**IPtheory**
	Michele Conforti, Balas formulation for the union of polytopes is optimal	Tony Huynh, Strengthening Convex Relaxations of 0/1-Sets Using Boolean Formulas	Makrand Sinha, Lower Bounds for Approximating the Matching Polytope	Stefan Weltge, Lifting Linear Extension Complexity Bounds to the Mixed-Integer Setting
Salle 34 Build B, Z 3 1st floor 3x30 min	**MIP under Uncertainty 1**, *Organizer*: Fatma Kilinc-Karzan, session 231			**IPtheory**
		Shabbir Ahmed, Distributionally Robust Combinatorial Optimization	Simge Kucukyavuz, Risk-Averse Set Covering Problems	Ruiwei Jiang, Mixed-Integer Recourse via Prioritization
Salle 35 Build B, Z 4 Intermediate 4x30 min	**Cutting Planes for Integer Programs**, *Chair*: Matthias Köppe, session 512			**IPtheory**
	Jiawei Wang, Characterization and Approximation of General Dual-Feasible Functions	Yuan Zhou, All finite group complexity injects	Daniel Porumbel, Projective cutting-planes by projecting interior points onto polytope facets	Matthias Köppe, cutgeneratingfunctionology: Python software for CGFs and superadditive duality
Salle 44 Build C, Z 1 3rd floor 4x30 min	**Machine Learning for Optimization**, *Organizer*: Bistra Dilkina, session 138			**IPpractice**
	Bistra Dilkina, Machine Learning for Branch and Bound	Markus Kruber, Learning when to use a decomposition	Elias Khalil, Learning Combinatorial Optimization Algorithms Over Graphs	Andrea Lodi, Learning Discrete Optimization
LEYTEIRE Build E, Z 1 3rd floor 4x30 min	**Streaming**, *Organizer*: Michael Kapralov, session 228			**APPROX**
	Eric Price, Counting subgraphs in graph streams	David Woodruff, Sublinear Time Low Rank Approximation of Positive Semidefinite Matrices	Pan Peng, Estimating Graph Parameters from Random Order Streams	Michael Kapralov, $(1 + \Omega(1))$-Approximation to MAX-CUT Requires Linear Space
Salle 36 Build B, Z 4 Intermediate 4x30 min	**Approximation Algorithms for Clustering**, *Organizer*: Chaitanya Swamy, session 256			**APPROX**
	Sara Ahmadian, Better Guarantees for k-Means Problem using Primal-Dual Algorithms	Chris Schwiegelshohn, On the Local Structure of Stable Clustering Instances	Benjamin Moseley, Approximation Bounds for Hierarchical Clustering	Chaitanya Swamy, Unifying k-Median and k-Center: Approximation Algorithms for Ordered k-Median
SIGALAS Build C, Z 2 2nd floor 4x30 min	**Matching games and beyond**, *Organizer*: Jochen Koenemann, session 241			**COMB**
	Zhuan Khye Koh, Stabilizing Weighted Graphs	Justin Toth, Computing the Nucleolus of Weighted Cooperative Matching Games in Poly Time	Jannik Matuschke, New and simple algorithms for stable flow problems	Agnes Cseh, The complexity of cake cutting with unequal shares
Salle 41 Build C, Z 1 3rd floor 4x30 min	**Equilibrium Computation in Congestion Games**, *Organizer*: Umang Bhaskar, session 242			**COMB**
	Ioannis Panageas, Multiplicative Weights Update with Constant Step-Size in Congestion Games	Tobias Harks, Equilibrium Computation in Resource Allocation Games	Guido Schäfer, Computing Efficient Nash Equilibria in Congestion Games	Umang Bhaskar, Equilibrium Computation in Atomic Splittable Routing Games with Convex Costs
Salle 39 Build E, Z 1 3rd floor 4x30 min	**Exact approaches for problems over lattices and graphs**, *Chair*: Daniele Catanzaro, session 425			**COMB**
	Austin Buchanan, Why is maximum clique often easy in practice?	Matteo Cosmi, Scheduling for Last-Mile Food Delivery	Martin Frohn, Optimizing over lattices of unrooted binary trees: Part I - Foundations	Daniele Catanzaro, Optimizing over lattices of unrooted binary trees: Part II - On the BMEP
DURKHEIM Build A, Z 1 3rd floor 4x30 min	**Graphical Optimization Model 1**, *Organizer*: Joris Kinable, session 295			**CP**
	David Bergman, On the integrated last mile transportation problem	Willem-Jan van Hoeve, Cut Generation for Integer (Non-)Linear Programming via Decision Diagrams	Joris Kinable, Hybrid Optimization Methods for Time-Dependent Sequencing Problems	John Hooker, Compact Representation of Near-Optimal Integer Programming Solutions

Room	Optimization under Uncertainty - Tuesday 8:30 AM – 10:30 AM			
DENIGES Build C, Z 5 Ground Floor 4x30 min	**Risk-averse stochastic programming**, *Organizer*: Andrzej Ruszczynski, session 252			**Stoch**
	Darinka Dentcheva, Asymptotics of stochastic optimization problems with composite risk functionals	Ozlem Cavus, Multi-objective risk-averse two-stage stochastic programming problems	Alexander Shapiro, Distributionally robust stochastic programming	Andrzej Ruszczynski, Risk Disintegration with Application to Partially Observable Systems
Salle 37 Build B, Z 4 Intermediate 3x30 min	**Nonlinear Optimization with Uncertain Constraints**, *Organizer*: Charlie Vanaret, session 110			**Robust**
		Andreas Waechter, Nonlinear programming reformulations of chance constraints (Part 2)	Alejandra Pena-Ordieres, Nonlinear programming reformulations of chance constraints (Part 1)	Sven Leyffer, Sequential Linearization for Nonlinear Robust Optimization
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**Robust Optimization and Operations Mangement**, *Organizer*: Chaithanya Bandi, session 410			**Robust**
		Nikos Trichakis, Robustness of Static Pricing Policies in the Face of Strategic Customers	Omar Besbes, Prior-Independent Optimal Auctions	Chaithanya Bandi, Design and Control of Multi-class Queueing Networks via Robust Optimization
Salle 31 Build B, Z 5 Ground Floor 4x30 min	**Algorithms for stochastic games : new approaches**, *Organizer*: Hugo Gimbert, session 137			**Markov**
	Marcin Jurdzinski, Quasi-polynomial algorithms for solving parity games	Antonin Kucera, One-Counter Stochastic Games with Zero-Reachability Objectives	Marcello Mamino, Around tropically convex constraint satisfaction problems.	Mateusz Skomra, The condition number of stochastic mean payoff games
Salle 30 Build B, Z 5 Ground Floor 4x30 min	**Algorithmic Game Theory I**, *Organizer*: Luce Brotcorne, session 311			**Game**
	Victor Bucarey, Solving Strong Stackelberg Equilibrium in Stochastic Games	Fränk Plein, Models for the single-minded bundle pricing problem	Concepcion Dominguez, Branch-and-cut algorithm for the Rank Pricing problem	Yury Kochetov, A matheuristic for the bilevel 0-1 public-private partnership problem

Room	Continuous Optimization - Tuesday 8:30 AM – 10:30 AM			
GINTRAC Build Q, Z 8 Ground Floor 4x30 min	**Stochastic and Nonlinear Optimization I**, *Organizer*: Jorge Nocedal, session 47			**NLP**
	Raghu Bollapragada, A Progressive Batching L-BFGS Method for Machine Learning	Leon Bottou, Convexity "à la carte"	Philip Thompson, On variance reduction for stochastic optimization with multiplicative noise	Frank Curtis, Characterizing Worst-Case Complexity of Algorithms for Nonconvex Optimization
Salle 05 Build Q, Z 11 1st floor 4x30 min	**Machine learning and sparse optimisation** , *Organizer*: Coralia Cartis, session 109			**NLP**
	Martin Lotz, Condition numbers and weak average-case complexity in optimization	Armin Eftekhari, A Long (Random) Walk Solves All Your (Linear) Problems	Florentin Goyens, Manifold lifting: problems and methods	Jared Tanner, Sparse non-negative super-resolution: simplified and stabilized
Salle KC7 Build K, Z 10 Intermediate 2 4x30 min	**Unconstrained Optimization**, *Chair*: Ekkehard Sachs, session 401			**NLP**
	Andrea Caliciotti, SYMMBK algorithm applied to Newton-Krylov methods for unconstrained optimization	Elisa Riccietti, Regularizing trust-region methods for ill-posed nonlinear least-squares problems	Massimo Roma, Approximate Inverse Preconditioning for Newton-Krylov methods	Ekkehard Sachs, Second Order Adjoints
Salle LC4 Build L, Z 9 Intermediate 1 4x30 min	**Advances in Bundle Methods for Convex Optimization**, *Organizer*: Christoph Helmberg, session 93			**NonSmooth**
	Frank Fischer, An Asynchronous Parallel Bundle Method Based on Inexact Oracles	Antonio Frangioni, Fully Incremental Bundle Methods: (Un)cooperative (Un)faithful Oracles and Upper	Elisabeth Gaar, The Bundle Method for Getting an Improved SDP Relaxation of the Stability Number	Christoph Helmberg, A Dynamic Scaling Approach for Bundle Methods in Convex Optimization
Salle 8 Build N, Z 12 4th floor 4x30 min	**Addressing problems with complex geometries**, *Organizer*: Edouard Pauwels, session 229			**NonSmooth**
	Jerome Malick, Sensitivity analysis for mirror-stratifiable convex functions	Courtney Paquette, An accelerated proximal method for minimizing compositions of convex functions	Antoine Hochart, How to perturb semi-algebraic problems to ensure constraint qualification?	Edouard Pauwels, The multiproximal linearization method for convex composite problems
Salle 20 Build G, Z 6 1st floor 4x30 min	**Algebraic and geometric aspects of semidefinite programming**, *Organizer*: Hamza Fawzi, session 85			**SDP**
	James Saunderson, Certificates of polynomial nonnegativity via hyperbolic optimization	Xavier Allamigeon, Log-barrier interior point methods are not strongly polynomial	Amy Wiebe, Slack ideals of polytopes	Dogyoon Song, Measuring Optimality Gap in Conic Programming Approximations with Gaussian Width
Salle LC5 Build L, Z 10 Intermediate 1 4x30 min	**Theory and algorithms in conic linear programming 1**, *Organizer*: Gabor Pataki, session 88			**SDP**
	Henry Wolkowicz, Low-Rank Matrix Completion (LRMC) using Nuclear Norm (NN) with Facial Reduction	Negar Soheili, Solving conic systems via projection and rescaling	Henrik Friberg, Projection and presolve in MOSEK: exponential and power cones	Levent Tuncel, TOTAL DUAL INTEGRALITY FOR CONVEX, SEMIDEFINITE, AND EXTENDED FORMULATIONS
Salle 06 Build Q, Z 11 1st floor 4x30 min	**Nonlinear Optimization and Variational Inequalities V**, *Organizer*: Xin Liu, session 145			**Variat**
	Yaohua Hu, Lower-order regularization method for group sparse optimization with application	Tingting Wu, Solving Constrained TV2L1-L2 MRI Signal Reconstruction via an Efficient ADMM	Oleg Burdakov, On solving saddle-point problems and non-linear monotone equations	Javad Feizollahi, A first-order method for semidefinite stochastic variational inequality problems
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x30 min	**Optmization Algorithms and Variational Inequalites I**, *Organizer*: Bo Jiang, session 148			**Variat**
	Yu-Hong Dai, Smoothing quadratic regularization method for the hemivariational inequalities	Deren Han, ADMM for Optimization Problems Involving Nonconvex Functions	Xingju Cai, ADMM-based methods for monotone inverse variational inequalities	Bo Jiang, Vector Transport-Free SVRG with General Retraction for Riemannian Optimization
Salle KC6 Build K, Z 10 Intermediate 1 4x30 min	**Larges Scale and Distributed Optimization**, *Organizer*: Ermin Wei, session 214			**RandomM**
	Pontus Giselsson, On Linear Convergence for Douglas-Rachford splitting and ADMM	Jonathan Eckstein, Block-Iterative and Asynchronous Projective Splitting for Monotone Operators	Gesualdo Scutari, Achieving Geometric Convergence for Distributed Asynchronous Optimization	Ermin Wei, Asynchronous Distributed Network Newton Method
Salle 21 Build G, Z 6 Intermediate 4x30 min	**Bayesian and Randomized Optimization II**, *Chair*: Youssef Diouane, session 79			**DerFree**
	Nathalie Bartoli, Adaptive modeling strategy for high-dimensional constrained global optimization	Robert Gramacy, Modeling an Augmented Lagrangian for Blackbox Constrained Optimization	Victor Picheny, Bayesian optimization under mixed constraints	Zi Wang, Bayesian Optimization Guided by Max-values
Salle AURIAC Build G, Z 6 1st floor 4x30 min	**Optimization Methods for PDE Constrained Problems** , *Organizer*: Michael Ulbrich, session 221			**Control**
	Anton Schiela, An affine covariant composite step method with inexact step computations	Sebastian Garreis, Optimal Control under Uncertainty: Adaptive Solution with Low-rank Tensors	Carlos Rautenberg, On the optimal control of quasi-variational inequalities	Michael Ulbrich, Inexact bundle methods for nonconvex problems in Hilbert space with applications

Room	Specific Models, Algorithms, and Software - Tuesday 8:30 AM – 10:30 AM			
FABRE Build J, Z 8 Ground Floor 4x30 min	**Optimization in Statistical Learning**, *Organizer*: Quentin Berthet, session 326			**Learning**
	Jonathan Weed, Near-linear time approximation algorithms for optimal transport	Andreas Elsener, Sharp Oracle Inequalities for nonconvex regularized M-estimators	Alexandre d Aspremont, Sharpness, Restart and Compressed Sensing Performance	Fan Yang, Towards a deeper understanding of generalization for kernel learning
Salle DENUCE Build Q, Z 8 Ground Floor 4x30 min	**Statistics meets optimization: going beyond convexity**, *Organizer*: John Duchi, session 337			**Learning**
	Mahdi Soltanolkotabi, Learning ReLUs and over-parameterized neural networks via gradient descent	Ju Sun, When are nonconvex optimization problems not scary?	John Duchi, Solving composite optimization problems, with applications to phase retrieval an	Rina Barber, Optimal iterative thresholding algorithms for sparse optimization
Salle 22 Build G, Z 6 2nd floor 4x30 min	**Pricing**, *Chair*: Anastasiya Ivanova, session 478			**Learning**
	Anastasiya Ivanova, Distributed price adjustment for the resource allocation problem	Yesmine Rouis, Price forecasting with machine learning algorithms for recommerce activities	Sara Calleja, Volume forecasting with machine learning algorithms for recommerce activities	Spyros Zoumpoulis, Optimal Pricing and Introduction Timing of New Virtual Machines
Salle 18 Build I, Z 7 1st floor 4x30 min	**Path and tree problems**, *Chair*: Arthur J Delarue, session 360			**Network**
	Andreas Karrenbauer, Approximate Shortest Paths and Transshipment in Distributed and Streaming Models	Dmytro Matsypura, Exact IP-based approaches for the longest induced path problem.	Kiyoshi Sawada, Adding Edges of Short Lengths Incident with the Root to Complete K-ary Tree	Arthur Delarue, Travel Time Estimation in the Age of Big Data
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Facility Location**, *Chair*: Ivan Contreras, session 414			**Logistics**
		Ivan Contreras, Exact solution of single source quadratic capacitated location problems	Blas Pelegrin, Optimal multi-facility location for competing firms under quantity competition	Daniel Santos, A new formulation for the Hamiltonian p-median problem
Salle 23 Build G, Z 6 3rd floor 4x30 min	**Electric Vehicles and Decarbonization**, *Chair*: Martim Joyce-Moniz, session 519			**Energy**
	Paolo Pisciella, A techno-economic analysis of the impact of decarbonization	Francisco Munoz, Equilibrium Analysis of a Carbon Tax With Pass-through Restrictions	Daniel Olivares, Management of EV Charging Stations under Advance Reservations Schemes	Martim Joyce-Moniz, Increasing electric vehicle adoption via strategic siting of charging stations
Salle 24 Build G, Z 6 3rd floor 4x30 min	**Risk Models for Electricity Markets**, *Chair*: Michael C Ferris, session 521			**Energy**
	Daniel Ralph, Risky Capacity Equilibrium Models for risk averse investment equilibria	Ryan Cory-Wright, Payment mechanisms, efficiency savings and risk-aversion in electricity markets	Fabio Moret, Risk and Information Sharing in Peer-to-Peer Electricity Markets	Michael Ferris, Dynamic Risked Equilibrium for Energy Planning
Salle LA4 Build L, Z 8 Basement 4x30 min	**Interval Global Optimization**, *Organizer*: Frederic Messine, session 339			**Sciences**
	Tibor Csendes, Nonlinear Symbolic Transformations for Simplifying Functions – Interval Methods	Bertrand Neveu, An Interval Branch and Bound Algorithm for Parameter Estimation	Dominique Monnet, Interval Branch-and-Bound Algorithm for semi-infinite programming	Frederic Messine, Reliable convex relaxation techniques for interval global optimization codes
PITRES Build O, Z 8 Ground Floor 4x30 min	**LP, Mixed Integer Convex Programming and Decomposition**, *Organizer*: Thorsten Koch, session 236			**Algo**
	Miten Mistry, Optimising over Gradient-Boosted Regression Trees with Convex Penalty Functions	Nikolaos Ploskas, An advanced initialization procedure for the simplex algorithm	Stephen Maher, Experiments with a general Benders' decomposition framework for SCIP	Christian Puchert, Progress in the Branch-Price-and-Cut Solver GCG

Room	Invited Talks - Tuesday 11:00 AM – 12:00 AM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Adaptive Robust Optimization with Scenario-wise Ambiguity Sets**, *Organizer*: Daniel Kuhn, session 551			**SEMI**
	Melvyn Sim, Adaptive Robust Optimization with Scenario-wise Ambiguity Sets			
DENIGES Build C, Z 5 Ground Floor 1x60 min	**Asymptotic Lagrangian duality for nonsmooth optimization**, *Organizer*: Xiaojun Chen, session 541			**KEYNOTE**
	Regina Burachik, Asymptotic Lagrangian duality for nonsmooth optimization			
BROCA Build W, Z 0 3rd floor 1x60 min	**Lower bounds on the size of linear programs**, *Organizer*: Volker Kaibel, session 545			**KEYNOTE**
	Thomas Rothvoss, Lower Bounds on the Size of Linear Programs			

Room	Invited Talks - Tuesday 1:30 PM – 2:30 PM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**The Resurgence of Proximal Methods in Optimization**, *Organizer*: Claudia Sagastizabal, session 555			**PLENARY**
	Marc Teboulle, The resurgence of proximal methods in optimization			

Room	Discrete Optimization & Integer Programming - Tuesday 3:15 PM – 4:45 PM			
Salle 43 Build C, Z 1 3rd floor 3x30 min	**MIP under Uncertainty 2**, *Organizer*: Simge Kucukyavuz, session 232			**IPtheory**
	Manish Bansal, Two-stage stochastic p-order conic mixed integer programs	Ward Romeijnders, Inexact cutting plane techniques for two-stage stochastic mixed-integer programs	Andrew Schaefer, Solving Stochastic and Bilevel Mixed-Integer Programs via a Generalized Value F.	
Salle 44 Build C, Z 1 3rd floor 3x30 min	**Symmetry Handling in Integer Programs**, *Organizer*: Christopher Hojny, session 129			**IPpractice**
	Cecile Rottner, Breaking full-orbitopal symmetries and sub-symmetries	Domenico Salvagnin, Symmetry Breaking Inequalities from the Schreier-Sims table	Christopher Hojny, Symmetry Breaking Polytopes: A Framework for Symmetry Handling in Binary Program	
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Applications in Mixed-Integer Quadratic Programming**, *Organizer*: Boshi Yang, session 107			**MINLP**
	Boshi Yang, Improved Representations of the Quadratic Linear Ordering Problem	Areesh Mittal, Robust QCQPs Under Mixed Integer Uncertainty	Chiara Liti, Machine Learning and Optimization for Neuroscience	
Salle 34 Build B, Z 3 1st floor 3x30 min	**Convex relaxations in MINLP**, *Organizer*: Adam N Letchford, session 278			**MINLP**
	Borzou Rostami, A convex reformulation and an outer approximation for a class of BQP	Felipe Serrano, Separating over the convex hull of MINL constraints	Adam Letchford, Bi-Perspective Cuts for Mixed-Integer Fractional Programs	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**Applications of MINLP**, *Organizer*: Dolores Romero Morales, session 281			**MINLP**
	Claudia López, Packing problem as mixed integer non-linear model using formulation space search	Steffen Rebennack, Piecewise Linear Function Fitting via Mixed-Integer Linear Programming	Dolores Romero Morales, Feature Selection for Benchmarking	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Algorithms in the Sharing Economy**, *Organizer*: David Shmoys, session 22			**APPROX**
	Anthony Kim, Minimizing Latency in Online Ride and Delivery Services	Alice Paul, Broken Bike Docks and the Prize-Collecting Traveling Salesman Problem	David Shmoys, Allocating capacity in bike-sharing systems	
Salle 36 Build B, Z 4 Intermediate 3x30 min	**Local Search and Facility Location**, *Organizer*: Felix Willamowski, session 342			**APPROX**
	Neelima Gupta, Local Search based Approximation Algorithms for Capacitated k median problems.	Krzysztof Sornat, Proportional Approval Voting, Harmonic k-median, and Negative Association	Felix Willamowski, Hard Instances for Local Search via Mixed Integer Programming	
Salle 41 Build C, Z 1 3rd floor 3x30 min	**New developments in prophet inequalities and related settings**, *Organizer*: Ruben Hoeksma, session 258			**COMB**
	Ashish Chiplunkar, Prophet Inequality and Prophet Secretary	Brendan Lucier, Prophets, Secretaries, and Prices	Tim Oosterwijk, Posted Prices and Threshold Strategies for Random Arrivals	
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Submodular optimization and beyond**, *Chair*: Satoru Iwata, session 418			**COMB**
	Martin Nägele, Submodular Minimization Under Congruency Constraints	Kenjiro Takazawa, The b-bibranching Problem: TDI System, Packing, and Discrete Convexity	Satoru Iwata, Index Reduction via Unimodular Transformations	

Room	Optimization under Uncertainty - Tuesday 3:15 PM – 4:45 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Distributionally Robust and Stochastic Optimization: A Sampling/Scenario Perspective**, *Organizer*: Guzin Bayraksan, session 249			**Stoch**
	Alexander Zolan, Optimizing the Design of a Latin Hypercube Sampling Estimator for SAA	Jun-ya Gotoh, Out-of-sample analysis of distributionally robust optimization	Guzin Bayraksan, Effective Scenarios in Multistage Distributionally Robust Stochastic Programs	
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**Recent Advances in Robust Optimization I**, *Organizer*: Phebe Vayanos, session 442			**Robust**
	Vishal Gupta, Optimization in the Small-Data, Large-Scale Regime	Velibor Misic, Interpretable Optimal Stopping	Phebe Vayanos, Fair, Efficient, and Interpretable Policies for Allocating Scarce Resources	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Recent Advances in Robust Optimization II**, *Organizer*: Wolfram Wiesemann, session 445			**Robust**
	Jianzhe Zhen, A Robust Optimization Perspective on Bilinear Programming	Huajie Qian, Calibrating Optimization under Uncertainty	Wolfram Wiesemann, The Distributionally Robust Chance Constrained Vehicle Routing Problem	
Salle 31 Build B, Z 5 Ground Floor 3x30 min	**Market places and dynamic programming**, *Chair*: Dan A Iancu, session 380			**Markov**
	Gonzalo Romero, Revenue Management with Repeated Customer Interactions	Boxiao Chen, Dynamic Inventory Control with Stockout Substitution and Demand Learning	Dan Iancu, Revenue Losses From Income Guarantees in Centralized Allocation Systems	
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Game Theory and Energy Markets**, *Chair*: Didier Aussel, session 375			**Game**
	Anton Svensson, Constraint quali cations for parametrized optimization problems and applications	Léonard vonNiederhäusern, TrEMa: A Trilevel Energy Market Model	Didier Aussel, Electricity market model with elastic demand	

Room	Continuous Optimization - Tuesday 3:15 PM – 4:45 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Sum-of-squares and moment problems: methods and applications**, *Organizer*: Etienne De Klerk, session 2			**NLP**
	Amir Ali Ahmadi, LP, SOCP, and Optimization-Free Approaches to Polynomial Optimization	Krzysztof Postek, Distributionally robust optimization with SOS polynomial density functions and m	Georgina Hall, Nonnegative polynomials, and applications to learning	
Salle KC7 Build K, Z 10 Intermediate 2 3x30 min	**Bridging NLP and Theoretical Computer Science**, *Organizer*: Aleksander Madry, session 51			**NLP**
	Aleksander Madry, Improved Max Flow and Bipartite Matching Algorithms via Interior Point Method	Lorenzo Orecchia, First-order methods: from dynamical systems to discrete optimization	Yin Tat Lee, A homotopy method for lp regression provably beyond self-concordance	
Salle 05 Build Q, Z 11 1st floor 2x30 min	**Interior Point Methods in Engineering Applications II**, *Organizer*: Jacek Gondzio, session 61			**NLP**
	Michal Kocvara, A multigrid interior point method for large scale topology optimization	Jacek Gondzio, Solving large-scale truss layout optimization problems by a primal-dual IPM		
Salle 9 Build N, Z 12 4th floor 3x30 min	**Linear Optimization III**, *Chair*: Rodrigo Mendoza Smith, session 439			**NLP**
	Rodrigo Mendoza Smith, Neural constraint selection in Linear Programming	Chu Nguyen, New station cone algorithm variant for linear programming and computing experiment	Khalid El Yassini, A predictor-corrector algorithm for lp problems using the mixed penalty approach	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Nonconvex Optimization: Theory and Methods - Part 2**, *Organizer*: Russell Luke, session 186			**NonSmooth**
	Guoyin Li, Splitting methods for nonconvex feasibility problems	Patrick Johnstone, Projective Splitting with Forward Steps	Russell Luke, Convergence Analysis for Nonconvex Optimization Made Easy	
Salle 20 Build G, Z 6 1st floor 3x30 min	**Recent Advances in Conic Programming I**, *Organizer*: Makoto Yamashita, session 82			**SDP**
	Bissan Ghaddar, Strong and Cheap SDP and SOCP Hierarchies for Polynomial Optimization	Sunyoung Kim, BP: a Matlab package based on the Bisection and Projection method for POPs	David Papp, Sum-of-squares optimization with and without semidefinite programming	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Relative Entropy Optimization II**, *Organizer*: Venkat Chandrasekaran, session 112			**SDP**
	Venkat Chandrasekaran, Newton Polytopes and Relative Entropy Optimization	Timo de Wolff, Optimization over the Hypercube via Sums of Nonnegative Circuit Polynomials	Orcun Karaca, The REPOP Toolbox: Polynomial Optimization Using Relative Entropy Relaxations	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Nonlinear Optimization and Variational Inequalities III**, *Organizer*: Xin Liu, session 143			**Variat**
	Xinwei Liu, A primal-dual IPM with rapid detection on infeasibility for nonlinear programs	Wei Bian, Some discussion on nonsmooth convex regression with cardinality penalty	Bo Wen, Proximal Algorithms with Extrapolation for Nonconvex Nonsmooth Problems	
Salle KC6 Build K, Z 10 Intermediate 1 3x30 min	**Recent Advances in Stochastic and Non-convex Optimization II**, *Organizer*: Mingyi Hong, session 304			**RandomM**
	Tianbao Yang, First-order Stochastic Algorithms for Escaping From Saddle Points	John Birge, Markov chain Monte Carlo methods for Dynamic Stochastic Optimization	Jong-Shi Pang, Composite Difference-Max Programs for Modern Statistical Estimation Problems	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Advances in DFO II**, *Chair*: Warren Hare, session 37			**DerFree**
	Yves Lucet, Variable-fidelity derivative-free algorithms for road design	Matt Menickelly, Derivative-Free Robust Optimization by Outer Approximations	Sébastien Le Digabel, The Mesh Adaptive Direct Search algorithm for granular and discrete variables	
Salle AURIAC Build G, Z 6 1st floor 3x30 min	**Optimal Control and PDE Constrained Optimization**, *Organizer*: Hasnaa Zidani, session 233			**Control**
	Damien Allonsius, Control of semi discretized (in space) systems of parabolic equations.	Francesca Chittaro, Strong local optimality for generalised L^1 optimal control problems	Zheng Chen, Shortest Dubins Paths through Three Points	

Room	Specific Models, Algorithms, and Software - Tuesday 3:15 PM – 4:45 PM			
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Distributed and Asynchronous Learning**, *Organizer*: Ion Necoara, session 323			**Learning**
	Aditya Devarakonda, Avoiding communication in first-order methods for convex optimization	Marten van Dijk, On the Expected Convergence of SGD with Large Stepsizes	Puya Latafat, Asynchronous primal-dual proximal algorithms for large-scale optimization	
FABRE Build J, Z 8 Ground Floor 3x30 min	**Advances in large-scale machine learning**, *Organizer*: Mark Schmidt, session 327			**Learning**
	Francis Bach, Exponential convergence of testing error for stochastic gradient methods.	Volkan Cevher, Mirrored Langevin Dynamics	Zaid Harchaoui, Catalyst Acceleration for Gradient-based Optimization of Structured Models	
Salle 22 Build G, Z 6 2nd floor 2x30 min	**Learning for mixed integer optimization**, *Chair*: Hari Bandi, session 482			**Learning**
	Hari Bandi, Learning a Mixture of Gaussians via Mixed Integer Optimization	Takanori Maehara, Learning for Tuning Parameters of NUOPT MILP Solver		
PITRES Build O, Z 8 Ground Floor 3x30 min	**Pricing Methods**, *Organizer*: Rafael Martinelli, session 182			**Logistics**
	Teobaldo Bulhões Júnior, A branch-and-price algorithm for the Minimum Latency Problem	Jacques Desrosiers, Pricing, cycles, and pivots	Ruslan Sadykov, Branch-Cut-and-Price Solver for Vehicle Routing Problems	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Supply Chain and Lot Sizing**, *Chair*: Simon Thevenin, session 534			**Scheduling**
	Sixiang Zhao, Decision Rule-based Method for Flexible Multi-Facility Capacity Planning Problem	Kerem Akartunali, Two-Period Relaxations for Big-Bucket Lot-Sizing: Polyhedra and Algorithms	Simon Thevenin, Scenario based stochastic optimization for the multi-echelon lot-sizing problem	
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Equilibrium Modelling in Energy**, *Organizer*: Thomas Kallabis, session 290			**Energy**
	Mirjam Ambrosius, Optimal Price Zones and Investment Incentives in Electricity Markets	Thomas Kallabis, Strategic generation investment using a stochastic rollinghorizon MPEC approach	Christoph Weber, Coordination Problems in the Coupling of Gas and Electricity Markets	
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Optimization Models for Renewable Energy Integration 2**, *Chair*: Michel Denault, session 523			**Energy**
	Cristina Corchero, A MIP formulation of a Hybrid AC-DC offshore wind power plant topology	Kristina Janzen, Optimal Design of a Decentralized Energy Network including Renewable Energies	Michel Denault, Approximate dynamic programming for hydropower optimization	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Optimization in Medicine**, *Organizer*: Sebastian Sager, session 394			**Sciences**
	Manuel Tetschke, Optimizing the individual treatment of patients with polycythemia vera	Nelson Maculan, Combinatorial Problems and Models to Help Prevention and Combat Arboviruses	Sebastian Sager, Towards optimized consolidation (chemo)therapy for acute myeloid leukemia	
Salle 18 Build I, Z 7 1st floor 3x30 min	**Optimization software and applications**, *Chair*: Bartolomeo Stellato, session 399			**Algo**
	Bartolomeo Stellato, OSQP: An Operator Splitting Solver for Quadratic Programs	Navjot Kukreja, High-level abstractions for checkpointing in PDE-constrained optimisation	Ivet Galabova, A quadratic penalty algorithm for linear programming	

Room	Invited Talks - Tuesday 3:15 PM – 4:45 PM			
SIGALAS Build C, Z 2 2nd floor	**A.W. Tucker Prize Session**, *Chair*: Simge Kucukyavuz, session 559			**INTERFACE**

Room	Discrete Optimization & Integer Programming - Wednesday 8:30 AM – 10:30 AM			
Salle 43 Build C, Z 1 3rd floor 4x30 min	**Determinantal structures of IPs**, *Organizer*: Martin Henk, session 131			**IPtheory**
	Stephan Artmann, Width in congruency-constrained TU-systems.	Friedrich Eisenbrand, Faster algorithms for Integer Programming using the Steinitz Lemma	Christoph Glanzer, On the number of distinct rows of a matrix with bounded subdeterminants	Robert Weismantel, Distances between LPs, IPs and MIPs
Salle 35 Build B, Z 4 Intermediate 4x30 min	**Advances in Integer Programming**, *Organizer*: Santanu S Dey, session 230			**IPtheory**
	Sanjeeb Dash, A generalization of Gomory-Chvatal cuts	Burak Kocuk, Integer Programming Techniques for Optimal Transmission Switching Problems	Alejandro Toriello, Time-indexed Relaxations for the Online Bipartite Matching Problem	Laurence Wolsey, Constant Capacity Flow Cover Inequalities on a Path or a Variant of Lot-Sizing
Salle 42 Build C, Z 1 3rd floor 4x30 min	**Primal Algorithms for Integer Programming Problems**, *Organizer*: Daniel Aloise, session 338			**IPtheory**
	Adil Tahir, Integral Column Generation Algorithm for Set Partitioning Type Problems	Omar Foutlane, Distributed Integral Simplex Using Decomposition for Set Partitioning Problems	Ilyas Himmich, A Polyhedral Study of the Shortest Path Problem with Resource Constraints	Daniel Aloise, A scalable algorithm for the solution of large clustering problems
Salle 44 Build C, Z 1 3rd floor 4x30 min	**Benders Decomposition for Combinatorial and Bilevel Optimization**, *Organizer*: Fabio Furini, session 171			**IPpractice**
	Arthur Mahéo, A Framework for Benders with Integer Sub-Problem	Paolo Paronuzzi, New ILP formulations for the k-Vertex Cut Problem	Ivana Ljubic, Decomposition Approaches to Covering Location Problems	Fabio Furini, The Maximum Clique Interdiction Game
Salle 34 Build B, Z 3 1st floor 3x30 min	**MINLP (I)**, *Organizer*: Daniel Bienstock, session 65			**MINLP**
		Bachir El Khadir, Time-Varying Semidefinite Programs	Kurt Anstreicher, Strengthened Relaxations for Quadratic Optimization with Switching Variables	James Renegar, A Simple Nearly-Optimal Restart Scheme For Speeding-Up First Order Methods
LEYTEIRE Build E, Z 1 3rd floor 4x30 min	**Approximation Algorithms for the Traveling Salesman Problem**, *Organizer*: Anke van Zuylen, session 23			**APPROX**
	Stephan Held, Vehicle Routing with Subtours	Kent Quanrud, Fast Approximations for Metric TSP	Jens Vygen, The s-t-path TSP: past, present, and future	Anke van Zuylen, The Salesman's Paths: Layered Christofides' Trees, Deletion and Matroids
Salle 36 Build B, Z 4 Intermediate 4x30 min	**Approximation Algorithms for Scheduling Problems**, *Organizer*: Nicole Megow, session 72			**APPROX**
	Ruben Hoeksma, The general scheduling problem with uniform release dates is not APX-hard	Clifford Stein, Minimizing Maximum Flow Time on Related Machines via Dynamic Pricing	Sven Jäger, Generalizing the Kawaguchi-Kyan Bound to Stochastic Parallel Machine Scheduling	Julian Mestre, Precedence-Constrained Min Sum Set Cover
Salle 41 Build C, Z 1 3rd floor 4x30 min	**Discrete Convex Analysis**, *Organizer*: Akiyoshi Shioura, session 243			**COMB**
	Akiyoshi Shioura, M-convex Function Minimization under L1-distance Constraint	Eric Balkanski, On the Construction of Substitutes	Fabio Tardella, Discrete Midpoint Convexity	Satoko Moriguchi, Scaling, proximity, and optimization of integrally convex functions
Salle 39 Build E, Z 1 3rd floor 4x30 min	**Optimization under uncertainty**, *Organizer*: Marco Molinaro, session 261			**COMB**
	William Umboh, Online Probabilistic Metric Embedding and its Applications	Ravishankar Krishnaswamy, Online and Dynamic Algorithms for Set Cover	Sahil Singla, Algorithms and Adaptivity Gaps for Stochastic Probing	Marco Molinaro, Online and Random-order Load Balancing Simultaneously
DURKHEIM Build A, Z 1 3rd floor 4x30 min	**Learning in CP**, *Organizer*: Arnaud Lallouet, session 301			**CP**
	Nadjib Lazaar, Constraint acquisition	Arnaud Lallouet, Reasoning with Learned Constraints	Arnaud Gotlieb, Boundary Estimation: Learning Boundaries for Constraint Optimization Problems	Michela Milano, Empirical Model Learning: boosting optimization through machine learning

Room	Optimization under Uncertainty - Wednesday 8:30 AM – 10:30 AM			
DENIGES Build C, Z 5 Ground Floor 4x30 min	**Chance Constraint and Its Applications**, *Organizer*: Jianqiang Cheng, session 253			**Stoch**
	Abdel Lisser, Joint chance constrained general sum games	Jia Liu, Distributionally robust geometric programs with chance constraints	Francesca Maggioni, Bounds for probabilistic constrained problems	Jianqiang Cheng, Partial Sample Average Approximation Method for Chance Constrained Problems
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Sampling and stability in stochastic optimization**, *Chair*: Harsha Honnappa, session 488			**Stoch**
		Edward Anderson, Distributional Robustness and Sample Average Approximation	Matthias Claus, On stability of stochastic bilevel programs with risk aversion	Gerard Cornuejols, From Estimation to Optimization via Shrinkage
Salle 37 Build B, Z 4 Intermediate 4x30 min	**Interfaces of Applied Probability and Optimization**, *Organizer*: Omar El Housni, session 409			**Robust**
	Julien Grand Clement, Robust Markov Decision Process: Beyond (and back to) Rectangularity	Omar El Housni, Beyond Worst-case: A Probabilistic Analysis of Affine Policies	Omid Nohadani, Sustainable Inventory With Robust Periodic-affine Policies and Med. Supply Chains	Karthik Natarajan, Distributionally Robust Markovian Traffic Equilibrium
Salle 33 Build B, Z 5 Ground Floor 4x30 min	**Robust combinatorial optimization IV**, *Chair*: Arie Koster, session 449			**Robust**
	Pedro Munari, The vehicle routing problem under uncertainty via robust optimization	Marina Leal, A time-dependent version of the robust TSP and SPP.	Arie Koster, Scheduling Jobs under Uncertainty: A Customer-oriented Approach	Roberto Wolfler Calvo, Optimizing the electricity production planning with stochastic outage durations
Salle 30 Build B, Z 5 Ground Floor 4x30 min	**Risk and Financial Markets**, *Chair*: Markku J Kallio, session 377			**Game**
	Stefano Nasini, Bilevel programming approach for investment strategies under intermediation	Yang Zhan, A smooth path-following method for computing equilibria in incomplete markets	Markku Kallio, Cooperative Mitigation of Contagion in Financial Networks	Zhenyu Hu, Stable Risk Sharing and Its Monotonicity

Room	Continuous Optimization - Wednesday 8:30 AM – 10:30 AM			
GINTRAC Build Q, Z 8 Ground Floor 4x30 min	**Stochastic and Nonlinear Optimization III**, *Organizer*: Jorge Nocedal, session 31			**NLP**
	Fred Roosta, Efficient Newton-type methods for non-convex machine learning problems	Jorge Nocedal, Optimization Methods for Training Neural Networks	Stephen Wright, A Newton-CG Method with Complexity Guarantees	Uday Shanbhag, Smoothed Variable Sample-size Acc. Prox. Methods for Stoch. Convex Optimization
Salle 05 Build Q, Z 11 1st floor 4x30 min	**Optimality conditions in NLP and conic problems**, *Organizer*: Roberto Andreani, session 43			**NLP**
	Roberto Andreani, A SEQUENTIAL OPTIMALITY CONDITION RELATED TO THE QUASINORMALITY CQ	Gabriel Haeser, An extension of Yuan's Lemma and its applications in optimization	Luis Felipe Bueno, Optimality Conditions for Generalized Nash Equilibrium Problems	Tatiana Tchemisova, On Optimality Conditions for Linear Copositive Programming
Salle KC7 Build K, Z 10 Intermediate 2 4x30 min	**Computational advances in NLP**, *Chair*: Jeffrey CH Pang, session 434			**NLP**
	Alfonso Lobos Ruiz, Optimal Bidding, Allocation, and Budget Spending for a Demand-Side Platform.	Jeffrey Pang, Distributed deterministic asynchronous optimization using Dykstra's splitting	Zhening Li, Decompositions and optimizations of symmetric conjugate complex forms	Max Goncalves, An inexact Newton-like conditional gradient method for constrained systems
Salle 9 Build N, Z 12 4th floor 4x30 min	**Fixed Point Approaches**, *Chair*: Poom Kumam, session 435			**NLP**
	Konrawut Khammahawong, Convergence analysis of S-iteration process for discontinuous operators	Poom Kumam, A new lgorithms for split feasibility problems involving paramonotone equilibria	Khanitin Muangchoo-in, Fixed point and convergence theorems for monotone (α,β)-nonexpansive	Wudthichai Onsod, Monotone generalized almost contraction on weighted graph
Salle LC4 Build L, Z 9 Intermediate 1 4x30 min	**Recent advances in first-order algorithms for non-smooth optimization**, *Organizer*: Thomas Pock, session 198			**NonSmooth**
	Peter Ochs, Non-smooth Non-convex Bregman Minimization: Unification and new Algorithms	Yura Malitsky, Primal-dual algorithm for linearly constrained optimization problem	Matthias Ehrhardt, Stochastic PDHG with Arbitrary Sampling and Applications to Medical Imaging	Stanislav Mazurenko, Acceleration and global convergence of the NL-PDHGM
Salle 8 Build N, Z 12 4th floor 4x30 min	**Dynamical Systems and Optimization**, *Organizer*: Hedy Attouch, session 351			**NonSmooth**
	Radu Ioan Boţ, The continuous proximal-gradient approach in the nonconvex setting	Alexandre Cabot, Accelerated Forward-Backward Algorithms	Juan Peypouquet, Inertial proximal algorithms for maximally monotone operators	Silvia Villa, A dual diagonal iterative regularization method
Salle AURIAC Build G, Z 6 1st floor 4x30 min	**Recent Advances in Conic Programming II**, *Organizer*: Sena Safarina, session 83			**SDP**
	Rujun Jiang, Convex Relaxations for Nonconvex Quadratically Constrained Quadratic Program	Sena Safarina, Cone Decomposition Method for Mixed-Integer SOCP arising from tree breeding	Goran Banjac, Infeasibility detection in ADMM for convex optimization	Marta Cavaleiro, A Simplex-like algorithm for the infimum point w.r.t. the second order cone
Salle 20 Build G, Z 6 1st floor 4x30 min	**Theory and algorithms in conic linear programming 2**, *Organizer*: Gabor Pataki, session 89			**SDP**
	Masakazu Muramatsu, An extension of Chubanov's algorithm to symmetric cone programming	Joachim Dahl, Extending MOSEK with exponential cones	Stefan Sremac, Primal Facial Reduction in Semidefinite Programming and Matrix Completions	Bruno Lourenco, Amenable cones: bridging error bounds and facial reduction
Salle LC5 Build L, Z 10 Intermediate 1 4x30 min	**New trends II**, *Chair*: Frank Permenter, session 500			**SDP**
	Claudia Adams, An L^2-approach to Copositivity	Faizan Ahmed, On algorithms to optimize homogeneous polynomial over the simplex and the sphere	John Mitchell, Complementarity formulations of rank minimization problems	Frank Permenter, Interior-point methods via the exponential map
Salle 06 Build Q, Z 11 1st floor 2x30 min	**Stochastic Optimization and Variational Inequalities II**, *Organizer*: Alejandro R. Jofre, session 156			**Variat**
			Yueyue Fan, How does uncertainty of demand propagate to flows under network equilibrium	Alejandro Jofre, Variance-based stochastic extragradient methods with linear search for Stoch. VI
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x30 min	**Variational Analysis 1**, *Organizer*: Samir Adly, session 364			**Variat**
	Alexandra Schwartz, Second Order Optimality Conditions for Cardinality Constrained Problems	Helmut Gfrerer, Stability Analysis for Parameterized Equilibria with Conic Constraints	Michel Thera, Stability and Sensitivity Analysis of Parametrized Optimization Problems	Samir Adly, Sensitivity analysis of parameterized nonlinear variational inequalities.
Salle KC6 Build K, Z 10 Intermediate 1 4x30 min	**First Order Methods for Non-Smooth Constrained Optimization**, *Organizer*: Qihang Lin, session 305			**RandomM**
	Shiqian Ma, On the Non-Ergodic Convergence Rate of an Inexact Augmented Lagrangian Framework	Selvaprabu Nadarajah, A level-set method for stochastic optimization with expectation constraints	Peng Zheng, Fast method for non-smooth non-convex minimization	DaoLi Zhu, Stochastic Primal-Dual Coordinate Method for Nonlinear Convex Cone Programs
Salle 21 Build G, Z 6 Intermediate 4x30 min	**New derivative-free algorithms**, *Chair*: Margherita Porcelli, session 34			**DerFree**
	Margherita Porcelli, Gray-box optimization of structured problems and other new developments in BFO	Francesco Rinaldi, Model-based derivative-free methods for nonsmooth black-box functions	Lindon Roberts, A flexible, robust and efficient derivative-free solver for least squares	Ana Custodio, MultiGLODS: Clever Multistart in Multiobjective Directional Direct Search

Room	Specific Models, Algorithms, and Software - Wednesday 8:30 AM – 10:30 AM			
Salle 16 Build I, Z 7 2nd floor 3x30 min	**First-Order Methods for Machine Learning**, *Organizer*: Fabian Pedregosa, session 319			**Learning**
		Nicolas Flammarion, Stochastic Composite Least-Squares Regression with convergence rate O(1/n)	Fabian Pedregosa, Adaptive Three Operator Splitting	Sebastian Stich, Approximate Composite Minimization: Convergence Rates and Examples
FABRE Build J, Z 8 Ground Floor 4x30 min	**Structured Optimization for Machine Learning and Signal Processing**, *Organizer*: Lin Xiao, session 330			**Learning**
	Donald Goldfarb, Training neural networks using ADMM for multiaffine constrai	Xinhua Zhang, Generalized Conditional Gradient for Structured Sparsity and Convex Deep Network	Lieven Vandenberghe, Proximal methods for optimization over nonnegative trigonometric polynomials	Mikael Johansson, Fast convex optimization for eigenproblems and beyond
Salle 18 Build I, Z 7 1st floor 4x30 min	**Robust network optimization**, *Organizer*: Dimitri Papadimitriou, session 357			**Network**
	Joe Naoum-Sawaya, Decomposition Approach for Robust Network Interdiction	Varun Reddy, Robust network slice design under correlated demand uncertainties	Xudong Hu, Equilibria for Robust Routing of Atomic Players	Dimitri Papadimitriou, Reliable Multi-level Facility Location Problem (MFLP)
Salle DENUCE Build Q, Z 8 Ground Floor 4x30 min	**Decomposition Techniques to Solve Large-Scale Optimization Problems for Electricity and Natural Gas Systems**, *Organizer*: Ramteen Sioshansi, session 136			**Energy**
	Jean-Paul Watson, Toward Scalable Stochastic Economic Dispatch on an Industrial-Scale Model	David Pozo, Distributionally Robust Transmission Expansion Planning	Gerrit Slevogt, Structures and algorithms for nomination validation in steady-state gas networks	Giorgia Oggioni, A bilevel model for the waste-to-energy supply chain in a circular economy
Salle 23 Build G, Z 6 3rd floor 4x30 min	**Energy-aware planning and scheduling 1**, *Organizer*: Sandra U. Ngueveu, session 177			**Energy**
	Sophie Demassey, Robust optimisation of storage in a power generation expansion planning problem	Peter Pflaum, Microgrid Energy Flexibility Optimization – 3 use cases	Paolo Gianessi, ILP models for the job-shop scheduling problem with energy consideration	Sandra U. Ngueveu, Decomposition method in a scheduling problem with energy storage and costs
Salle 24 Build G, Z 6 3rd floor 4x30 min	**Distribution and Demand Flexibility**, *Chair*: Golbon Zakeri, session 510			**Energy**
	Alejandro Angulo, A Data–Driven Robust Power Management in Active Distribution Systems	Anja Hähle, Exploiting Flexibility in Loads for Balancing Power in Electrical Grids	Paulin Jacquot, Analysis of a Routing Game Model for Demand Side Management	Golbon Zakeri, Demand response in electricity markets
Salle LA4 Build L, Z 8 Basement 3x30 min	**Energy markets**, *Organizer*: Martine Labbé, session 50			**Sciences**
		Bernard Fortz, Unit Commitment under Market Equilibrium Constraints	Martin Schmidt, The Impact of Physics on Market Equilibria in Energy Networks	Martine Labbé, Dynamic programming approach for bidding problems on day-ahead markets
PITRES Build O, Z 8 Ground Floor 3x30 min	**Progress in MIP Solvers I**, *Organizer*: Michael Winkler, session 235			**Algo**
		Imre Polik, New features and improvements in the SAS/OR optimization package	Thorsten Koch, MIPLIB 2017+1	Hans Mittelmann, Benchmarks of commercial and noncommercial optimization software
Salle 22 Build G, Z 6 2nd floor 4x30 min	**Numerically Efficient Methods for Piecewise Algorithmic Differentiation I**, *Organizer*: Torsten F Bosse, session 269			**Algo**
	Sri Hari Narayanan, Study of the numerical efficiency of structured abs-normal forms	Torsten Bosse, (Almost) Matrix-free solver for piecewise linear functions in Abs-Normal form	Andreas Griewank, An active signature method for piecewise differentiable/linear optimization.	Angel Rojas, Solving l_1 regularized minimax problems by successive piecewise linearization

Room	Invited Talks - Wednesday 8:30 AM – 10:30 AM			
SIGALAS Build C, Z 2 2nd floor 4x30 min	**Stochastic optimization**, *Chair*: Alexei A. Gaivoronski, session 314			**INTERFACE**
	Bernardo Costa, Using disjunctive programming to represent Risk Aversion policies	Anthony Downward, SDDP with stagewise-dependent objective coefficient uncertainty	Alexei Gaivoronski, Stochastic optimization of simulation models: management of	Kazem Abbaszadeh, Demand Response To Electricity Prices In Flexible Manufacturing

Room	Invited Talks - Wednesday 11:00 AM – 12:00 AM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Insights via volumetric comparison of polyhedral relaxations**, *Organizer*: Andrea Lodi, session 548			**SEMI**
	Jon Lee, Insights via volumetric comparison of polyhedral relaxations			
BROCA Build W, Z 0 3rd floor 1x60 min	**Monotone Operator Theory in Convex Optimization**, *Organizer*: Samir Adly, session 537			**KEYNOTE**
	Patrick Combettes, Monotone Operator Theory in Convex Optimization			
DENIGES Build C, Z 5 Ground Floor 1x60 min	**Online Competitive Algorithms for Resource Allocation**, *Organizer*: Frank E. Curtis, session 539			**KEYNOTE**
	Maryam Fazel, Online Competitive Algorithms for Resource Allocation			
LEYTEIRE Build E, Z 1 3rd floor 1x60 min	**Model-Based Methods, Sampling Models, and A New Second-Order Model-Based Method**, *Organizer*: Stefan M Wild, session 546			**KEYNOTE**
	Luis Nunes Vicente, Model-Based Methods, Sampling Models, and A New Second-Order Model-Based Method			

Room	Invited Talks - Wednesday 1:30 PM – 2:30 PM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Relaxations and Approximations of Chance Constraints**, *Organizer*: Simge Kucukyavuz, session 525			**PLENARY**
	Shabbir Ahmed, Relaxations and Approximations of Chance Constraints			

Room	Discrete Optimization & Integer Programming - Wednesday 3:15 PM – 4:45 PM			
Salle 44 Build C, Z 1 3rd floor 3x30 min	**Knapsack Problems**, *Organizer*: Enrico Malaguti, session 185 Ashwin Arulselvan, Algorithms for bilevel knapsack problem	Orlando Rivera-Letelier, Cutting Planes for the Multi-Modal Precedence Constrained Problem	Enrico Malaguti, The Fractional Knapsack Problem with Penalties	**IPpractice**
Salle 36 Build B, Z 4 Intermediate 3x30 min	**Decomposition I**, *Chair*: Dieter Weninger, session 486 Kerem Bulbul, Benders Decomposition and Column-and-Row Generation for LPs w/Column-Dependent Rows	Paul Stursberg, Improved Cut Selection for Benders Decomposition	Dieter Weninger, A Penalty Alternating Direction Decomposition Framework for MIPs	**IPpractice**
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Decomposition methods for MINLP**, *Organizer*: Ivo Nowak, session 55 Ivo Nowak, Decomposition-based Successive Approximation Methods for MINLP	Pavlo Muts, Decogo - A new decomposition-based MINLP solver	Eligius Hendrix, On simplicial monotonicity and dimension reduction in MINLP	**MINLP**
Salle 34 Build B, Z 3 1st floor 3x30 min	**MINLP (II)**, *Organizer*: Daniel Bienstock, session 66 Akshay Gupte, Polyhedral relaxations for nonconvex quadratic functions	Mohit Tawarmalani, Product convexification: A new relaxation framework for nonconvex programs	Javad Lavaei, Sparse conic optimization: low-rank solutions and near-linear time algorithms	**MINLP**
Salle 35 Build B, Z 4 Intermediate 3x30 min	**MINLP for Data Science**, *Organizer*: Vanesa Guerrero, session 108 Sandra Benítez-Peña, Cost-sensitive SVM	Cristina Molero-Río, Optimizing classification trees via non-linear continuous programming	Vanesa Guerrero, MINLP to visualize dynamic proximities and frequencies	**MINLP**
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Clustering**, *Organizer*: Mohammad R Salavatipour, session 30 Aravindan Vijayaraghavan, Clustering Mixtures of Well-Separated Gaussians	Konstantin Makarychev, Correlation Clustering	Melanie Schmidt, Analysis of Ward's method	**APPROX**
Salle 43 Build C, Z 1 3rd floor 3x30 min	**Network Design and Routing**, *Chair*: Yuko Kuroki, session 346 Yusa Matsuda, A 4-approximation algorithm for k-prize collecting Steiner tree problems	Yuko Kuroki, Approximation algorithm for star-star hub-and-spoke network design problems	Jeremy Omer, Time-dependent shortest path with discounted waiting	**APPROX**
Salle 41 Build C, Z 1 3rd floor 3x30 min	**Variants of the Assignment problem**, *Organizer*: Kavitha Telikepalli, session 266 Tobias Mömke, Approximating Airports and Railways	Ami Paz, A (2+eps)-Approximation for Maximum Weight Matching in the Semi-Streaming Model	Kavitha Telikepalli, Popularity, Mixed Matchings, and Self-duality	**COMB**
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Polyhedral aspects of combinatorial optimization problems**, *Chair*: Guillerme Duvillié, session 404 Shungo Koichi, A polyhedral insight into covering a 2/3 supermodular function by a graph	Sergei Chubanov, Alternating contractions and their combinatorial applications	Guillerme Duvillié, Comparison of some symmetry breaking techniques for graph coloring problem	**COMB**

Room	Optimization under Uncertainty - Wednesday 3:15 PM – 4:45 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Learning and Stochastic Programming**, *Organizer*: Matthias Poloczek, session 254 Junyi Liu, Asymptotic Results For Two-stage Stochastic Quadratic Programming	Haoxiang Yang, Optimizing Crashing Decisions in a Project Management Problem with Disruptions	Matthias Poloczek, Bayesian Optimization of Combinatorial Structures	**Stoch**
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Dynamic Optimization: Theory and Algorithms**, *Organizer*: Vineet Goyal, session 100 Shimrit Shtern, A Scalable Algorithm for Two-Stage Adaptive Linear Optimization	Bradley Sturt, Data-Driven Multi-Stage Adaptive Optimization	Vineet Goyal, Optimal Approximation via Affine Policies for Two-stage Robust Optimization	**Robust**
Salle 37 Build B, Z 4 Intermediate 3x30 min	**Cursing the Dimensionality: Two-Stage and Multi-Stage Robust Optimization**, *Organizer*: Angelos Tsoukalas, session 443 Chin Pang Ho, Efficient Algorithms for Robust MDPs with State Rectangularity	Frans de Ruiter, Dual approach for two-stage robust nonlinear optimization models	Angelos Tsoukalas, Robust Dual Dynamic Programming	**Robust**
Salle 31 Build B, Z 5 Ground Floor 2x30 min	**Dynamic programming applications**, *Chair*: Susanne Hoffmeister, session 379 Susanne Hoffmeister, Markov Decision Processes for Sport Strategy Optimization	Paolo Serafini, A Model to evaluate the cost-effectiveness trade-off for urologic treatments		**Markov**
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Nonconvex and Complex Problems in Multiobjective Optimization**, *Chair*: Gabriele Eichfelder, session 268 Gabriele Eichfelder, A Trust Region Method for Heterogeneous Multiobjective Optimization	Elizabeth Karas, Multiobjective programming via bundle methods	Tommaso Levato, Sparse multiobjective optimization via concave approximations	**Game**

Room	Continuous Optimization - Wednesday 3:15 PM – 4:45 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**The power and limits of the Lasserre hierarchy**, *Organizer*: Markus Schweighofer, session 9			**NLP**
	Standa Zivny, The power and limits of convex relaxations for general-valued CSPs	Adam Kurpisz, On the convergence of the Lasserre/SoS hierarchy for 0/1 optimization problems.	Monaldo Mastrolilli, High Degree SOS Proofs, Bienstock-Zuckerberg hierarchy and Chvatal-Gomory cuts	
Salle 05 Build Q, Z 11 1st floor 3x30 min	**Subspace methods in NLP I**, *Organizer*: Michal Kocvara, session 45			**NLP**
	Zaikun Zhang, A Space Transformation Framework for Nonlinear Optimization: Part I	Serge Gratton, A Space Transformation Framework for Nonlinear Optimization: Part II	Francisco Sobral, Quasi-Newton and the Unreduced Matrix in Interior Point Methods	
Salle 9 Build N, Z 12 4th floor 3x30 min	**Quadratic Optimization**, *Chair*: Anders Forsgren, session 417			**NLP**
	David Ek, On limited-memory quasi-Newton methods for minimizing a quadratic function	Anders Forsgren, On degeneracy in active-set methods for linear and convex quadratic programming	Fernanda Raupp, An algorithm for projecting a point onto a level set of a quadratic function	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Adaptivity in non-smooth optimization**, *Organizer*: Volkan Cevher, session 187			**NonSmooth**
	Olivier Fercoq, Adaptive Double Loop Smoothing Algorithms	Kfir Levy, Universal Acceleration through Learning Rate Adaptation	Stephen Becker, ADMM vs gradient methods for ill-conditioned imaging problems	
Salle 20 Build G, Z 6 1st floor 3x30 min	**SDP approaches to combinatorial and global optimization problems**, *Organizer*: Etienne De Klerk, session 15			**SDP**
	Samuel Gutekunst, Semidefinite Programming Relaxations of the Traveling Salesman Problem	Hao Hu, On Solving the Quadratic Shortest Path Problem.	Ahmadreza Marandi, SDP relaxations of polynomial optimization problems with chordal structure	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Reformulation-based solution methods for quadratic programming**, *Organizer*: Dominique Quadri, session 215			**SDP**
	Eric Soutil, Non-convex Quadratic Integer Programming : a piecewise linearization	Hadrien Godard, Solving Alternative Current Optimal Power Flow to global optimality	Sourour Elloumi, Preprocessing and reformulation for the Quadratic Assignment Problem	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Optimization Algorithms and Variational Inequalities II**, *Organizer*: Xiaoqi Yang, session 150			**Variat**
	Xiaoqi Yang, On Error Bound Moduli for Locally Lipschitz and Regular Functions	Min Li, Inexact primal-dual hybrid gradient methods for saddle-point problems	Kuang Bai, On directional pseudo/quasi-normality and directional enhanced KKT conditions	
Salle ARNOZAN Build Q, Z 8 Ground Floor 3x30 min	**Nash equilibrium and games 1**, *Organizer*: Lorenzo Lampariello, session 365			**Variat**
	Anna Thünen, Solving Multi-Leader-Follower Games	Jacqueline Morgan, Nash equilibrium: uniqueness and approximation via continuous optimization	Mauro Passacantando, Fixed point and extragradient algorithms for quasi-equilibria	
Salle KC6 Build K, Z 10 Intermediate 1 3x30 min	**Fast Converging Stochastic Optimization Algorithms**, *Organizer*: Francis Bach, session 213			**RandomM**
	Aymeric Dieuleveut, Bridging the Gap between Constant Step Size SGD and Markov Chains	Aude Genevay, Stochastic Optimization for Large Scale Optimal Transport	Robert Gower, Variance Reduced Methods via Sketching	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Surrogate-based algorithms for constrained derivative-free problems**, *Chair*: Phillipe R. Sampaio, session 126			**DerFree**
	Manuel Ramos-Castillo, Optimal agricultural scheduling through MINLP surrogate-based optimization	Phillipe Sampaio, A global optimization algorithm for derivative-free constrained problems	Geovani Grapiglia, Derivative-Free Trust-Region Algorithms for L1, Minimax and Bi-Objective Optimiz	
Salle AURIAC Build G, Z 6 1st floor 3x30 min	**Risk-Averse PDE-Constrained Optimization–Methods and Applications**, *Organizer*: Harbir Antil, session 222			**Control**
	Ruediger Schultz, Stochastic Dominance in Elastic Shape Optimization	Harbir Antil, Weighted Sobolev Spaces with Application to Image Processing	Drew Kouri, Smoothing Techniques for Risk-Averse PDE-Constrained Optimization	

Room	Specific Models, Algorithms, and Software - Wednesday 3:15 PM – 4:45 PM			
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Second order methods for training ML models**, *Chair*: Julien Mairal, session 474			**Learning**
	Amir Abdessamad, Newton method with an adjusted generalized Hessian matrix for SVMs	Julien Mairal, A Variable Metric Inexact Proximal Point Algorithm for Quasi-Newton Acceleration	Robert Mohr, An Adaptive Sample Size Trust-Region Method for Empirical Risk Minimization	
FABRE Build J, Z 8 Ground Floor 3x30 min	**Convex optimization, distances and constraints**, *Chair*: Pablo A Parrilo, session 476			**Learning**
	Pavel Dvurechensky, Computational Optimal Transport: Accelerated Gradient Descent vs Sinkhorn	Pablo Parrilo, Geodesic distance maximization	Adil Salim, A Splitting Algorithm for Minimization under Stochastic Linear Constraints	
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Rail and Maritime Transportation**, *Chair*: Kazuhiro Kobayashi, session 454			**Logistics**
	Kazuhiro Kobayashi, Accelerated column generation for a ship routing problem with speed optimization	Stanley Schade, Column Generation in Railway Optimization	Tatsuki Yamauchi, Optimizing Train Stopping Patterns for Congestion Management	
Salle 18 Build I, Z 7 1st floor 3x30 min	**Scheduling in Networks**, *Chair*: Hamish Waterer, session 532			**Scheduling**
	Gratien Bonvin, Global optimization for the pump scheduling problem in drinking water networks	Amadeu Coco, Addressing a scheduling problem for planned disruptions on urban road networks	Hamish Waterer, Scheduling of maintenance windows in a mining supply chain railway network	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Conic Optimization and Power Systems**, *Organizer*: Jakub Marecek, session 68			**Energy**
	Arvind Raghunathan, Degeneracy in Chordal Decomposition of Semidefinite Programs	Jakub Marecek, When to switch from a convex relaxation to Newton's method on the non-convex POP	Konstantin Turitsyn, Convex restrictions of power flow feasibility sets	
Salle 24 Build G, Z 6 3rd floor 2x30 min	**Emerging Energy Markets**, *Organizer*: Dennice F. Gayme, session 291			**Energy**
	Maryam Kamgarpour, Designing coalition-proof mechanisms - the case of electricity markets	Sean Meyn, Irrational Agents and the Power Grid		
Salle LA4 Build L, Z 8 Basement 3x30 min	**Air Transportation and Air Traffic Management**, *Organizer*: Sonia Cafieri, session 315			**Sciences**
	Ahmed Khassiba, A two-stage stochastic model for scheduling aircraft arrivals under uncertainty	Fernando Dias, Aircraft conflict resolution and heading recovery with mixed-integer programming	Sonia Cafieri, MINLP for aircraft conflict avoidance via speed and heading angle deviations	
PITRES Build O, Z 8 Ground Floor 3x30 min	**Progress in Conic and MIP Solvers**, *Organizer*: Imre Polik, session 237			**Algo**
	Jean-Hubert Hours, Artelys Knitro 11.0, a new conic solver and other novelties	Erling Andersen, MOSEK version 9	Franz Wesselmann, Recent enhancements in MATLAB Optimization Toolbox solvers for LP and MILP	
Salle 22 Build G, Z 6 2nd floor 3x30 min	**Structure Detection in Integer Programming**, *Organizer*: Taghi Khaniyev, session 272			**Algo**
	Taghi Khaniyev, Automatic structure detection in mixed integer programs	Michael Bastubbe, Modular Detection of Model Structure in Integer Programming	Jonas Witt, A Computational Investigation on Generic Cutting Planes in Branch-Price-and-Cut	

Room	Invited Talks - Wednesday 3:15 PM – 4:45 PM			
SIGALAS Build C, Z 2 2nd floor 3x30 min	**Logistics**, *Chair*: Frieder Smolny, session 388			**INTERFACE**
	Kaj Holmberg, Using OpenStreetMap data for route optimization: extraction and reduction	Gwénaël Rault, Modeling the Periodic Vehicle Routing Problem in an industrial context	Frieder Smolny, Multiscale optimization of logistics networks	

Room	Discrete Optimization & Integer Programming - Wednesday 5:00 PM – 6:30 PM			
Salle 43 Build C, Z 1 3rd floor 2x30 min	**IP-Formulations**, *Chair*: Temitayo Ajayi, session 516			**IPtheory**
	Wolfgang Riedl, The quadratic assignment problem: a comparison of two linearizations	Temitayo Ajayi, Assessing Parametrized Linear Programming Relaxations With Superadditive Duality		
Salle 44 Build C, Z 1 3rd floor 3x30 min	**Exact Approaches for Vehicle Routing and Variants**, *Organizer*: Ricardo Fukasawa, session 288			**IPpractice**
	Ricardo Fukasawa, The Capacitated Vehicle Routing Problem with Stochastic Demands	Claudio Contardo, Efficient metaheuristic pricing in vehicle routing	Rafael Martinelli, Exact Solution of a Class of Vehicle Scheduling Problems	
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**MINLP (III)**, *Organizer*: Daniel Bienstock, session 67			**MINLP**
	Alberto Del Pia, Cardinality-constrained linear regression with sparse matrices	Guanyi Wang, Computational evaluation of new dual bounding techniques for sparse PCA	Jeff Linderoth, Cutting Planes for Linear Programs with Complementarity Constraints	
Salle 34 Build B, Z 3 1st floor 3x30 min	**Robust Approaches for Challenging Uncertain Optimization Problems**, *Organizer*: Frauke Liers, session 124			**MINLP**
	Timo Gersing, A New Approach for Extending Cover Inequalities for the Robust Knapsack Polytope	Andreas Schmitt, An Interdiction Approach for the Design of High-Rise Water Supply Systems	Sebastian Tschuppik, Robust optimization with selected scenarios	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**Advances in MINLP**, *Organizer*: Laura Palagi, session 165			**MINLP**
	Marianna De Santis, An Active Set Algorithm for Robust Combinatorial Optimization	Veronica Piccialli, Membrane System Design Optimization	Emiliano Traversi, Dantzig Wolfe Decomposition for Binary Quadratic Programming	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Approximation Algorithms for Geometric Packing Problems**, *Organizer*: Fabrizio Grandoni, session 28			**APPROX**
	Fabrizio Grandoni, Approximating Geometric Knapsack via L-Packings	Andreas Wiese, Parameterized (1+eps)-approximation algorithms for packing problems	Klaus Jansen, Closing the gap for pseudo-polynomial strip packing	
Salle 36 Build B, Z 4 Intermediate 3x30 min	**Online Optimization**, *Organizer*: Kevin Schewior, session 35			**APPROX**
	Victor Verdugo, How large is your graph?	Andreas Tönnis, Submodular Secretary Problems: Cardinality, Matching, and Linear Constraints	Kevin Schewior, Tight Competitive Analysis for Online TSP on the Line	
Salle 41 Build C, Z 1 3rd floor 4x20 min	**Connectivity problems and Steiner trees**, *Chair*: Andreas E Feldmann, session 421			**COMB**
	Marcus Brazil, Computing minimum 2-connected Steiner networks in the Euclidean plane	Yasuko Matsui, Enumerating All Spanning Subgraphs with Edge-Connectivity at Least k	Mark Turner, The variable-cost node-weighted Steiner tree problem in the Euclidean plane.	Andreas Feldmann, Parameterized Approximation Algorithms for Bidirected Steiner Network Problems
Salle 39 Build E, Z 1 3rd floor 4x20 min	**Shortest paths and cutting stock**, *Chair*: Arnaud Vandaele, session 426			**COMB**
	Pedro de las Casas, Cost Projection Methods for the Shortest Path Problem with Crossing Costs	Adam Schienle, Solving the Time-Dependent Shortest Path Problem using Super-Optimal Wind	Miriam Schlöter, Earliest Arrival Transshipments in Networks With Multiple Sinks	Arnaud Vandaele, One-dimensional cutting stock instances for which few patterns are needed

Room	Optimization under Uncertainty - Wednesday 5:00 PM – 6:30 PM			
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Stochastic Programming and Distributionally Robust Optimization Models with Endogenous Uncertainty**, *Organizer*: Miguel Lejeune, session 248 **Stoch**			
	Nilay Noyan, Distributionally Robust Optimization with Decision-Dependent Ambiguity Set	Kartikey Sharma, Optimization Under Decision-dependent Uncertainty	Miguel Lejeune, Chance-Constrained Optimization Models with Endogenous and Exogenous Uncertainty	
Salle 32 Build B, Z 5 Ground Floor 4x20 min	**Stochastic optimization models and applications**, *Chair*: F.-Javier Heredia, session 495 **Stoch**			
	Geoffrey Oxberry, Design optimization under uncertainty	Gislaine Pericaro, Optimal non-anticipative scenarios for nonlinear hydrothermal power systems	Alexander Vinel, A Generalized Risk Parity Model with Application for Hazmat Transportation	F.-Javier Heredia, A multistage stochastic programming model for the optimal bid of a wind producer
Salle 37 Build B, Z 4 Intermediate 2x30 min	**Robust Adaptive Control and Learning**, *Organizer*: Siqian Shen, session 97 **Robust**			
	Siqian Shen, Distributionally Robust Adaptive Control under Nonstationary Uncertainty	Lauren Steimle, Leveraging stochastic programming to design robust policies for Markov decision		
Salle 33 Build B, Z 5 Ground Floor 4x20 min	**Robust combinatorial optimization III**, *Organizer*: Moritz Mühlenthaler, session 255 **Robust**			
	Moritz Mühlenthaler, Robust Matching Augmentation	Viktor Bindewald, Solving Bulk-Robust Assignment Problems to Optimality	Felix Hommelsheim, Assignment Problems with few Failure Resources	Jaehyeon Ryu, Distributionally Robust Chance-Constrained Binary Knapsack Problem
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Aspects of Multiobjective Combinatorial Optimization**, *Organizer*: Matthias Ehrgott, session 87 **Game**			
	Serpil Sayin, Generating Representative Sets for Multiobjective Discrete Optimization Problems	Kim Andersen, A multi-objective approach to sensitivity analysis of MILP	Fritz Bökler, Approximating the Multi-objective Shortest Path Problem in Practice	

Room	Continuous Optimization - Wednesday 5:00 PM – 6:30 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Software for Nonlinear Optimization**, *Organizer*: Sven Leyffer, session 133 **NLP**			
	Charlie Vanaret, Argonot: An Open-Source Software Framework for Nonlinear Optimization	Philip Gill, A Primal-Dual Shifted Barrier Method for Nonlinear Optimization	Elizabeth Wong, L-RH-B: Software for Large-Scale Bound-Constrained Optimization	
Salle 05 Build Q, Z 11 1st floor 3x30 min	**Conjugate Gradient Methods**, *Chair*: Giovanni Fasano, session 362 **NLP**			
	Mehiddin Al-Baali, A New Diagonalizable Conjugate Gradient Method for Unconstrained Optimization	Giovanni Fasano, Conjugate Direction Methods and Polarity for Quadratic Hypersurfaces	Luis Lucambio Perez, Non-linear conjugate gradient for vector optimization on Riemannian manifolds	
Salle 9 Build N, Z 12 4th floor 3x30 min	**Linear Optimization II**, *Chair*: Julian Hall, session 416 **NLP**			
	Julian Hall, Starting the dual revised simplex method from an advanced basis	Masaya Tano, On the number of simplex iterations of the steepest-edge for a nondegenerate LP	Marina Epelman, New Results on the Simplex Method for Minimum Cost Flows in Infinite Networks	
Salle ARNOZAN Build Q, Z 8 Ground Floor 3x30 min	**Interior Point Methods in LP and NLP**, *Chair*: Andre L Tits, session 430 **NLP**			
	Andre Tits, Constraint-Reduced MPC for CQP, with a Modified Active Set Identification Scheme	Thiane Coliboro, An IPM approach for a time dependent large-scale assortment allocation problem	Ngoc Nguyen Tran, Local analysis of a primal-dual method for NLP without constraint qualification	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Methods and Analysis for Nonsmooth Optimization**, *Organizer*: Michael L Overton, session 86 **NonSmooth**			
	Michael Overton, Partial Smoothness of the Numerical Radius	Adrian Lewis, Partial smoothness and active sets: a fresh approach	Dmitriy Drusvyatskiy, Subgradient methods for sharp weakly convex problems	
Salle 20 Build G, Z 6 1st floor 3x30 min	**Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information I**, *Organizer*: Monique Laurent, session 20 **SDP**			
	Markus Schweighofer, Inclusion of spectrahedra, free spectrahedra and coin tossing	Tom-Lukas Kriel, Matrix convex sets and matrix extreme points	Janez Povh, Extracting optimisers by non-commutative GNS construction is robust	
Salle LC5 Build L, Z 10 Intermediate 1 4x20 min	**Completely Positive Cones and Applications**, *Chair*: Patrick Groetzner, session 464 **SDP**			
	Muhammad Iqbal, Approximation Hierarchies for Copositive and Completely Positive Tensor Cones	Mina Saee Bostanabad, Inner approximating the completely positive cone via the cone of SDD matrices	Ellen Fukuda, Solving nonlinear conic programming problems with a new DC approach	Patrick Groetzner, A method to compute factorizations for completely positive matrices
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Complementarity Problems**, *Organizer*: Samir K. Neogy, session 173 **Variat**			
	Muddappa Gowda, Weakly homogeneous variational inequalities	Samir Neogy, On testing matrices with nonnegative principal minors	Dipti Dubey, Total Dual Integrality and Integral Solutions of Linear Complementarity Problem	
Salle KC6 Build K, Z 10 Intermediate 1 4x20 min	**Non-Convex and Second-order Methods in Machine Learning**, *Organizer*: Martin Takac, session 33 **RandomM**			
	Aurelien Lucchi, Escaping Saddles with Stochastic Algorithms	Reza Babanezhad, Convergence Rate of Expectation-Maximization	Francesco Orabona, Parameter-free non-smooth convex stochastic optimization through coin betting	Martin Takac, SGD and Hogwild! Convergence Without the Bounded Gradients Assumption
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Progress in methods and theory of derivative-free optimization**, *Chair*: Serge Gratton, session 42 **DerFree**			
	Charles Audet, Mesh-based Nelder-Mead algorithm for inequality constrained optimization	Jeffrey Larson, Manifold Sampling for Nonconvex Optimization of Piecewise Linear Compositions	Morteza Kimiaei, Competitive derivative-free optimization with optimal complexity	
Salle AURIAC Build G, Z 6 1st floor 4x20 min	**Advances in optimization methods for time dependent problems II**, *Organizer*: Denis Ridzal, session 225 **Control**			
	Stefan Ulbrich, Preconditioners for unsteady PDE-constrained optimization and parallel variants	Sebastian Goetschel, Parallel-in-time PDE-constrained optimization using PFASST	Andreas Potschka, Direct Multiple Shooting for parabolic PDE constrained optimization	Denis Ridzal, Multigrid-in-time methods for optimization with nonlinear PDE/DAE constraints

Room	Specific Models, Algorithms, and Software - Wednesday 5:00 PM – 6:30 PM			
FABRE Build J, Z 8 Ground Floor 3x30 min	**Problems in the intersection of machine learning and optimization**, *Chair*: Ross M Anderson, session 328			**Learning**
	Brandon Amos, OptNet: End-to-End Differentiable Constrained Optimization	Ross Anderson, Solving argmax for a neural network with MIP, and related optimization problems	Vinod Nair, Learning Fast Optimizers for Contextual Stochastic Integer Programs	
Salle 22 Build G, Z 6 2nd floor 2x20 min	**Large-scale convex optimization**, *Chair*: Alexander V. Rogozin, session 479			**Learning**
	Alexander Rogozin, Optimal distributed convex optimization on slowly time-varying graphs	Tommaso Colombo, Leverage data structure to improve Stochastic Gradient Descent algorithm		
Salle 24 Build G, Z 6 3rd floor 4x20 min	**Location and Routing**, *Chair*: Mustapha Oudani, session 451			**Logistics**
	Imen Ben Mohamed, Stochastic Two-echelon Location-Routing	Rasul Esmaeilbeigi, Benders decomposition for a hierarchical facility location problem	Nicolas Kämmerling, Benders Decomposition for Uncertain Hub Location with Variable Allocation	Mustapha Oudani, The Incomplete Hub Location and Routing Problem
Salle 16 Build I, Z 7 2nd floor 3x20 min	**Production-Routing**, *Chair*: Feng Gao, session 456			**Logistics**
	Feng Gao, Models and Algorithms for Robust Production Routing Under Demand Uncertainty	Saranthorn Phusingha, Meta-Heuristics for Multi-Period Sales Districting Problem	Yuzhuo Qiu, Models and Algorithms for Stochastic and Robust Production Routing with Time Win	
Salle 18 Build I, Z 7 1st floor 3x20 min	**Machine Scheduling 2**, *Chair*: Guopeng Song, session 529			**Scheduling**
	Cristiane Ferreira, Human-Robot Scheduling in Collaborative Environments	Margaux Nattaf, Parallel machine scheduling with time constraints on machine qualifications	Guopeng Song, The robust machine availability problem	
Salle DENUCE Build Q, Z 8 Ground Floor 4x20 min	**Optimization and modeling of integrated energy systems**, *Organizer*: Jalal Kazempour, session 71			**Energy**
	Stefanos Delikaraoglou, Market-based valuation of natural gas network flexibility	Ibrahim Abada, Unintended consequences: The snowball effect of energy communities	Lesia Mitridati, Coordination of Heat and Electricity Systems via Market-Based Mechanisms	Anna Schwele, Virtual bidders and self-schedulers in electricity and natural gas markets
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Energy Market Models**, *Chair*: Sauleh A Siddiqui, session 522			**Energy**
	Thomas Kleinert, Global Optimization of Multilevel Electricity Market Models	Emre Celebi, Co-optimization Models with Market-Clearing Equilibrium: A Robust Approach	Sauleh Siddiqui, Solving Problems with Equilibrium Constraints Applied to Energy Markets	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Resource-constrained assignment and scheduling**, *Organizer*: Fabian Bastin, session 398			**Sciences**
	Giorgio Sartor, A novel formulation for job-shop scheduling in traffic management	Vipin Vijayalakshmi, Improving local search for distributed resource allocation and equilibrium.	Fabian Bastin, A learning-based approach for multi-skill staffing optimization in call centers	
PITRES Build O, Z 8 Ground Floor 3x30 min	**Progress in MIP Solvers II**, *Organizer*: Hans Mittelmann, session 234			**Algo**
	Andrea Tramontani, Benders Decomposition in IBM CPLEX	Michael Winkler, Gurobi 8.0 - What's new	Michael Perregaard, Recent Progress in the Xpress Solvers	

Room	Invited Talks - Wednesday 5:00 PM – 6:30 PM			
SIGALAS Build C, Z 2 2nd floor 4x20 min	**Solvers and softwares**, *Chair*: François Clautiaux, session 390			**INTERFACE**
	Julien Darlay, Solving packing, routing and scheduling problems using LocalSolver	Pawel Lichocki, Applied mixed integer programming: The why and how	Robert Luce, Solving MIPs with Gurobi Instant Cloud	Johannes Müller, Creating an optimization web app with FICO Xpress

Room	Discrete Optimization & Integer Programming - Thursday 8:30 AM – 10:30 AM			
Salle 34 Build B, Z 3 1st floor 4x30 min	**Integer linear programming, convex geometry, and lattices** , *Organizer*: Sinai Robins, session 142			**IPtheory**
	Achill Schürmann, Exploiting Linear Symmetries in Integer Convex Optimization	Matthias Schymura, On the reverse isodiametric problem	Kevin Woods, The Complexity of Presburger Arithmetic in Fixed Dimension	Sinai Robins, Fourier transforms of polytopes, solid angle sums, and discrete volumes
Salle 35 Build B, Z 4 Intermediate 4x30 min	**Convexity and Polytopes**, *Chair*: David Warme, session 518			**IPtheory**
	Emiliano Lancini, Box-Total Dual Integrality and k-Edge-Connectivity	Tamon Stephen, On the Circuit Diameter Conjecture	Filipe Cabral, The role of extreme points for convex hull operations.	David Warme, Metrics for Strength of Inequalities with Respect to a Polytope
Salle 44 Build C, Z 1 3rd floor 4x30 min	**Advanced Linear(ized) MIP Formulations for Zero-One Programs**, *Organizer*: Sven Mallach, session 127			**IPpractice**
	Leon Eifler, Mixed-Integer Programming for Clustering in Non-reversible Markov Processes	Adalat Jabrayilov, A new ILP for the Steiner Tree Problem with Revenues, Budget and Hop Constraints	Daniel Schmidt, An extended formulation for the Steiner Forest Problem	Sven Mallach, Compact Linearization for Zero-One Quadratic Programs
LEYTEIRE Build E, Z 1 3rd floor 4x30 min	**Submodular Maximization**, *Organizer*: Moran Feldman, session 29			**APPROX**
	Moran Feldman, Deterministic and Combinatorial Algorithms for Submodular Maximization	Baruch Schieber, Constrained Submodular Maximization via Greedy Local Search	Simon Bruggmann, Submodular Maximization through the Lens of Linear Programming	Niv Buchbinder, Constrained Submodular Maximization via a Non-symmetric Technique
Salle 43 Build C, Z 1 3rd floor 4x30 min	**Cycles and Trees**, *Organizer*: Tobias Mömke, session 90			**APPROX**
	Alantha Newman, Coloring and Dominating Set on Digraphs with Bounded Independence Number	Antonios Antoniadis, A PTAS for TSP with Hyperplane Neighborhoods	László Kozma, Maximum Scatter TSP in doubling metrics	Ralf Klasing, Approximabilty of Hub Allocation Problems
Salle 36 Build B, Z 4 Intermediate 4x30 min	**Bin Packing**, *Chair*: Frits CR Spieksma, session 344			**APPROX**
	Nadia Brauner, Automatically computed bounds for the online bin stretching problem	Leah Epstein, Batched bin packing	Shlomo Karhi, Online Packing of Arbitrary Size Items into Designated and Multipurpose Bins	Frits Spieksma, Partitioning Vectors into Quadruples
Salle 41 Build C, Z 1 3rd floor 4x30 min	**Graphs and clutters**, *Organizer*: Gerard Cornuejols, session 263			**COMB**
	Guoli Ding, Packing cycles in a tournament	Sharat Ibrahimpur, Min-Max Theorems for Packing and Covering Odd (u,v)-trails	Ahmad Abdi, Cuboids, a class of clutters	Dabeen Lee, Deltas, extended odd holes and their blockers
Salle 39 Build E, Z 1 3rd floor 4x30 min	**Graph theory**, *Chair*: Thomas Bellitto, session 422			**COMB**
	Isabel Beckenbach, A Tight Cut Decomposition for Hypergraphs with Perfect Matchings	Xujin Chen, Densities, Matchings, and Fractional Edge-Colorings	Yutaro Yamaguchi, Making Bipartite Graphs DM-irreducible	Thomas Bellitto, Optimal weighting to minimize the independence ratio of a graph
DURKHEIM Build A, Z 1 3rd floor 4x30 min	**Parallel Computing and Sustainability**, *Organizer*: Bistra Dilkina, session 296			**CP**
	Fei Fang, Designing the game to play in security and sustainability domains	Nahid Jafari, A Robust Optimization Model for an Invasive Species Management Problem	Salvador Abreu, Parallel HYbridization for Simple Heuristics	Ciaran McCreesh, Parallel Search, Ordering, Reproducibility, and Scalability
Salle 47 Build A, Z 1 3rd floor 4x30 min	**Performance Analysis**, *Organizer*: Charlotte Truchet, session 298			**CP**
	Lars Kotthoff, The Shapley Value and the Temporal Shapley Value for Algorithm Analysis	Guilhem Semerjian, Phase transitions in random constraint satisfaction problems	Charlotte Truchet, A probabilistic study of the propagation of the AllDifferent constraint	Alexander Tesch, Improving Energetic Propagations for Cumulative Scheduling

Room	Optimization under Uncertainty - Thursday 8:30 AM – 10:30 AM			
DENIGES Build C, Z 5 Ground Floor 4x30 min	**New results in chance-constrained optimization**, *Chair*: Bismark Singh, session 489			**Stoch**
	Abebe Geletu, Smoothing Methods for Chance Constrained Optimization of Elliptic PDE Systems	René Henrion, Dynamic chance constraints under random distributiond	Armin Hoffmann, Differentiabilty of joint chance constraints under weakened LICQ	Bismark Singh, Approximating Chance Constrained Programs using Classical Inequalities
Salle 32 Build B, Z 5 Ground Floor 4x30 min	**Topics in multistage and integer stochastic optimization**, *Organizer*: Jim Luedtke, session 490			**Stoch**
	Ozge Safak, Three-Stage Stochastic Airline Scheduling Problem	Mehdi Karimi-Nasab, State space analysis of a stochastic DP to deal with curse of dimensionality	Cong Han Lim, Partitioned Subgradient Methods for Stochastic Mixed Integer Program duals	Jim Luedtke, Lagrangian dual decision rules for multistage stochastic integer programs
Salle 37 Build B, Z 4 Intermediate 4x30 min	**K-adaptability**, *Organizer*: Anirudh Subramanyam, session 1			**Robust**
	Jannis Kurtz, Min-max-min Robust Optimization for the Capacitated Vehicle Routing Problem	Michael Poss, Min-Max-Min Robustness for Combinatorial Problems with Budgeted Uncertainty	Jonas Pruente, K-Adaptibility in Stochastic Programming	Anirudh Subramanyam, K-Adaptability in Two-Stage Mixed-Integer Robust Optimization
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**New applications of robust optimizations**, *Chair*: Mirjam Duer, session 461			**Robust**
		Jorge Vera, Condition and geometric measures for consistency in intertemporal optimization	Alec Koppel, Compositional Stochastic Optimization with Kernels for Robust Online Learning	Mirjam Duer, Robust Approach for Stratified Sampling Allocation Problems
Salle 30 Build B, Z 5 Ground Floor 4x30 min	**Stackelberg Games**, *Chair*: Stefano Coniglio, session 374			**Game**
	Jean-Bernard Eytard, Tropical geometry applied to bilevel programming	Stefan Waldherr, Bilevel Programming for Combinatorial Exchanges with Budget Constraints	Stefano Coniglio, Computing Pessimistic Leader-Follower Equilibria with Multiple Followers	Francesco Caruso, A learning approach for selection of subgame perfect Nash equilibria

Room	Continuous Optimization - Thursday 8:30 AM – 10:30 AM			
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x30 min	**First-order methods: advances and applications**, *Organizer*: Immanuel M. Bomze, session 3			**NLP**
	Axel Boehm, Incremental mirror descent with random sweeping and a proximal step	Immanuel Bomze, Active-set identification in Frank-Wolfe variants on the standard simplex	Michael Kahr, Robust StQP, first-order methods, and applications in social network analysis	Mathias Staudigl, On the convergence of projection free Hessian Barrier-Gradient Algorithms
GINTRAC Build Q, Z 8 Ground Floor 4x30 min	**Recent advances in interior point methods and NLP**, *Organizer*: Michael Todd, session 77			**NLP**
	Michael Todd, The ellipsoid method redux	E. Alper Yildirim, MILP Formulations for Globally Solving Nonconvex Standard Quadratic Programs	Yinyu Ye, A One-phase Interior Point Method For Nonconvex Optimization	Oliver Hinder, A polynomial time interior point method for problems with nonconvex constraints
Salle 05 Build Q, Z 11 1st floor 4x30 min	**Machine learning for optimisation**, *Organizer*: Coralia Cartis, session 176			**NLP**
	Adilet Otemissov, Dimensionality reduction for global optimisation: adaptive random embeddings	Coralia Cartis, Stochastic trust-region with global rate to second-order criticality	Radu Baltean-Lugojan, Online generation via offline selection of strong linear cuts from QP SDP relax.	Boris Houska, Global optimization in Hilbert Space
Salle KC7 Build K, Z 10 Intermediate 2 4x30 min	**First Order Methods I**, *Chair*: Sandra A. Santos, session 436			**NLP**
	Sandra Santos, Accelerating block coordinate descent methods with identification strategies	Francesco Locatello, On Matching Pursuit and Coordinate Descent	Tianyi Lin, A Unified Scheme to Accelerate Adaptive Cubic Regularization and Gradient Method	Felix Lieder, Performance Estimation for Fixed Point Iterations
Salle LC4 Build L, Z 9 Intermediate 1 4x30 min	**Universal methods in non-smooth analysis**, *Organizer*: Alexander Gasnikov, session 53			**NonSmooth**
	Alexander Tyurin, Universal Nesterov's gradient method in general model conception	Sergey Guminov, Dual universal conjugate gradient type methods.	Alexander Tytov, Universal Proximal Method for Variational Inequalities	Dmitry Kamzolov, Universal Intermediate Gradient Method for Convex Problems with Inexact Oracle
Salle 8 Build N, Z 12 4th floor 4x30 min	**First-order methods for nonconvex and pathological convex problems**, *Organizer*: Wotao Yin, session 183			**NonSmooth**
	Mila Nikolova, Alternating structure-adapted proximal gradient descent for nonconvex problems	Wenbo Gao, ADMM for Multiaffine Constrained Optimization	Ernest Ryu, Douglas-Rachford Splitting for Pathological Convex Optimization	Wotao Yin, Polynomial-Time Run-and-Inspect Method for Certain Nonconvex Optimization
Salle 9 Build N, Z 12 4th floor 4x30 min	**Non smooth optimization for lage scale poblems**, *Organizer*: Yu Du, session 556			**NonSmooth**
	Yu Du, Selective Linearization for Multi-block Statistical Learning Problems	Dmitry Grishchenko, Randomized Proximal Algorithm with Automatic Dimension Reduction.	Shummin Nakayama, Inexact proximal memoryless spectral-scaling MBFGS method	Min Tao, Decomposition methods for computing d-stationary solutions for nonconvex problem
Salle 20 Build G, Z 6 1st floor 4x30 min	**Computer-assisted analyses of optimization algorithms I**, *Organizer*: Adrien Taylor, session 19			**SDP**
	Yoel Drori, Efficient First-order Methods for Convex Minimization: A Constructive Approach	Donghwan Kim, Optimized first-order method for decreasing gradient of smooth convex functions	Bryan Van Scoy, The Fastest Known First-Order Method for Smooth Strongly Convex Minimization	Laurent Lessard, Analysis of First-Order Algorithms for Distributed Optimization
Salle LC5 Build L, Z 10 Intermediate 1 4x30 min	**Geometry and duality in convex optimization**, *Organizer*: Javier F Pena, session 160			**SDP**
	David Gutman, Condition Numbers for Convex Functions with Polytope Domains	Javier Pena, Conditioning of conic systems via the Grassmannian manifold	Jourdain Lamperski, Solving linear inequalities via non-convex optimization	Gabor Pataki, On positive duality gaps in semidefinite programming
Salle 06 Build Q, Z 11 1st floor 4x30 min	**Nonlinear Optimization and Variational Inequalities I**, *Organizer*: Xin Liu, session 140			**Variat**
	Yaxiang Yuan, Theory and Applicaiton of p-regularized subproblem with $p > 2$	Jinyan Fan, A semidefinite relaxation algorithm for polynomial equations	Cong Sun, On a special robust optimization problem	Liang Zhao, Limited memory algorithms with cubic regularization
Salle KC6 Build K, Z 10 Intermediate 1 4x30 min	**Recent Advances on Stochastic Algorithms and Machine Learning**, *Organizer*: Shiqian Ma, session 202			**RandomM**
	Qihang Lin, Level-Set Methods for Finite-Sum Constrained Convex Optimization	Xudong Li, Estimation of Markov Chain via Rank-constrained Likelihood	Guanghui Lan, Random gradient extrapolation for distributed and stochastic optimization	Renbo Zhao, An Accelerated Algorithm for Stochastic Three-composite Optimization
Salle 21 Build G, Z 6 Intermediate 4x30 min	**Bayesian and Randomized Optimization I**, *Chair*: Stefan M Wild, session 39			**DerFree**
	Mickael Binois, Improving Bayesian optimization via random embeddings	Saul Toscano-Palmerin, Bayesian Optimization of Expensive Integrands	Clément Royer, Using Models in Allocate and Partition Algorithms	Youssef Diouane, A Rigorous Framework for Efficient Global Optimization
Salle AURIAC Build G, Z 6 1st floor 4x30 min	**Optimal Control of Variational Inequalities and Complementarity Systems**, *Chair*: Alexandre Vieira, session 336			**Control**
	Alexandre Vieira, Optimal control of Linear Complementarity Systems	Anne-Therese Rauls, Computing a Subgradient for the Solution Operator of the Obstacle Problem	Ailyn Stötzner, Optimal Control of Thermoviscoplasticity	Anna Walter, Optimal Control of Elasto-plasticity Problems with Finite Deformations

Room	Specific Models, Algorithms, and Software - Thursday 8:30 AM – 10:30 AM			
FABRE Build J, Z 8 Ground Floor 4x30 min	**First-order methods for large-scale convex problems**, *Organizer*: Stephen A Vavasis, session 316			**Learning**
	Stephen Vavasis, A single potential governing convergence of CG, AG and Geometric Descent	Mert Gurbuzbalaban, Robust Accelerated Gradient Method	Peter Richtarik, Randomized methods for convex feasibility problems and applications to ML	Yaoliang Yu, Bregman Divergence for Stochastic Variance Reduction
Salle DENUCE Build Q, Z 8 Ground Floor 4x30 min	**Large-scale learning**, *Organizer*: Lorenzo Rosasco, session 335			**Learning**
	Mikhail Belkin, The power of interpolation: on the effectiveness of SGD in modern learning	Chris Re, Precision on the Brain: Low-Precision to High-Precision for Machine Learning	Gergely Neu, Iterate averaging as regularization for stochastic gradient descent	Lorenzo Rosasco, Convergence vs stability: a regularization view on accelerated methods
Salle 16 Build I, Z 7 2nd floor 4x30 min	**Dynamical systems, control and optimization**, *Chair*: Benjamin Recht, session 470			**Learning**
	Fredrik Bagge Carlson, Tangent Space Regularization for Neural-Networks Models of Dynamical Systems	Benjamin Recht, The sample complexity of iteratively learning to control	Nikolai Matni, Optimization-based adaptive control using a system level approach.	Ashia Wilson, Lyapunov arguments in optimization
Salle LA4 Build L, Z 8 Basement 4x30 min	**Multi-commodity flows**, *Organizer*: Ralf Borndörfer, session 358			**Network**
	Daniel Granot, Monotonicity and conformality in multicommodity network-flow problems	Eduardo Moreno, An exact method based on adaptive partitions for the Stochastic Fixed-Charge MCF	Stefano Gualandi, Approximate Wasserstein Distances of order 1 between images	Ralf Borndörfer, Metric Inequalities for Routings on Direct Connections in Line Planning
PITRES Build O, Z 8 Ground Floor 3x30 min	**Vehicle Routing I**, *Chair*: Guy Desaulniers, session 411			**Logistics**
		Guy Desaulniers, The vehicle routing problem with stochastic and correlated travel times	Bolor Jargalsaikhan, An exact formulation for pickup and delivery problem with divisible split-ups	Mathias Klapp, Branch-and-Price for Probabilistic Vehicle Routing
Salle 23 Build G, Z 6 3rd floor 4x30 min	**Unit Commitment Problem and Applications**, *Organizer*: Tiziano Parriani, session 94			**Energy**
	Allegra De Filippo, Off-line/on-line optimization under uncertainty on energy management	Dimitri Thomopulos, A Constrained Shortest Path formulation for the Hydro Unit Commitment Problem	Rafael Lobato, Stochastic Hydrothermal Unit Commitment via Multi-level Scenario Trees	Tiziano Parriani, CHP Systems Optimization in Presence of Time Binding Constraints
Salle 24 Build G, Z 6 3rd floor 4x30 min	**Mining Applications**, *Organizer*: Alexandra M Newman, session 172			**Energy**
	Marcos Goycoolea, Lane's Algorithm Revisisted	Peter Malkin, A MILP-based approach for loader assignment in open pit scheduling	Levente Sipeki, Optimal Selection of Support Pillars in an Underground Mine	Alexandra Newman, Mathematical Methods for Complex Underground Design and Scheduling Problems
Salle 22 Build G, Z 6 2nd floor 4x30 min	**Numerically Efficient Methods for Piecewise Algorithmic Differentiation II**, *Organizer*: Torsten F Bosse, session 270			**Algo**
	Laurent Hascoet, Pushing the Algorithmic Differentiation tool Tapenade towards new languages	Peter Stechlinski, Generalized Sensitivity Analysis of Nonlinear Programs	Kamil Khan, Evaluating generalized derivatives efficiently for nonsmooth composite functions	Lisa Hegerhorst, Optimality Conditions for Nonsmooth Constrained Optimization Problems
Salle 18 Build I, Z 7 1st floor 3x30 min	**High-Performance Computing in Optimization I**, *Organizer*: Kibaek Kim, session 271			**Algo**
		Ted Ralphs, Performance Assessment for Parallel MILP Solvers	Yuji Shinano, Ubiquity Generator Framework to parallelize state-of-the-art B and B based solvers	Kibaek Kim, Branching Strategies on Decomposition Methods for Mixed-Integer Programming

Room	Invited Talks - Thursday 8:30 AM – 10:30 AM			
SIGALAS Build C, Z 2 2nd floor 4x30 min	**Energy**, *Chair*: Kazem Abbaszadeh, session 387			**INTERFACE**
	Rishi Adiga, Optimization Models for Geothermal Energy	Rodolphe Griset, Static robustness for EDF nuclear long term production planning	Gabriela Maschietto, Optimization of district heating production operations	Mahbubeh Habibian, Demand and reserve co-optimization for a price-making consumer of electricity

Room	Invited Talks - Thursday 11:00 AM – 12:00 AM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**The BARON software for MINLP**, *Organizer*: Claudia D Ambrosio, session 547			**SEMI**
	Nikolaos Sahinidis, The BARON software for MINLP			
BROCA Build W, Z 0 3rd floor 1x60 min	**Cutting Planes in the Extended Space**, *Organizer*: Adam N Letchford, session 543			**KEYNOTE**
	Oktay Gunluk, Cutting Planes in the Extended Space			
DENIGES Build C, Z 5 Ground Floor 1x60 min	**Effective Scenarios and Scenario Reduction for Risk-Averse Stochastic Programs**, *Organizer*: Jim Luedtke, session 544			**KEYNOTE**
	Tito Homem-de-Mello, Effective Scenarios and Scenario Reduction for Risk-Averse Stochastic Programs			

Room	Invited Talks - Thursday 1:30 PM – 2:30 PM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Randomness, risk and electricity prices**, *Organizer*: Michael C Ferris, session 554			**PLENARY**
	Andy Philpott, Randomness, risk and electricity prices			

Room	Discrete Optimization & Integer Programming - Thursday 3:15 PM – 4:45 PM			
Salle 42 Build C, Z 1 3rd floor 3x30 min	**Non-Standard IP Methods**, *Chair*: Ulf Friedrich, session 513			**IPtheory**
	Tri-Dung Nguyen, Algebraic Geometry and Integer Programmings in Cooperative Game Theory	Wolfgang Keller, A hierarchy of cutting plane operators based on lineality spaces	Ulf Friedrich, A power series algorithm for non-negative IP	
Salle 43 Build C, Z 1 3rd floor 3x30 min	**Polynomial Time Solvable Problems and Complete Descriptions**, *Chair*: Andreas Bärmann, session 520			**IPtheory**
	A-E Falq, Extreme points for scheduling around a common due date	Lars Rohwedder, On Integer Programming and Convolution	Andreas Bärmann, The Clique Problem with Multiple-Choice Constraints and Two Polynomial Subcases	
Salle 44 Build C, Z 1 3rd floor 3x30 min	**Computational Issues in Integer Programming**, *Organizer*: Ricardo Fukasawa, session 289			**IPpractice**
	Laurent Poirrier, Implementation and performance of the simplex method	Giulia Zarpellon, Learning MILP resolution outcomes before reaching time-limit	Aleksandr Kazachkov, Computational Results with V-Polyhedral Cuts and Strengthening Approaches	
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Convexification and more (I)**, *Organizer*: Jon Lee, session 62			**MINLP**
	Marcia Fampa, Treating indefinite quadratic and bilinear forms in MINLP	Amélie Lambert, Valid inequalities for QCQPs	Luze Xu, More Virtuous Smoothing	
Salle 34 Build B, Z 3 1st floor 3x30 min	**Heuristics in MINLP**, *Chair*: Bertrand Travacca, session 276			**MINLP**
	João Lauro Faco', MINLP solutions using a Generalized-GRASP solver	Christoph Neumann, Feasible rounding ideas for mixed-integer optimization problems	Bertrand Travacca, Dual Hopfield Models for Large Scale Mixed Integer Programming	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**MINLP with quadratic terms**, *Chair*: Enrico Bettiol, session 282			**MINLP**
	Fabricio Oliveira, The p-Lagrangian method for MIQCQPs	Etienne Leclercq, A dedicated version of BiqCrunch for solving the Max-Stable Set problem exactly	Enrico Bettiol, Simplicial Decomposition for quadratic convex 0-1 problems	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Approximation Algorithms for Clustering.**, *Organizer*: Deeparnab Chakrabarty, session 32			**APPROX**
	Jaroslaw Byrka, Constant-Factor Approximation for Ordered k-Median	Amit Jayant Deshpande, Sampling-based algorithms and clustering with outliers	Deeparnab Chakrabarty, Generalized Center Problems with Outliers	
Salle 36 Build B, Z 4 Intermediate 3x30 min	**Routing and Inventory**, *Organizer*: Dorit Hochbaum, session 343			**APPROX**
	Alexander Birx, Improved upper bound for online Dial-a-Ride on the line	Jan Marcinkowski, A 4/5 - Approximation Algorithm for the Maximum Traveling Salesman Problem	Dorit Hochbaum, The gap between the continuous and discrete Replenishment Schedule problem	
SIGALAS Build C, Z 2 2nd floor 3x30 min	**Algorithms for TSP**, *Organizer*: Ola Svensson, session 239			**COMB**
	Vera Traub, Approaching 3/2 for the s-t-path TSP	Ramamoorthi Ravi, Cut-Covering Decompositions for Connectivity Problems	Ola Svensson, A Constant-factor Approximation Algorithm for the Asymmetric Traveling Salesman	
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Applications of CP**, *Organizer*: Louis-Martin Rousseau, session 284			**CP**
	Olivier Bachollet, A Constraint Programming approach to a meal delivery problem	Florian Grenouilleau, A Decomposition Approach for the Home Health Care Routing and Scheduling Problem	Louis-Martin Rousseau, A CP Approach to the Traveling Salesman Problem in the Postal Services	

Room	Optimization under Uncertainty - Thursday 3:15 PM – 4:45 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 1**, *Organizer*: Vincent Leclère, session 246			**Stoch**
	David Wozabal, Computing parameter sensitivities for discrete time Markov decision processes	Nils Löhndorf, Modeling time-dependent randomness in stochastic dual dynamic programming	Benoît Legat, Computing ellipsoidal controlled invariant sets for stochastic programming	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Distributionally Robust Optimization With Marginals and Cones**, *Organizer*: Divya Padmanabhan, session 354			**Robust**
	Louis Chen, Distributionally Robust Linear and Discrete Optimization with Marginals	Guanglin Xu, A Copositive Approach for Decision Rule Approximations of Multi-Stage RO	Divya Padmanabhan, Tractable Solutions to Distributionally Robust Optimisation	
Salle 37 Build B, Z 4 Intermediate 3x30 min	**Non-linear robust optimization**, *Chair*: Laurent Alfandari, session 460			**Robust**
	Daniel de Roux, Graph learning with the Wasserstein metric	Laurent Alfandari, Robust optimization for non-linear impact of data variation	Suh-Wen Chiou, A mathematical program for signal control with equilibrium constraints	
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Generation and Representation Algorithms in Multiobjective Optimization**, *Organizer*: Michael Stiglmayr, session 267			**Game**
	Britta Schulze, On a Polynomial Bound in Multiobjective Unconstrained Combinatorial Optimization	Kathrin Klamroth, Efficient Representation of the Search Region and Generic Algorithms in MOCO	Michael Stiglmayr, Representation of the non-dominated set of multiobjective optimization problems	

Room	Continuous Optimization - Thursday 3:15 PM – 4:45 PM			
Salle 05 Build Q, Z 11 1st floor 3x30 min	**Methods of Optimization in Riemannian Manifolds**, *Organizer*: Orizon P Ferreira, session 21			**NLP**
	Paulo Oliveira, A two-phase proximal-like algorithm in domains of positivity	Glaydston Bento, Proximal point method in multiobjective optimization on Hadamard manifolds	Orizon Ferreira, Newton's Method for Locally Lipschitz vector Fields on Riemannian Manifolds	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Extending the Reach of First-Order Methods, Part II**, *Organizer*: Robert M. Freund, session 286			**NonSmooth**
	Matus Telgarsky, Risk and parameter convergence of logistic regression	Alp Yurtsever, A conditional gradient framework for composite convex minimization	Robert Freund, Accelerating Greedy Coordinate Descent Methods	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information II**, *Organizer*: Monique Laurent, session 18			**SDP**
	Sander Gribling, Quantifying entanglement of a quantum correlation using polynomial optimization	Antonios Varvitsiotis, Graph isomorphism: conic relaxations and physical interpretation	Farid Alizadeh, Optimization over univariate polynomials: Algorithms and applications	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Nonlinear Optimization and Variational Inequalities II**, *Organizer*: Cong Sun, session 141			**Variat**
	Xin Liu, On the Lojasiewicz Exponent of Quadratic Minimization with Sphere Constraint	Bin Gao, A Parallelizable Algorithm for Orthogonally Constrained Optimization Problems	Yanfei Wang, A Joint Matrix Minimization Approach for Seismic Wavefield Recovery	
Salle KC6 Build K, Z 10 Intermediate 1 3x30 min	**Asynchronous Parallel and Distributed Optimization**, *Organizer*: Wotao Yin, session 200			**RandomM**
	Rémi Leblond, Improved asynchronous parallel optimization analysis for incremental methods	Robert Hannah, Why Asynchronous Algorithms may Drastically Outperform Traditional Ones	Renato Monteiro, Complexity of a quadratic penalty accelerated inexact proximal point method	
Salle AURIAC Build G, Z 6 1st floor 2x30 min	**Theory and Methods for ODE- and PDE-Constrained Optimization 2**, *Chair*: Johann Schmitt, session 333			**Control**
	Johann Schmitt, Optimal boundary control of hyperbolic balance laws with state constraints	Paloma Schäfer Aguilar, Numerical approximation of optimal control problems for conservation laws		

Room	Specific Models, Algorithms, and Software - Thursday 3:15 PM – 4:45 PM			
FABRE Build J, Z 8 Ground Floor 3x30 min	**Accelerating Learning**, *Organizer*: Martin Takac, session 322			**Learning**
	Damien Scieur, Nonlinear Acceleration of Stochastic Algorithms	Sai Praneeth Karimireddy, Accelerated First Order Methods with Approximate Subproblems	Angelia Nedich, Optimal Algorithms for Distributed Optimization	
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Robust first order methods**, *Organizer*: Fatma Kilinc-Karzan, session 332			**Learning**
	Dimitris Papailiopoulos, Robust distributed learning in the face of adversity	Suriya Gunasekar, Characterizing implicit bias of optimization and its role in generalization	Nam Ho-Nguyen, First-order Framework for Robust Convex Optimization	
PITRES Build O, Z 8 Ground Floor 2x30 min	**Path Problems**, *Chair*: Yanchao Liu, session 453			**Logistics**
	Edward He, Dynamic Discretization Discovery Algorithms for Time-Dependent Path Problems	Yanchao Liu, Drone Path Planning and Aerial Traffic Flow		
Salle 18 Build I, Z 7 1st floor 3x30 min	**Production Planning**, *Chair*: Michel Siemon, session 531			**Scheduling**
	Tobias Hofmann, ISO-PESP - A PESP Variant for Minimizing the Cycle Time of Production Lines	Julia Lange, A matheuristic for the blocking job shop problem with a tardiness objective	Michel Siemon, Value-based End-to-End Production Planning in Non-Ferrous Metal Industry	
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Optimization Models for Renewable Energy Integration 1**, *Organizer*: Luis F Zuluaga, session 120			**Energy**
	Panagiotis Andrianesis, Optimal Grid Operation and DER Dispatch in Active Distribution Networks	Galina Orlinskaya, Bilevel Optimization for Flexible Electricity Supply Tariff Design	Luis Zuluaga, Competitive equilibrium and revenue adequate prices for robust energy markets	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Progress in Algorithms for Optimal Power Flow Problems II**, *Chair*: Miguel F Anjos, session 509			**Energy**
	Alvaro Lorca, Robust Optimization for the Alternating Current Optimal Power Flow Problem	Ksenia Bestuzheva, Global Optimization for Alternating Current Optimal Power Flow	Andreas Grothey, Optimal Power Flow solver based on HELM	
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Electricity Generation Scheduling and Dispatch**, *Chair*: Christophe Duhamel, session 511			**Energy**
	Beste Basciftci, Data-Driven Generator Maintenance and Operations Scheduling under Uncertainty	Diego Jimenez, A Network Flow–Based MILP Formulation for the Thermal Unit Commitment Problem	Christophe Duhamel, solving the Short-term Hydrothermal Scheduling problem with linearizations	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Inverse Problems in Physics**, *Chair*: Leo Liberti, session 391			**Sciences**
	Andreas Alpers, On the reconstruction of lattices from diffraction data	Fabian Klemm, Grain map reconstruction by means of generalized Voronoi Diagrams	Leo Liberti, Scientific applications of distance geometry	
Salle 22 Build G, Z 6 2nd floor 3x30 min	**High-Performance Computing in Optimization II**, *Chair*: Joaquim Dias Garcia, session 466			**Algo**
	Timotej Hrga, High-Performance Solver for Binary Quadratic Problems	Brian Dandurand, Bilevel optimization approaches for power system security	Joaquim Dias Garcia, Genesys: Simulating Power Systems by Solving Millions of MIPs	

Room	Discrete Optimization & Integer Programming - Thursday 5:00 PM – 6:30 PM			
Salle 43 Build C, Z 1 3rd floor 4x20 min	**Advances in Integer Programming**, *Organizer*: Robert Hildebrand, session 227			**IPtheory**
	Laura Sanità, On the diameter of the fractional matching polytope	Gonzalo Muñoz, Treewidth-based Extension Complexity Lower Bounds	Igor Malinovic, On valid inequalities for knapsack polytopes	Robert Hildebrand, Polynomial Integer Programming in Fixed Dimension and Applications in FPT
Salle 42 Build C, Z 1 3rd floor 3x30 min	**Cutting Planes for Special Problems**, *Chair*: Eleazar Madriz, session 517			**IPtheory**
	Ruslan Simanchev, Separation problem for 2-partition inequalities	Markó Horváth, Polyhedral results for position based scheduling of chains on a single machine	Eleazar Madriz, A Benders procedure for the b-complementary multisemigroup dual program.	
Salle 36 Build B, Z 4 Intermediate 4x20 min	**Matching Problems**, *Organizer*: Sergio García Quiles, session 175			**IPpractice**
	Thanh Nguyen, Stable Matching with Proportionality Constraints	Maxence Delorme, Mathematical models for stable marriage problems with ties	William Pettersson, Improvements in Kidney Exchange Programme Models for Large-Scale Programmes	Peter Biro, Stable project allocation under distributional constraints
Salle 44 Build C, Z 1 3rd floor 4x20 min	**Cutting Planes**, *Chair*: Fabrizio Marinelli, session 485			**IPpractice**
	Edvin ABlad, A tighter ILP model and an improved branching for a load-balancing problem	Sávio Dias, A Branch-and-Cut Approach for the Car Renter Salesman Problem	Georgia Souli, On Lifted Cover Inequalities: A New Lifting Procedure with Unusual Properties	Fabrizio Marinelli, Exploiting star inequalities for the maximum quasi-clique problem
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Convexification and more (II)**, *Organizer*: Akshay Gupte, session 106			**MINLP**
	Christoph Buchheim, Binary Programming with Semilinear Elliptic PDE-constraints	Christopher Coey, Using algebraic structure to accelerate polyhedral approximation	Andres Gomez, Quadratic optimization with M-matrices and semi-continuous variables	
Salle 34 Build B, Z 3 1st floor 3x30 min	**Relaxations in MINLP**, *Chair*: Jan Kronqvist, session 280			**MINLP**
	Ralf Lenz, Tight Convex Relaxations for Expansion Planning of Potential Driven Networks	Jan Kronqvist, Using Regularization and Second Order Derivatives with Outer Approximation	Andreas Lundell, The Supporting Hyperplane Optimization Toolkit for Convex MINLP	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**Applications in MINLP**, *Chair*: Justo Puerto, session 283			**MINLP**
	Do Duc Le, Modeling and optimization of traffic at traffic-light controlled intersections	Maximilian Merkert, Flow-based extended formulations for feasible traffic light controls	Justo Puerto, MINLP for pricing transaction costs in different models of portfolio selection	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Approximation Algorithms for Optimization under Uncertainty**, *Organizer*: Marc Uetz, session 95			**APPROX**
	Thomas Kesselheim, Prophet Inequalities Made Easy: Stochastic Opt. by Pricing Non-Stochastic Inputs	Max Klimm, Hiring Secretaries over Time: The Benefit of Concurrent Employment	Marc Uetz, Greed is Good - Online Algorithms for Stochastic Unrelated Machine Scheduling	
Salle 41 Build C, Z 1 3rd floor 3x30 min	**Approximation algorithms for combinatorial optimization problems**, *Organizer*: Thomas Rothvoss, session 265			**COMB**
	Mohit Singh, Approximation Algorithms for Diverse Subset Selection Problems	Roy Schwartz, Local Guarantees in Graph Cuts and Clustering	Anupam Gupta, Scheduling Stochastic Jobs on Unrelated Machines	
Salle 39 Build E, Z 1 3rd floor 4x20 min	**Heuristics for combinatorial optimization problems**, *Chair*: Evren Guney, session 428			**COMB**
	Cid de Souza, A Matheuristic to the Firefighter Problem on Graphs	Shinsaku Sakaue, Accelerated Best-first Search for Monotone Submodular Function Maximization	Kazuya Fukuoka, A statistical stopping criterion for simulated annealing	Evren Guney, A Lagrangean Relaxation Based Heuristic For Efficient Influence Maximization

Room	Optimization under Uncertainty - Thursday 5:00 PM – 6:30 PM			
Salle 32 Build B, Z 5 Ground Floor 4x20 min	**Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 2**, *Organizer*: Vincent Leclère, session 247			**Stoch**
	Oscar Dowson, The practitioners guide to SDDP: lessons from SDDP.jl	François Pacaud, Decomposing Dynamic Programming equations: from global to nodal value functions	Vitor de Matos, Energy portfolio optimization for Brazilian distribution companies: a multistage	Luiz Carlos da Costa Junior, Stochastic programming framework for risk aversion representation with SDDP
Salle 30 Build B, Z 5 Ground Floor 3x20 min	**Topics in multistage stochastic optimization**, *Chair*: Felipe Beltrán, session 492			**Stoch**
	Min Zhang, Risk Minimization, Regret Minimization and the Progressive Hedging Algorithm	David Hemmi, Recursive Evaluate and Cut for combinatorial Multistage Programs	Felipe Beltrán, Stochastic dual dynamic programming with Chebyshev centers	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Robust Optimization under Data Uncertainty**, *Organizer*: Omid Nohadani, session 98			**Robust**
	Matthias Ehrgott, Uncertain Data Envelopment Analysis	Soroosh Shafieezadeh, Wasserstein Distributionally Robust Kalman Filtering	Zhenzhen Yan, Appointment Scheduling Under Time-Dependent Patient No-Show Behavior	
Salle 37 Build B, Z 4 Intermediate 4x20 min	**Combinatorial robust optimization I**, *Organizer*: Marc Goerigk, session 167			**Robust**
	Artur Pessoa, Solving the Robust Capacitated Vehicle Routing Problem Under Demand Uncertainty	Marc Goerigk, Approximating combinatorial optimization problems with the OWA criterion	Oyku Naz Attila, Reformulations for Robust Lot-Sizing Problem with Remanufacturing	Christoph Hansknecht, ast robust shortest path computations
Salle 31 Build B, Z 5 Ground Floor 3x30 min	**Approximation in dynamic programming**, *Chair*: Philip C Placek, session 382			**Markov**
	Wolf Kohn, Dynamic Programming via a State Abstract Machine and Implementation	Philip Placek, An Incremental Probability Model for Dynamic Systems	Benoît Tran, A Stochastic Min-plus Algorithm for Deterministic Optimal Control	

Continuous Optimization - Thursday 5:00 PM – 6:30 PM

Room				
Salle 05 Build Q, Z 11 1st floor 4x20 min	**Polynomial and tensor optimization II**, *Organizer*: Jiawang Nie, session 6			**NLP**
	Didier Henrion, Computing invariant measures with the Lasserre hierarchy	Anwa Zhou, Completely positive tensor recovery with minimal nuclear value	João Gouveia, Phaseless rank of a matrix	Xinzhen Zhang, A Complete Semidefinite Algorithm for Detecting Copositive Matrices and Tensors
Salle KC7 Build K, Z 10 Intermediate 2 3x20 min	**First Order Methods II**, *Chair*: Guillaume Berger, session 437			**NLP**
	Guillaume Berger, Hölder-continuous gradient and first-order approximation accuracy	Andersen Ang, Accelerating Nonnegative Matrix Factorization Algorithms using Extrapolation	Lei Zhao, First-Order Primal-Dual Method for Nonlinear Convex Cone Programs	
Salle 20 Build G, Z 6 1st floor 4x20 min	**Global Optimization 3**, *Chair*: Jean-Baptist Hiriart-Urruty, session 503			**Global**
	Jaromil Najman, Tighter McCormick relaxations through subgradient propagation in a BaB framework	Simon Boulmier, Nonlinear branch-and-bound improvements for global optimization	Mester Abigél, JAVA implementation of a modular, population based global optimizer package	Tiago Montanher, A rigorous MINLP solver using interval unions
Salle LC4 Build L, Z 9 Intermediate 1 3x30 min	**Efficient Semismooth Newton Methods for Large Scale Statistical Optimization Problems**, *Organizer*: Defeng Sun, session 123			**NonSmooth**
	Meixia Lin, Efficient sparse Hessian based algorithms for the clustered lasso problem	Yangjing Zhang, An efficient algorithm for solving large scale sparse group Lasso problems	Defeng Sun, On the efficient computation of the projector over the Birkhoff polytope	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Different faces of nonsmoothness in optimization**, *Organizer*: Tim Hoheisel, session 212			**NonSmooth**
	Oliver Stein, Global optimization of GSIPs using disjunctive programming	Abraham Engle, Superlinear Convergence of QN Methods for PLQ Convex-Composite Optimization	Tim Hoheisel, Applications of the generalized matrix-fractional function	
Salle AURIAC Build G, Z 6 1st floor 4x20 min	**Recent Advances in Conic Programming III**, *Organizer*: Masakazu Muramatsu, session 84			**SDP**
	Makoto Yamashita, A path-following method for semidefinite programming without Slater condition	Tang Peipei, A Majorized Newton-CG ALM for Linearly Constrained Convex Programming	Yoshio Ebihara, Analysis of Positive Systems by Semidefinite and Copositive Programming	Yuzhu Wang, Acceleration of the Lagrangian-DNN method for a class of QOPs
Salle LC5 Build L, Z 10 Intermediate 1 4x20 min	**Using coning programming in problems solving**, *Chair*: Kurt Majewski, session 497			**SDP**
	Vilmar Jefte De Sousa, Linear Relaxation of Maximum k-Cut with Semidefinite-Based Constraints	Anja Kuttich, Feedback Controller and Topology Design for uncertain mechanical systems	Julie Sliwak, Stabilization of the moment-based approach to prove global optimality for ACOPF	Kurt Majewski, Maximum Volume Inscribed Ellipsoids for Specific Absorption Rate Bounds in MRI
Salle 06 Build Q, Z 11 1st floor 3x30 min	**VU-decomposition techniques for nonsmooth optimization**, *Organizer*: Claudia Sagastizabal, session 158			**Variat**
	Shuai Liu, An epsilon-VU algorithm with superlinear convergence	Claudia Sagastizabal, A derivative-free $\mathcal{VU}$-algorithm for convex finite-max problems	Lucas Simões, A Fast Gradient Sampling-like Method for Solving Nonsmooth Optimization Problems	
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x20 min	**Variational Analysis 5**, *Organizer*: David Sossa, session 371			**Variat**
	Francisco Jara-Moroni, A global-local approach for stochastic programs with complementarity constraints	Miguel Sama, Conical Regularization of Multiobjective Optimization Problems	David Sossa, Complementarity problems with respect to Loewnerian cones	Chee Khian Sim, Relaxed Peaceman-Rachford Splitting Method: Convergence Study
Salle KC6 Build K, Z 10 Intermediate 1 3x20 min	**Recent Progress on Second-order Type Optimization Methods**, *Organizer*: Andre Milzarek, session 302			**RandomM**
	Ching-pei Lee, Inexact Successive Quadratic Approximation for Regularized Optimization	Jiang Hu, Structured Quasi-Newton method For Optimization with Orthogonality Constraints	Andre Milzarek, A stochastic semismooth Newton method for nonsmooth nonconvex optimization	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Advances in DFO III**, *Chair*: Juan C Meza, session 496			**DerFree**
	Jan Feiling, Utilizing Non-Commutative Maps in Derivative-Free Optimization	Richard Carter, Generalization of DIRECT algorithm supporting interactive problem redefinition	Juan Meza, Pattern Search Methods With Surrogates for Surface Structure Determination	

Room	Specific Models, Algorithms, and Software - Thursday 5:00 PM – 6:30 PM			
FABRE Build J, Z 8 Ground Floor 4x20 min	**First-order methods for large-scale convex problems II**, *Organizer*: Stephen A Vavasis, session 318			**Learning**
	Madeleine Udell, Convex Low Rank Semidefinite Optimization	Simon Lacoste-Julien, Frank-Wolfe Splitting via Augmented Lagrangian Method	Francois Glineur, Extending performance estimation beyond exact convex fixed-step methods	Xuan Vinh Doan, Low-Storage Conditional Gradient Method for Low-Rank and Sparse Optimization
Salle 16 Build I, Z 7 2nd floor 4x20 min	**Advances in Reinforcement Learning Algorithms**, *Organizer*: Lin Xiao, session 329			**Learning**
	Mengdi Wang, Compressive Learning for Sequential Decision Process	Shipra Agrawal, Posterior sampling for reinforcement learning	Lihong Li, SBEED learning: Convergent control with nonlinear function approximation	Adithya M Devraj, Zap Q-Learning: Fastest Convergent Q-learning
Salle 22 Build G, Z 6 2nd floor 4x20 min	**Ranking and recommendation**, *Chair*: Aleksandra Burashnikova, session 472			**Learning**
	Aleksandra Burashnikova, Learning Online Ranking Models with a Sequential Optimization Algorithm	Ibrahim Muter, Integrating Individual and Aggregate Diversity in Top-N Recommendation	Engin Tas, A stochastic gradient descent algorithm for learning to rank	Jose Dula, The Recommender Problem with Convex Hulls
Salle 24 Build G, Z 6 3rd floor 3x20 min	**Vehicle Routing III**, *Chair*: Raquel Bernardino, session 413			**Logistics**
	Raquel Bernardino, A hybrid algorithm for the family traveling salesman problem	Roghayeh Hajizadeh, Snow removal: Modeling and bounds by relaxation, heuristic and branch-and-bound	Vitor Nesello, Column Generation Based Local Search for Pickup-and-Delivery problems	
Salle 18 Build I, Z 7 1st floor 4x20 min	**Supply Chain**, *Chair*: Daniel Ramón-Lumbierres, session 533			**Scheduling**
	Wei Huang, Using SAP Integrated Business Planning to Optimize Supply Chain	Florian Fontan, Complexity of processing-time dependent profit maximization scheduling problems	Abdessamad Ouzidan, Modelization and optimization of inventory management for palletization	Daniel Ramón-Lumbierres, A multistage stochastic programming model for the strategic supply chain design
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Equilibrium and Optimization in Energy Markets**, *Organizer*: Asgeir Tomasgard, session 151			**Energy**
	Steven Gabriel, Bilevel Linear Programming Investment Problems Lower-Level Primal and Dual Variables	Endre Bjorndal, The Flow-Based Market Coupling Model and the Bidding Zone Configuration	Asgeir Tomasgard, A European power market model with short- and long-term uncertainty	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Gas Network and Market Optimization**, *Organizer*: Jonas Schweiger, session 293			**Energy**
	Jonas Schweiger, Foresighted decision support for gas network operation	Felix Hennings, Controlling complex network elements by target values	Julia Grübel, Nonconvex Equilibrium Models for Gas Market Analysis	
Salle LA4 Build L, Z 8 Basement 4x20 min	**Medicine and Metabolic engineering**, *Chair*: Mahdi Doostmohammadi, session 396			**Sciences**
	Michelle Boeck, Model Predictive Control and Robust Optimization in Adaptive Radiation Therapy	Björn Morén, Improving a Dose-Volume Model for HDR Brachytherapy to Reduce Tumour Cold Spots	Amanda Smith, New bilevel formulations for optimizing flux bounds in metabolic engineering	Mahdi Doostmohammadi, MOMO - Multi-Objective Mixed integer Optimisation for metabolic engineering
Salle 9 Build N, Z 12 4th floor 4x20 min	**Large-scale combinatorial optimization implementations**, *Organizer*: Aaron Archer, session 96			**Algo**
	Andrew Goldberg, Lost in Translation: Production Code Efficiency	Kevin Aydin, Distributed Balanced Partitioning via Linear Embedding	Christian Schulz, High Quality Graph and Hypergraph Partitioning	Hossein Bateni, Solving Coverage Problems on Massive Data
PITRES Build O, Z 8 Ground Floor 3x30 min	**Computational OR in Julia/JuMP**, *Organizer*: Miles Lubin, session 238			**Algo**
	Miles Lubin, JuMP 0.19 and MathOptInterface: new abstractions for mathematical optimization	Sebastien Martin, Optimizing Public Policy: School Transportation and Start Times in Boston.	Jarrett Revels, Capstan: Next-Generation Automatic Differentiation for Julia	

Room	Invited Talks - Thursday 5:00 PM – 6:30 PM			
SIGALAS Build C, Z 2 2nd floor 4x20 min	**Planning**, *Chair*: Jeanjean Antoine, session 389			**INTERFACE**
	Jeanjean Antoine, Planning model for recommerce activities	Boris Grimm, A Propagation Approach for Railway Rolling Stock Optimization	Eric Bourreau, Real Size Exam Timetabling at Montpellier University (France)	Mohamed Benkirane, An Hypergraph Model for the Rolling Stock Rotation Planning and Train Selection

Room	Discrete Optimization & Integer Programming - Friday 8:30 AM – 10:30 AM			
Salle 43 Build C, Z 1 3rd floor 4x30 min	**Recent advances in Integer Optimization**, *Organizer*: Alberto Del Pia, session 218			**IPtheory**
	Jean-Philipp Richard, Computational evaluation of new MIP models for tree ensembles optimization	Diego Moran, Strong duality for conic mixed-integer programs	Gustavo Angulo, An affine bounding method for two-stage stochastic integer programs	Merve Bodur, Aggregation-based cutting-planes for packing and covering integer programs
Salle 35 Build B, Z 4 Intermediate 4x30 min	**Mixed Integer Programming Representability**, *Organizer*: Juan Pablo Vielma, session 275			**IPtheory**
	Chris Ryan, Mixed-integer linear representability, disjunctions, and Chvátal functions	Joey Huchette, A mixed-integer branching approach for very small formulations	Marc Pfetsch, On the Size of Integer Programs with Sparse Constraints or Bounded Coefficients	Juan Pablo Vielma, Mixed-integer convex representability
Salle 44 Build C, Z 1 3rd floor 4x30 min	**Integer Programming and Crew Scheduling**, *Organizer*: Francois Soumis, session 292			**IPpractice**
	Francois Soumis, Dynamic Constraints Aggregation for Crew Scheduling Problem	Vahid Zeighami, Integrated Crew Pairing and Personalized Crew Assignment Problems	Frédéric Quesnel, Considering preferences and language skills in the airline crew pairings problem	Mohammed Saddoune, Alternate Lagrangian Decomposition for Integrated Crew Scheduling Problem
Salle 34 Build B, Z 3 1st floor 3x30 min	**Optimal Control Problems with Discrete Switches**, *Organizer*: Christian Kirches, session 102			**MINLP**
		Adrian Bürger, An Algorithm for Model-Predictive Control of Switched Nonlinear Dynamic Systems	Felix Bestehorn, Approximation algorithms for MIOCPs with discontinuous switch costs	Matthias Schloeder, Numerical Modeling of Switched Systems with Jumps in Optimal Control Problems
LEYTEIRE Build E, Z 1 3rd floor 4x30 min	**Data-Driven Revenue Management with Customer Choice**, *Organizer*: Jacob Feldman, session 81			**APPROX**
	Antoine Desir, Constrained Assortment Optimization under the Markov Chain based Choice Model	Danny Segev, Near-Optimal Approximations for Dynamic Assortment Planning under the MNL Model	Ali Aouad, Near-Optimal Approximations for Display Optimization Under MNL Preferences	Jacob Feldman, New Results for Assortment Optimization under the Exponomial Choice Model
Salle 36 Build B, Z 4 Intermediate 4x30 min	**Clustering.**, *Organizer*: Zac Friggstad, session 155			**APPROX**
	Arnaud de Mesmay, A Near-Linear Approximation Scheme for Multicuts of Embedded Graphs	Vincent Cohen-Addad, On local search for clustering	Zac Friggstad, Approximation Schemes for Clustering With Outliers	Ashkan Norouzi Fard, Dynamic Facility Location via Exponential Clocks
SIGALAS Build C, Z 2 2nd floor 4x30 min	**Matching and scheduling**, *Organizer*: Seffi Naor, session 54			**COMB**
	David Wajc, Online Matching in Regular Graphs (and Beyond)	Samir Khuller, Coflow Scheduling and beyond	Guy Even, Best of Two Local Models: Centralized local and Distributed local Algorithms	Seffi Naor, Competitive Algorithms for Online Multi-level Aggregation
Salle 41 Build C, Z 1 3rd floor 4x30 min	**Recent progress in graph cut problems**, *Organizer*: Karthekeyan Chandrasekaran, session 244			**COMB**
	Tamás Király, Approximation of Linear 3-Cut and related problems	Euiwoong Lee, An FPT Algorithm Beating 2-Approximation for k-Cut	Yury Makarychev, An Integrality Gap for the Călinescu–Karloff–Rabani Relaxation for Multiway Cut	Karthekeyan Chandrasekaran, Hypergraph k-cut in randomized polynomial time
Salle 39 Build E, Z 1 3rd floor 4x30 min	**Algorithmic aspects of connectivity in network design**, *Organizer*: Neil Olver, session 264			**COMB**
	Bundit Laekhanukit, Beyond Metric Embedding: Approximating Group Steiner on Bounded Treewidth Graphs	Mateusz Lewandowski, Approximating Node-Weighted k-MST on Planar Graphs	Andre Linhares, Improved Algorithms for MST and Metric-TSP Interdiction	Kanstantsin Pashkovich, On the Integrality Gap of the Prize-Collecting Steiner Forest LP
DURKHEIM Build A, Z 1 3rd floor 4x30 min	**Graphical Optimization Model 2**, *Organizer*: Maria I. Restrepo, session 297			**CP**
	Simon de Givry, Recent algorithmic advances for combinatorial optimization in graphical models	Thomas Schiex, Learning and using Graphical models to design new molecules	Maria Restrepo, Integrated staffing and scheduling for home healthcare	Daniel Kowalczyk, Solving parallel machine scheduling problems with B and P and decision diagrams

Room	Optimization under Uncertainty - Friday 8:30 AM – 10:30 AM			
DENIGES Build C, Z 5 Ground Floor 4x30 min	**Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 3**, *Organizer*: Vincent Leclère, session 245			**Stoch**
	David Morton, Distributionally Robust Dual Dynamic Programming	Andy Sun, Stochastic dual dynamic integer programming	Regan Baucke, A deterministic algorithm for solving stochastic minimax dynamic programmes	Vincent Leclère, Exact converging bounds for Stochastic Dual Dynamic Programming
Salle 32 Build B, Z 5 Ground Floor 4x30 min	**New methods for stochastic optimization and variational inequalities**, *Chair*: Yunxiao Deng, session 491			**Stoch**
	Alfredo Iusem, Extragradient method for pseudomonotone stochastic variational inequalities	Eduard Gorbunov, An Accelerated Randomized Method for Smooth Stochastic Convex Optimization	Mihai Anitescu, Stochastic Analogues to Deterministic Optimization Methods	Yunxiao Deng, Convex Stochastic Decomposition and Applications to Machine Learning
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**New Horizons in Robust Optimization**, *Organizer*: Angelos Georghiou, session 447			**Robust**
		Zhi Chen, Data-driven Chance Constrained Programs over Wasserstein Balls	Kilian Schindler, Cardinality-Constrained Clustering and Outlier Detection via Conic Optimization	Angelos Georghiou, A robust optimization prospective to decentralized decision making
Salle 31 Build B, Z 5 Ground Floor 4x30 min	**Advances in theory of dynamic programming**, *Chair*: Stephane L Gaubert, session 385			**Markov**
	Mauricio Junca, On controllability of Markov chains: A Markov Decision Processes approach	Angeliki Kamoutsi, Stochastic Convex Optimization and Regret Bounds for Apprenticeship Learning	Nabil Kahale, Randomized Dimension Reduction for Monte Carlo Simulations	Nikolas Stott, Dynamic programming over noncommutative spaces applied to switched systems
Salle 30 Build B, Z 5 Ground Floor 4x30 min	**Algorithmic Game Theory II**, *Chair*: Margarida Carvalho, session 372			**Game**
	Anja Huber, Efficient Black-Box Reductions for Separable Cost Sharing	Marton Benedek, Finding and verifying the nucleolus of cooperative games	Chuangyin Dang, Perfect d-Proper Equilibrium and Its Determination	Margarida Carvalho, Kidney Exchange Game

Room	Continuous Optimization - Friday 8:30 AM – 10:30 AM			
Salle 05 Build Q, Z 11 1st floor 4x30 min	**First order methods**, *Organizer*: Gerardo Toraldo, session 27			**NLP**
	Simone Rebegoldi, Variable metric techniques for the inexact inertial forward-backward algorithm	Daniela di Serafino, Combining IRN and gradient methods for TV-based Poisson image restoration	William Hager, An Active Set Algorithm for Polyhedral Constrained Optimization	Ignace Loris, A line-search based proximal gradient method for (non-)convex optimization
GINTRAC Build Q, Z 8 Ground Floor 4x30 min	**Stochastic and Nonlinear Optimization II**, *Organizer*: Jorge Nocedal, session 48			**NLP**
	Mark Schmidt, "Active-set complexity" of proximal-gradient: How long does it take to find the	Daniel Robinson, A Positive Outlook on Negative Curvature	Albert Berahas, Derivative-Free Optimization of Noisy Functions via Quasi-Newton Methods	Lin Xiao, Randomized Primal-Dual Algorithms for Asynchronous Distributed Optimization
Salle KC7 Build K, Z 10 Intermediate 2 4x30 min	**Regularization and Iterative Methods in Large-Scale Optimization**, *Organizer*: Jacek Gondzio, session 59			**NLP**
	Paul Armand, Local analysis of a regularized primal-dual algorithm for NLP without SOSC	Dominique Orban, Implementing a smooth exact penalty function for nonlinear optimization	Spyridon Pougkakiotis, Dynamic primal-dual regularization in interior point methods	Michael Saunders, Stabilized Optimization via an NCL Algorithm
Salle 9 Build N, Z 12 4th floor 4x30 min	**Decomposition Methods**, *Chair*: Roger Behling, session 431			**NLP**
	Roger Behling, Circumcentering the Douglas–Rachford method	Luiz-Rafael Santos, On the linear convergence of the circumcentered–reflection method	Yuan Shen, Alternating Direction Method of Multipliers for k-means Clustering	Leonardo Galli, A Nonomonotone Decomposition Framework: convergence analysis and applications
Salle LC4 Build L, Z 9 Intermediate 1 4x30 min	**Geometry in complexity analysis of non-smooth optimization methods**, *Organizer*: Jalal Fadili, session 199			**NonSmooth**
	Charles Dossal, An ODE associated to the Nesterov acceleration scheme	Guillaume Garrigos, Structured sparsity in inverse problems and support recovery	Anthony So, Error Bound-Based Convergence Rate Analysis of Newton-Type Methods	Jalal Fadili, Finite Activity Identification: Geometry and Algorithms
Salle 8 Build N, Z 12 4th floor 4x30 min	**Convergence analysis for non smooth optimization**, *Organizer*: Robert Csetnek, session 557			**NonSmooth**
	Robert Csetnek, ADMM for monotone operators: convergence analysis and rates	Mattias Fält, Optimal Convergence Rates for Generalized Alternating Projections	Alain Zemkoho, Newton method for bilevel optimization: Theory+extensive numerical experiments	Dennis Meier, Inducing strong convergence into the asymptotic behaviour of proximal splitting
Salle 20 Build G, Z 6 1st floor 4x30 min	**Copositive and completely positive optimization**, *Organizer*: Olga Kuryatnikova, session 24			**SDP**
	Peter Dickinson, A New Certificate For Copositivity	Markus Gabl, Copositive Approach to adjustable robust optimization	Juan Vera, Using Binary Programming to solve Copositive Optimization Problems	Olga Kuryatnikova, Copositive certificates of non-negativity for polynomials on unbounded sets
Salle LC5 Build L, Z 10 Intermediate 1 4x30 min	**Stability and scaling in conic programming**, *Chair*: Diego Cifuentes, session 498			**SDP**
	Roland Hildebrand, Scaling points and reach for non-self-scaled barriers	Hector Ramirez, Stability Analysis for Parameterized Conic Programs	Wei Zhang, An improved projection and rescaling algorithm for conic feasible problems	Diego Cifuentes, On the local stability of semidefinite relaxations
Salle 06 Build Q, Z 11 1st floor 4x30 min	**Stochastic Optimization and Variational Inequalites**, *Organizer*: Hailin Sun, session 149			**Variat**
	Huifu Xu, Behavioural Function Equilibria and Approximation Schemes in Bayesian Games	Shu Lu, Inference of two stage stochastic programs using SVI techniques	Xiaojun Chen, Theory and algorithms for two-stage stochastic variational inequalities	Hailin Sun, Sample average approximation of two-stage stochastic generalized equation
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x30 min	**Variational Analysis 3**, *Organizer*: Johanna Burtscheidt, session 369			**Variat**
	Johanna Burtscheidt, Stability and Small Application of a Risk Averse CP under Uncertainty	Hongbo Dong, Variable selection with heredity principles by nonconvex optimization	Goran Lesaja, Adaptive Full Newton-step Infeasible Interior-Point Method for Sufficient HLCP	Henri Bonnel, Application of Optimization over the Pareto set in Machine Learning
Salle KC6 Build K, Z 10 Intermediate 1 3x30 min	**Recent Advances in Coordinate Descent and Constrained Problems**, *Organizer*: Ion Necoara, session 208			**RandomM**
		Nicolas Loizou, Convergence Analysis of Inexact Randomized Iterative Methods	Konstantin Mishchenko, A Stochastic Penalty Model for Optimization with Many Convex Constraints	Ion Necoara, Random coordinate descent methods for linearly constrained convex optimization
Salle 21 Build G, Z 6 Intermediate 4x30 min	**Challenging applications in DFO**, *Chair*: Francesco Rinaldi, session 38			**DerFree**
	A Ismael Vaz, Global Direct Search and an application to Additive Manufacturing (3D Printing)	Stefano Lucidi, Derivative-free methods for complex black-box problems	Steven Gardner, Parallel Hybrid Multi-objective Derivative-Free Optimization for Machine Learning	Lukas Adam, Robust multi-objective optimization: Application to the recycling of plastics
Salle AURIAC Build G, Z 6 1st floor 3x30 min	**Optimal Control in Engineering Applications**, *Chair*: Maxime Grangereau, session 310			**Control**
		Masoumeh Mohammadi, A Priori Error Estimates for a Linearized Fracture Control Problem	Maxime Grangereau, Stochastic optimal control of a battery : resolution with McKean-FBSDE	Johanna Biehl, Adaptive Multilevel Optimization of Fluid-Structure Interaction

Room	Specific Models, Algorithms, and Software - Friday 8:30 AM – 10:30 AM			
FABRE Build J, Z 8 Ground Floor 3x30 min	**Dimensionality reduction tools for learning: A sketchy session**, *Organizer*: Robert M Gower, session 313			**Learning**
		Nicolas Keriven, Sketched Learning with Random Feature Moments	Arthur Mensch, Stochastic Subsampling for Factorizing Huge Matrices	Alessandro Rudi, Optimal kernel methods for large scale machine learning
Salle 16 Build I, Z 7 2nd floor 4x30 min	**Dealing with non-convexity**, *Chair*: Damek Davis, session 473			**Learning**
	Leonard Berrada, Smoothing Piecewise Linear Loss Functions for Deep Learning	Damek Davis, Convergence rates of stochastic methods for nonsmooth non-convex problems	Cong Ma, Implicit Regularization in Non-convex Statistical Estimation	Naoki Marumo, Provable Convex Minimization under Non-convex Submodular-structured Sparsity
Salle 18 Build I, Z 7 1st floor 4x30 min	**Telecommunications**, *Organizer*: Edoardo Amaldi, session 361			**Network**
	Michal Pioro, An Optimization Model for Quadratic Flow Thinning	Matthias Rost, Approximating the Virtual Network Embedding Problem: Theory and Practice	Chafiq Titouna, DDRA: Distributed Detection and Recovery Algorithm for Wireless Sensor Networks	Edoardo Amaldi, On the Virtual Network Embedding problem with substrate network expansion
PITRES Build O, Z 8 Ground Floor 4x30 min	**Hybrid Algorithms and Matheuristics for VRP**, *Organizer*: Thibaut Vidal, session 181			**Logistics**
	Thibaut Vidal, Heuristics for vehicle routing problems: Sequence or set optimization?	Dominique Feillet, Single Liner Service Design with Speed Optimization	Jean Bertran Gauthier, Heuristic pricing for the shortest path problem with resource constraints	Pedro Diniz, Garbage Collection Routing With Heterogeneous Fleet
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Scheduling Applications**, *Chair*: Mauricio C. de Souza, session 526			**Scheduling**
		Atsuko Ikegami, Generating many optimal solutions in nurse scheduling	Davaatseren Baatar, Mixed Integer Programming Based Merge Search for Open Pit Block Scheduling	Mauricio de Souza, Surgical scheduling under uncertainty by approximate dynamic programming
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Power Systems Models with Discrete Decision Variables**, *Organizer*: Adolfo R Escobedo, session 26			**Energy**
		Kai Pan, Co-optimizing Energy and Ancillary Services	Harsha Gangammanavar, Stochastic Framework for Coordinated Operation of Multiple Microgrids	Adolfo Escobedo, Generation of Angular Valid Inequalities for Transmission Expansion Planning
Salle DENUCE Build Q, Z 8 Ground Floor 4x30 min	**Machine Learning in State Estimation and Situational Awareness in Power Grids**, *Organizer*: Deepjyoti Deka, session 134			**Energy**
	Deepjyoti Deka, Learning with end-users in distribution grids:Topology and parameter estimation	Marc Vuffray, Online Learning of Power Transmission Dynamics	Mauro Escobar, Machine learning with PMU signals	Dongchan Lee, Convex polytope machine approach for transient stability assessment
Salle LA4 Build L, Z 8 Basement 3x30 min	**Finance and Portfolio Optimization**, *Organizer*: Asaf Shupo, session 395			**Sciences**
		Benjamin Heymann, Auction under ROI constraints	Gabriela Kovacova, Time Consistency of the Mean-Risk Problem	Asaf Shupo, Building Optimal Strategies Using Multi-Objective Optimization
Salle 22 Build G, Z 6 2nd floor 4x30 min	**New Developments in Optimization Modeling Software**, *Organizer*: Robert Fourer, session 101			**Algo**
	Steven Dirkse, Enhanced Model Deployment and Solution in GAMS	David Gay, Adding Functions to AMPL	Paul Kerr-Delworth, Optimization Modeling in MATLAB	Youngdae Kim, Efficient model generation for decomposition methods in modeling languages

Room	Invited Talks - Friday 11:00 AM – 12:00 AM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Tseng Memorial Lectureship in Continuous Optimization**, *Organizer*: Yaxiang Yuan, session 549			**SEMI**
LEYTEIRE Build E, Z 1 3rd floor 1x60 min	**Majority judgment** , *Organizer*: Martine Labbé, session 535			**KEYNOTE**
	Michel Balinski, Majority judgment			
DENIGES Build C, Z 5 Ground Floor 1x60 min	**Submodularity in mixed-integer quadratic and conic quadratic optimization**, *Organizer*: Daniel Bienstock, session 540			**KEYNOTE**
	Alper Atamturk, Submodularity in mixed-integer quadratic and conic quadratic optimization			
BROCA Build W, Z 0 3rd floor 1x60 min	**Modern Branch-and-Cut Implementation**, *Organizer*: Marc E Pfetsch, session 542			**KEYNOTE**
	Matteo Fischetti, Modern Branch-and-Cut Implementation			

Room	Invited Talks - Friday 1:30 PM – 2:30 PM			
Auditorium Build Symph H, Z 0 Gambetta 1x60 min	**Bounds for quantum graph parameters by conic and polynomial optimization**, *Organizer*: Frank Vallentin, session 553			**PLENARY**
	Monique Laurent, Bounds for quantum graph parameters by conic and polynomial optimization			

Room	Discrete Optimization & Integer Programming - Friday 3:15 PM – 4:45 PM			
Salle 34 Build B, Z 3 1st floor 3x30 min	**Polyhedral theory in practice**, *Organizer*: Mourad Baiou, session 309			**IPtheory**
	Rafael Colares, The Stop Number Minimization Problem: polyhedral analysis	Francisco Barahona, On the nucleolus of shortest path and network disconnection games	Mourad Baiou, On some network security games	
Salle 42 Build C, Z 1 3rd floor 3x30 min	**Extended Formulations**, *Chair*: Bartosz Filipecki, session 514			**IPtheory**
	Bernd Perscheid, An Extended Formulation for the 1-Wheels of the Stable Set Polytope	Mirjam Friesen, Extended formulations for higher-order spanning tree polytopes	Bartosz Filipecki, Stronger Path-based Extended Formulation for the Steiner Tree Problem	
Salle 44 Build C, Z 1 3rd floor 3x30 min	**Routing**, *Chair*: Cole Smith, session 484			**IPpractice**
	Imke Joormann, Solving the Time-Dependent TSP using Machine Learning Guidance	Ann-Brith Strömberg, Column generation for routing a fleet of plug-in hybrid vehicles	Cole Smith, The consistent path problem and binary decision diagrams	
Salle 36 Build B, Z 4 Intermediate 3x30 min	**IP Practice III**, *Chair*: Samuel S Brito, session 507			**IPpractice**
	Franco Quezada, Valid inequalities for solving a stochastic lot-sizing problem with returns	Samuel Brito, Improving COIN-OR CBC MIP Solver Using Conflict Graphs	Maximilian John, Two Lower Bound Approaches for the Keyboard Layout Problem	
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Outer Convexification and Mixed-Integer Optimal Control** , *Organizer*: Sebastian Sager, session 103			**MINLP**
	Paul Manns, Improved Regularity Assumptions for Partial Outer Convexification of MIPDECOs	Clemens Zeile, Combinatorial Integral Approximation Decompositions for Mixed-Integer Control	Oliver Habeck, Global optimization of ODE constrained network problems	
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Intersection cuts, disjunctions, and valid inequalities**, *Organizer*: Eli Towle, session 180			**MINLP**
	Daniel Bienstock, Outer-product-free Sets for Polynomial Optimization	Egon Balas, Synthetizing branch-and-bound information into cutting planes	Eli Towle, Intersection disjunctions for reverse convex sets	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**Branch-and-cut techniques**, *Organizer*: Teodora Dan, session 277			**MINLP**
	Teodora Dan, A branch-and-bound algorithm for a bilevel location-allocation model	Lovis Anderson, Improving branching for disjunctive models via approximate convex decompositions	Tu Nguyen, Learning with Cutting Planes	
LEYTEIRE Build E, Z 1 3rd floor 3x30 min	**Submodular Maximization.**, *Organizer*: Justin Ward, session 179			**APPROX**
	Ilija Bogunovic, Robust Maximization of Submodular Objs. in the Presence of Adversarial Removals	Alfredo Torrico, Robust submodular maximization under matroid constraints	Amin Karbasi, Submodular Optimization: From Discrete to Continuous and Back	
Salle 43 Build C, Z 1 3rd floor 3x30 min	**Submodular and Incremental Maximization**, *Organizer*: Martin Gross, session 340			**APPROX**
	Rajan Udwani, Multi-objective Maximization of Monotone Submodular Functions	Tasuku Soma, A New Approximation Guarantee for Submodular Maximization via Discrete Convexity	Martin Gross, General Bounds for Incremental Maximization	
SIGALAS Build C, Z 2 2nd floor 3x30 min	**Combinatorial aspects of Linear Programming**, *Organizer*: Daniel Dadush, session 259			**COMB**
	Sophie Huiberts, A Friendly Smoothed Analysis of the Simplex Method	Giacomo Zambelli, Geometric Rescaling Algorithms for Submodular Function Minimization	Neil Olver, A Simpler and Faster Strongly Polynomial Algorithm for Generalized Max-Flow	

Room	Optimization under Uncertainty - Friday 3:15 PM – 4:45 PM			
Salle 32 Build B, Z 5 Ground Floor 3x30 min	**Risk-aware decision making**, *Organizer*: Minseok Ryu, session 251			**Stoch**
	Hideaki Nakao, Medical Homecare Delivery with Time-dependent Stochastic Travel Time	Zheng Zhang, A stochastic programming approach for optimization of latent disease detection	Minseok Ryu, Nurse staffing under uncertain demand and absenteeism	
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**Distributionally Robust Optimization: Models and Applications**, *Organizer*: Selin D Ahipasaoglu, session 355			**Robust**
	Bikramjit Das, Heavy tails in a moment-constrained robust newsvendor model	Henry Lam, Robust Extreme Event Analysis	Selin Ahipasaoglu, Concentration versus Diversification in Portfolio Selection	
DENIGES Build C, Z 5 Ground Floor 3x30 min	**Distributionally Robust Optimization**, *Organizer*: Daniel Kuhn, session 446			**Robust**
	Napat Rujeerapaiboon, Chebyshev Inequalities for Products of Random Variables	Johannes Royset, Variational Theory for Optimization under Stochastic Ambiguity	Daniel Kuhn, Distributionally Robust Inverse Covariance Estimation	
Salle 31 Build B, Z 5 Ground Floor 3x30 min	**Discrete stochastic dynamic programming**, *Chair*: Adam Narkiewicz, session 384			**Markov**
	Victor Cohen, MILP formulations for discrete stochastic optimization (LIMIDs)	Axel Parmentier, LP relaxations for discrete stochastic optimization with variational inference	Adam Narkiewicz, A sequential decision process with stochastic action sets	
Salle 30 Build B, Z 5 Ground Floor 3x30 min	**Scalarization, representation and the comparison of methods in Multiobjective Optimization**, *Chair*: Tyler Perini, session 378			**Game**
	Kenza Oufaska, New scalarization technique for solving multi-objective problems	Tyler Perini, Approximation of the frontier for a biobjective MIP: comparison between methods	Kateryna Muts, Multi-Objective Optimization for the Compiler of Hard Real-Time Systems	

Room	Continuous Optimization - Friday 3:15 PM – 4:45 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Interior Point Methods in Engineering Applications I**, *Organizer*: Jacek Gondzio, session 60			**NLP**
	Sebastiaan Breedveld, A (non)convex interior-point implementation tuned for radiotherapy optimisation	Lovisa Engberg, Refined planning tools for external radiotherapy using interior point methods	Renke Kuhlmann, Computational Study of a Primal-Dual Penalty-Interior-Point Algorithm	
Salle 05 Build Q, Z 11 1st floor 3x30 min	**Nonlinear Optimization**, *Chair*: Marc C Steinbach, session 429			**NLP**
	Ademir Ribeiro, On the Approximate Solutions of Augmented Subproblems within Sequential Methods	Marc Steinbach, An Elastic Primal Active Set Method for Structured SQP	Hao Wang, A Dynamic Penalty Parameter Updating Strategy for SQP Methods	
Salle 20 Build G, Z 6 1st floor 3x30 min	**Global Optimization 2**, *Chair*: Mirjam Duer, session 502			**Global**
	Christian Füllner, Deterministic upper bounds in global minimization with equality constraints	Andrei Orlov, Nonconvex Optimization Approach to Equilibrium and Bilevel Problems	Tatiana Gruzdeva, On Solving the General Fractional Problem via D.C. Optimization	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Advances in the first-order methods for convex optimization**, *Organizer*: Angelia Nedich, session 73			**NonSmooth**
	Hoi To Wai, Accelerated curvature-aided incremental aggregated gradient method	Tatiana Tatarenko, Fast Incremental Gradient Method for Optimization with Linear Constraints	Maryam Yashtini, Efficient Methods For Edge-weighted TV Models with Sphere Constraints	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Relative Entropy Optimization I**, *Organizer*: Venkat Chandrasekaran, session 111			**SDP**
	Riley Murray, Exactness of Relative Entropy Relaxations for Signomial Programs	Hamza Fawzi, Certificates of nonnegativity via conic lifts	Michal Adamaszek, Exponential cone in MOSEK: overview and applications	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Algorithms for optimization and variational problems with possibly nonisolated solutions II**, *Organizer*: Alexey F. Izmailov, session 153			**Variat**
	Mikhail Solodov, A globally convergent LP-Newton method for piecewise smooth constrained equation	Daniel Steck, Some Developments on Multiplier Methods in Cone-Constrained Optimization	Paulo Silva, On the second order augmented Lagrangian method for MPCC	
Salle ARNOZAN Build Q, Z 8 Ground Floor 3x30 min	**Nash equilibrium and Games 2**, *Organizer*: Giancarlo Bigi, session 366			**Variat**
	Lorenzo Lampariello, Numerically tractable optimistic bilevel problems	Vadim Shmyrev, Polyhedral complementarity algorithms for equilibrium problems	Giancarlo Bigi, Semi-infinite programming via two player generalized Nash games and saddlepoints	
Salle 21 Build G, Z 6 Intermediate 3x30 min	**Advances in DFO IV**, *Chair*: Katya Scheinberg, session 125			**DerFree**
	Krzysztof Choromanski, New methods for blackbox optimization via structured gradient estimation	Katya Scheinberg, Scaling up and Randomizing Derivative Free Optimization for Machine Learning	Prashant Palkar, Globally Convergent Simulation-Based Optimization with Integer Variables	

Room	Specific Models, Algorithms, and Software - Friday 3:15 PM – 4:45 PM			
Salle 16 Build I, Z 7 2nd floor 3x30 min	**Discrete methods for data centers and graphs**, *Organizer*: Aaron Archer, session 477			**Learning**
	Philipp Keller, Overcommitment in Cloud Services - Bin Packing with Chance Constraints	Aaron Archer, Cache-aware load balancing of data center applications via balanced partitioning	Sergey Pupyrev, Compressing Graphs and Indexes with Recursive Graph Bisection	
FABRE Build J, Z 8 Ground Floor 3x30 min	**Classification, regression and clustering**, *Chair*: Dimitris Bertsimas, session 480			**Learning**
	Dimitris Bertsimas, Interpretable Machine Learning	Inácio Guimarães, Logistic Regression and Principal Curves Applied to Discriminant Analysis	James Brooks, Sufficient Conditions for L1-Norm Best-Fit Lines	
Salle 24 Build G, Z 6 3rd floor 3x30 min	**Vehicle Routing II**, *Chair*: Chris N Potts, session 412			**Logistics**
	Eduardo Uchoa, A Branch-Cut-and-Price Algorithm for the TSP with Hotel Selection	Chris Potts, Models and Algorithms for Dynamic Workforce Scheduling and Routing	Stefan Schaudt, Delivery robots, a transport innovation for the last mile	
Salle 18 Build I, Z 7 1st floor 3x30 min	**Machine Scheduling 1**, *Chair*: Renan S. Trindade, session 527			**Scheduling**
	Noam Goldberg, Maximum Probabilistic All-or-Nothing Paths and Critical Chains	Vitaly Strusevich, Max-Cost Scheduling with Controllable Processing Times and a Common Deadline	Renan Trindade, An arc-flow formulation for minimizing makespan on a batch processing machine	
Salle DENUCE Build Q, Z 8 Ground Floor 3x30 min	**Estimation and Learning for Power Systems**, *Organizer*: Javad Lavaei, session 25			**Energy**
	Yu Zhang, Performance Bound for Power System State Estimation via Conic Relaxations	Richard Zhang, Spurious Critical Points in Power System State Estimation	Ming Jin, Vulnerability analysis and robustification of power grid state estimation	
Salle 22 Build G, Z 6 2nd floor 3x30 min	**Optimization in Energy**, *Chair*: Andrea Simonetto, session 515			**Energy**
	Christiano Lyra, Upstream-downstream dynamic programming for optimization of tree-shaped flows	Milena Petkovic, Mathematical Programming for Forecasting Supplies and Demands in Gas Networks	Andrea Simonetto, Time-varying optimization: algorithms and engineering applications	
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Optimization for Energy System Planning**, *Chair*: Andrew Lu Liu, session 524			**Energy**
	Luigi Boffino, Expansion Planning of a Small Size Electric Energy System	Marion Lemery, Regaining tractability in SDDP algorithms for large energy planning problems	Andrew Liu, Capacity Expansion through Decentralized Optimization	
Salle LA4 Build L, Z 8 Basement 3x30 min	**Industrial dynamics and Environmental policy**, *Organizer*: Inmaculada Garcia Fernandez, session 392			**Sciences**
	Adriana Piazza, Dynamics of Environmental Policy	Nils-Hassan Quttineh, Challenges in Nutrient Recycling and Biogas Plant Localization	Inmaculada Garcia Fernandez, Use of dynamic programming in inventory control for perishable products	
PITRES Build O, Z 8 Ground Floor 3x30 min	**Computational Integer Programming I**, *Organizer*: Domenico Salvagnin, session 273			**Algo**
	Tobias Achterberg, Exploiting Degeneracy in MIP	Pierre Le Bodic, Online Estimation of the Size of the Branch and Bound Tree in MIP Solvers	Alinson Xavier, Multi-Row Intersection Cuts based on the Infinity Norm	

Room	Discrete Optimization & Integer Programming - Friday 5:00 PM – 6:30 PM			
Salle 34 Build B, Z 3 1st floor 4x20 min	**Machine Learning and Discrete Optimization**, *Organizer*: Sebastian Pokutta, session 308			**IPtheory**
	Matteo Fischetti, Building adversarial examples in Neural Networks by Mixed Integer Optimization	Anirbit Mukherjee, Mathematics of Neural Networks	Paul Grigas, Smart "Predict, then Optimize"	Sebastian Pokutta, Lazy Conditional Gradients through Simpler Oracles
Salle 44 Build C, Z 1 3rd floor 4x20 min	**Decomposition II**, *Chair*: Natashia Boland, session 487			**IPpractice**
	Andre Cire, Discrete Nonlinear Optimization by State-Space Decompositions	Jens Clausen, Strengthening of mixed integer linear program bounds using variable splitting	Cristiam Gil, A column generation based model to pickup and delivery problems with trans	Natashia Boland, Decomposition Branching for Mixed Integer Programming
Salle 36 Build B, Z 4 Intermediate 2x20 min	**Dual Ascent**, *Chair*: Sara Maqrot, session 505			**IPpractice**
	Stefania Pan, A dual ascent procedure for solving the generalized set partitioning model	Sara Maqrot, Improving Wedelin's Heuristic with Sensitivity Analysis for Set Partitioning		
DURKHEIM Build A, Z 1 3rd floor 3x30 min	**Mixed-Integer PDE-Constrained Optimization** , *Organizer*: Sven Leyffer, session 63			**MINLP**
	Meenarli Sharma, Inversion of Convection-Diffusion PDE with Discrete Source	Martin Siebenborn, Shape optimization towards binary variables with PDE constraints	Mirko Hahn, Set-valued steepest descent for binary topology and control optimization	
Salle 39 Build E, Z 1 3rd floor 3x30 min	**Global Optimization for nonconvex MINLPs**, *Organizer*: Hassan Hijazi, session 92			**MINLP**
	Anya Castillo, Global Optimization for AC Optimal Power Flow Applications	Harsha Nagarajan, Tight Piecewise Formulations and Algorithms for Global Optimization of MINLPs	Hassan Hijazi, Semidefinite Programming Cuts in Gravity	
Salle 35 Build B, Z 4 Intermediate 3x30 min	**Recent Advances and Applications of MINLP**, *Organizer*: Jose M Ucha, session 139			**MINLP**
	Victor Blanco, Duality and multidimensional kernels in ℓ_p-Support Vector Machines	Jose Ucha, An algebraic exact method for multi-objective RAP in series-parallel systems.	Jeffrey Zhang, On Testing Attainment of the Optimal Value in Nonlinear Optimization	
LEYTEIRE Build E, Z 1 3rd floor 4x20 min	**Algorithmic Fairness and Optimization**, *Organizer*: Nisheeth K Vishnoi, session 161			**APPROX**
	Krishna Gummadi, Measuring Algorithmic (Un)Fairness via Inequality Indices	Elisa Celis, Controlling Bias in Bandit-based Personalization	Omer Reingold, Calibration for the (Computationally-Identifiable) Masses	Nisheeth Vishnoi, Fair and Diverse DPP-based Data Summarization
Salle 43 Build C, Z 1 3rd floor 3x30 min	**Algorithmic Discrepancy**, *Organizer*: Nikhil Bansal, session 164			**APPROX**
	Aleksandar Nikolov, Balancing Vectors in Any Norm	Daniel Dadush, The Gram-Schmidt Walk: A cure to the Banaszczyk Blues	Rebecca Hoberg, A Fourier-Analytic Approach For Random Set systems	
SIGALAS Build C, Z 2 2nd floor 3x30 min	**Packing Steiner Trees**, *Organizer*: Stephan Held, session 260			**COMB**
	Dirk Müller, Global Routing with Timing Constraints	Pietro Saccardi, Steiner Tree Packing in Rhomboidal Tiles	Tilmann Bihler, Reach- and Direction-Restricted Rectilinear Steiner Trees	
Salle 41 Build C, Z 1 3rd floor 4x20 min	**Optimization problems in graphs and related**, *Chair*: Claudio Arbib, session 423			**COMB**
	Xiucui Guan, Critical node problem based on connectivity index and properties of components	Binwu Zhang, Inverse Obnoxious Spanning Tree Problems under Hamming Distance	Ping Zhan, The random assignment problem on a full preference domain with submodular	Matteo Tonelli, On uncapacitated metric location and pricing

Room	Optimization under Uncertainty - Friday 5:00 PM – 6:30 PM			
Salle 30 Build B, Z 5 Ground Floor 3x20 min	**Topics in stochastic optimization**, *Chair*: Quentin Mercier, session 494			**Stoch**
	Sakina Melloul, Flexible Multi-choice Goal Programming with Fuzzy Data	Kerstin Lux, Optimal inflow control in supply systems with uncertain demands	Quentin Mercier, A descent algorithm for stochastic multiobjective optimization problems	
Salle 37 Build B, Z 4 Intermediate 4x20 min	**Robust Combinatorial Optimization II**, *Organizer*: Agostinho Agra, session 168			**Robust**
	Ayse Arslan, Robust Strategic Planning of Phytosanitary Treatments in Agriculture	Marco Silva, Exact Solution Algorithms for the Robust Total Tardiness Problem	Agostinho Agra, A Lagrangean dual model for the robust inventory problem	Yasaman Mozafari, Robust Expansion Planning of Interdependent Electricity, Gas, and Heat
Salle 33 Build B, Z 5 Ground Floor 3x30 min	**Wasserstein Distributionally Robust Optimization**, *Organizer*: Peyman Mohajerin Esfaha, session 448			**Robust**
	Viet Anh Nguyen, Risk-Averse Optimization over Structured Wasserstein Ambiguity Set	Jose Blanchet, Wasserstein DRO: Modeling and Optimal Choice of Uncertainty Size	Peyman Mohajerin Esfaha, Data-driven Inverse Optimization with Imperfect Information	
Salle 31 Build B, Z 5 Ground Floor 3x30 min	**Tractability and approximation algorithms in dynamic programming**, *Chair*: Alexander V. Hopp, session 383			**Markov**
	Yann Dujardin, Sample-Based Approximate GMDP Solution with Theoretical Guarantees	Giacomo Nannicini, An FPTAS for stochastic DPs with multidimensional action and scalar state	Alexander Hopp, On Friedmann's subexponential lower bound for Zadeh's pivot rule	

Room	Continuous Optimization - Friday 5:00 PM – 6:30 PM			
GINTRAC Build Q, Z 8 Ground Floor 3x30 min	**Moment relaxations for polynomial optimization with symmetries**, *Organizer*: Markus Schweighofer, session 10			**NLP**
	Frank Vallentin, Coloring the Voronoi tessellation of lattices	Cordian Riener, Semidefinite optimization and arithmetic progressions	Philippe Moustrou, The upper density of sets avoiding norm one in the real space of dimension n	
Salle KC7 Build K, Z 10 Intermediate 2 3x30 min	**Subspace methods in NLP II**, *Organizer*: Panos Parpas, session 44			**NLP**
	Panos Parpas, Distributed Subspace Decomposition	Emre Mengi, Subspace Frameworks for Eigenvalue Optimization	Jaroslav Fowkes, A block-coordinate Gauss-Newton method for nonlinear least squares	
Salle 05 Build Q, Z 11 1st floor 4x20 min	**Primal-dual and ADMM algorithms for nonlinear programming**, *Organizer*: Marco Sciandrone, session 91			**NLP**
	Ahmet Alacaoglu, Smooth Primal-Dual Coordinate Descent for Nonsmooth Convex Optimization	N. Serhat Aybat, A primal-dual algorithm for general convex-concave saddle point problems	Mario Figueiredo, ADMM with Plug-and-Play Regularizers: Convergence Guarantees and Applications	Giulio Galvan, Alternating minimization methods for constrained nonconvex optimization
Salle 9 Build N, Z 12 4th floor 3x20 min	**Linear Optimization I**, *Chair*: Jianming Shi, session 415			**NLP**
	Zhize Li, A Fast Polynomial-time Primal-Dual Projection Algorithm for Linear Programming	Jianming Shi, A polarity-based algorithm for solving linear programming problems	Maxim Demenkov, An algorithm for linear programming based on the projection onto a zonotope	
Salle 20 Build G, Z 6 1st floor 3x30 min	**Global Optimization 1**, *Chair*: Jean-Baptist Hiriart-Urruty, session 501			**Global**
	Fabio Schoen, New clustering methods for large scale global optimization	Sergiy Butenko, Continuous Approaches to Cluster-Detection Problems in Networks	Julio González-Díaz, Computational advances in the RLT algorithms: A freely available implementation	
Salle 8 Build N, Z 12 4th floor 3x30 min	**Nonsmooth DC optimization with applications**, *Chair*: Napsu Karmitsa, session 46			**NonSmooth**
	Sona Taheri, PIECEWISE LINEAR REGRESSION VIA NONSMOOTH DC OPTIMIZATION	Kaisa Joki, Double Bundle Method for Nonsmooth DC Optimization	Napsu Karmitsa, Support vector machines for clusterwise linear regression	
Salle LC4 Build L, Z 9 Intermediate 1 3x30 min	**Nonconvex Optimization: Theory and Methods - Part 3**, *Organizer*: Genaro Lopez, session 188			**NonSmooth**
	Alexander Shtof, Globally Solving a Class of Optimal Power Flow Problems in Radial Networks	Matthew Tam, Algorithms based on unions of nonexpansive maps	Genaro Lopez, What do 'convexities' imply on Hadamard manifolds?	
Salle AURIAC Build G, Z 6 1st floor 3x30 min	**Computer-assisted analyses of optimization algorithms II**, *Organizer*: Adrien Taylor, session 16			**SDP**
	Etienne De Klerk, SDP performance analysis of inexact Newton-type methods for self-concordant func	Riley Badenbroek, A Universal Interior Point Method Using Hit-and-Run Sampling	Adrien Taylor, Worst-case analyses of stochastic gradient-based methods using SDPs	
Salle LC5 Build L, Z 10 Intermediate 1 3x30 min	**Sparse Semidefinite Programming**, *Organizer*: Somayeh Sojoudi, session 17			**SDP**
	Martin Andersen, Sparse Semidefinite Relaxations of Communicability-Based Graph Partition Problem	Cedric Josz, Lasserre hierarchy for large scale polynomial optimization	Somayeh Sojoudi, Fast Algorithms for Max-Det Matrix Completion and Graphical Lasso	
Salle 06 Build Q, Z 11 1st floor 3x30 min	**Nonlinear Optimization and Variational Inequalities IV**, *Organizer*: Cong Sun, session 144			**Variat**
	Junfeng Yang, A TVSCAD approach for image deblurring with impulsive noise	Chengjing Wang, A semismooth Newton based augmented Lagrangian method for solving SVM problems	Chao Ding, Matrix optimization in data science: recent progress on algorithm foundation	
Salle ARNOZAN Build Q, Z 8 Ground Floor 4x20 min	**Variational Analysis 2**, *Organizer*: David Salas, session 367			**Variat**
	Ba Khiet Le, Maximal Monotonicity Arising in Nonsmooth Lur'e Dynamical systems	Emilio Vilches, Lyapunov pairs for perturbed sweeping processes	Parin Chaipunya, Proximal Algorithms in Hadamard Spaces	David Salas, Quasi-Variational Inequality problems over product sets
Salle KC6 Build K, Z 10 Intermediate 1 4x20 min	**Algorithms for Structured Statistical Optimization**, *Chair*: Ilker Birbil, session 349			**RandomM**
	Ilker Birbil, A Differentially Private Stochastic Gradient Descent Algorithm with Smoothing	Lijun Ding, Leave-one-out approach for statistical optimization	Greg Ongie, Adaptive Sampling for Online Subspace Estimation	Saeed Ghadimi, Approximation Methods for Bilevel Programming
Salle 21 Build G, Z 6 Intermediate 2x30 min	**Derivative-free global optimization algorithms**, *Chair*: Zaikun Zhang, session 41			**DerFree**
	Limeng Liu, Optimization with global surrogate and trust-region assisted local search	Anne Auger, Benchmarking Bayesian, Derivative-Free, and Stochastic Blackbox Algorithms		

Room	Specific Models, Algorithms, and Software - Friday 5:00 PM – 6:30 PM			
FABRE Build J, Z 8 Ground Floor 4x20 min	**Spectral and Semidefinite Methods for Learning**, *Organizer*: Martin Jaggi, session 321			**Learning**
	Maryam Fazel, Competitive Online Algorithms with Application to Optimal Experiment Design	Michael Fanuel, Positive semi-definite embedding for dimensionality reduction	Kimon Fountoulakis, Variational Perspective on Local Graph Clustering	Saverio Salzo, Solving lp-norm regularization with tensor kernels
Salle 18 Build I, Z 7 1st floor 4x20 min	**Transportation networks**, *Chair*: Bernard Gendron, session 359			**Network**
	Parisa Charkhgard, The network maintenance problem	Yasufumi Saruwatari, Airspace sectorization by set-partitioning approach	Bin Li, Joint Transceiver Optimization for Wireless Information and Energy Transfer	Bernard Gendron, Node-Based Lagrangian Relaxations for Multicommodity Network Design
Salle 16 Build I, Z 7 2nd floor 2x20 min	**Logistics Networks**, *Chair*: El Hassan Laaziz, session 468			**Logistics**
	Yasushi Narushima, Robust supply chain network equilibrium model with random demands	Guillaume Marques, Method Benchmarking for Two-Echelon Capacitated Vehicle Routing		
Salle 23 Build G, Z 6 3rd floor 3x30 min	**Energy-aware planning and scheduling 2**, *Organizer*: Christian Artigues, session 178			**Energy**
	Paul Javal, Modelling uncertainties in short-term operational planning optimization	Aurélien Froger, Solving an electric vehicle routing problem with capacitated charging stations	Christian Artigues, Polyhedral approach for a continuous energy-constrained scheduling problem	
Salle 24 Build G, Z 6 3rd floor 3x20 min	**Stochastic Methods for Energy Optimization**, *Chair*: Tristan Rigaut, session 294			**Energy**
	Clara Lage, Stabilization of Price Signals in Energy Optimization	Guilherme Matiussi Ramalho, Stochastic Unit Commitment Problem: an Exact Probabilistic Constrained Approach	Tristan Rigaut, Long term management of energy storage using stochastic optimization	
Salle LA4 Build L, Z 8 Basement 4x20 min	**Optimization and Game Theory**, *Organizer*: Veerle Timmermans, session 402			**Sciences**
	Matthias Feldotto, Computing Approximate Pure Nash Equilibria in Shapley Value Weighted Congestion	Cosimo Vinci, Dynamic taxes for polynomial congestion games	Bjoern Tauer, Competitive Packet Routing	Veerle Timmermans, Equilibrium Computation in Atomic Splittable Polymatroid Congestion Games
PITRES Build O, Z 8 Ground Floor 3x30 min	**Computational Integer Programming II**, *Organizer*: Domenico Salvagnin, session 274			**Algo**
	Gregor Hendel, Tighter LP relaxations for configuration knapsacks using extended formulations	Dimitrios Letsios, Lexicographic Optimization and Recovery in Two-Stage Robust Scheduling	Roland Wunderling, Dynamic Row Disablement: a practical Implementation of the Kernel Simplex Method	

Sessions with Abstracts

On the relationship between machine learning and optimization

Invited Talks
PLENARY - Mo 11:00am-12:00am, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 552
Organizer: Michel Goemans, MIT, US

1 - On the relationship between machine learning and optimization
Speaker: Francis Bach, INRIA - ENS, FR, talk 1564

What's happening in nonconvex optimization? A couple of stories

Invited Talks
KEYNOTE - Mo 1:30pm-2:30pm, Format: 1x60 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Invited Session 536
Organizer: Jean-Baptist Hiriart-Urruty, Paul Sabatier University, FR

1 - What's happening in nonconvex optimization? A couple of stories
Speaker: Emmanuel Candes, Stanford University, US, talk 1688
Co-Authors: *Yuxin Chen*,

Theoretical Analysis of Cutting-Planes in IP Solvers.

Invited Talks
KEYNOTE - Mo 1:30pm-2:30pm, Format: 1x60 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 538
Organizer: Gerard Cornuejols, Carnegie Mellon University, US

1 - Theoretical Analysis of Cutting-Plane Selection in IP Solvers.
Speaker: Santanu Dey, GaTech, US, talk 1595
Co-Authors: *Marco Molinaro*,

Multiobjective Optimization with PDE Constraints

Invited Talks
SEMI - Mo 1:30pm-2:30pm, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 550
Organizer: Stephen Wright, U Wisconsin-Madison, US

1 - Multiobjective Optimization with PDE Constraints
Speaker: Michael Hintermüller, WIAS Berlin, DE, talk 1687

Polynomial and tensor optimization I

Continuous Optimization
NLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 5
Organizer: Jiawang Nie, Univ. of California San Diego, US

1 - Sparse Polynomial Interpolation: Compressed Sensing, Super-resolution, or Prony?
Speaker: Jean Lasserre, CNRS, FR, talk 309
Co-Authors: *Cedric Josz*, *Bernard Mourrain*,
2 - Eigenvalues inequalities for nonnegative tensors and their tropical analogues
Speaker: Stephane Gaubert, INRIA, FR, talk 1415
Co-Authors: *Shmuel Friedland*,
3 - Signal Denoising, Tensors and Singular Values
Speaker: Harm Derksen, University of Michigan, US, talk 318
Co-Authors: *Neriman Tokcan*,

Progress in Algorithms for Optimal Power Flow Problems I

Specific Models, Algorithms, and Software
Energy - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 8
Organizer: Miguel Anjos, Polytechnique Montreal, CA

1 - Solving an Optimal Power Flow (OPF) problem with preventive security constraints
Speaker: Manuel Ruiz, RTE, FR, talk 1237
Co-Authors: *Julie Sliwak*, *Miguel Anjos*, *Lucas Letocart*, *Emiliano Traversi*,
2 - Tight-and-Cheap Conic Relaxation for the AC Optimal Power Flow Problem
Speaker: Miguel Anjos, Polytechnique Montreal, CA, talk 256
Co-Authors: *Christian Bingane*, *Sébastien Le Digabel*,
3 - Coordinated Planning and Operation of M-FACTS

and Transmission Switching
Speaker: Mostafa Sahraei Ardakani, University of Utah, US, talk 169
Co-Authors: *Yuanrui Sang*,

Exact Optimization Algorithms for Compressed Sensing

Discrete Optimization & Integer Programming
MINLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 56
Organizer: Marc Pfetsch, TU Darmstadt, DE

1 - A primal-dual homotopy algorithm for sparse recovery with inf. norm constraints
Speaker: Christoph Brauer, TU Braunschweig, DE, talk 200
Co-Authors: *Dirk Lorenz*, *Andreas Tillmann*,
2 - SparkMIP: Mixed-Integer Programming for the (Vector) Matroid Girth Problem
Speaker: Andreas Tillmann, RWTH Aachen University, DE, talk 593
3 - Complex-valued ℓ_0 minimization problems with constant modulus constraints
Speaker: Frederic Matter, TU Darmstadt, DE, talk 380
Co-Authors: *Tobias Fischer*, *Ganapati Hegde*, *Marius Pesavento*, *Marc Pfetsch*, *Andreas Tillmann*,

Mixed-integer derivative-free optimization

Continuous Optimization
DerFree - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 80
Chair: Clément Royer, UW-Madison, US

1 - Underlying algorithms and theory to our approach to MINLP without derivatives
Speaker: Andrew Conn, IBM T. J. Watson Res. Center, US, talk 1134
Co-Authors: *Delphine Sinoquet*, *Claudia D'Ambrosia*, *Leo Liberti*,
2 - Benchmark of a trust region method for solving black-box mixed-integer problems
Speaker: Delphine Sinoquet, IFPEN, FR, talk 610
Co-Authors: *Andrew Conn*, *Claudia D Ambrosio*, *Leo Liberti*,
3 - A unified approach for solving mixed integer Box-Constrained optimization
Speaker: Ubaldo Garcia Palomares, Universidade de Vigo, ES, talk 750

Geometry of Polynomials and Applications in Approximate Counting

Discrete Optimization & Integer Programming
APPROX - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 99
Organizer: Shayan Oveis Gharan, University of Washington, US

1 - On a conjecture of Sokal on the location of roots of the independence polynomial
Speaker: Guus Regts, University of Amsterdam, NL, talk 296
Co-Authors: *Han Peters*, *Viresh Patel*,
2 - Zeros of polynomials and Ising partition functions
Speaker: Piyush Srivastava, TIFR Mumbai, IN, talk 949
Co-Authors: *Jingcheng Liu*, *Alistair Sinclair*,
3 - A Deterministic Approximation Algorithm for Counting Bases of Matroids
Speaker: Nima Anari, Stanford University, US, talk 791
Co-Authors: *Shayan Oveis Gharan*, *Cynthia Vinzant*,

Using SDP relaxations and solving them faster

Continuous Optimization
SDP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 113
Organizer: Elisabeth Gaar, AAU Klagenfurt, AT

1 - Exact SDPs for a Class of (Random and Non-Random) Nonconvex QCQPs
Speaker: Samuel Burer, University of Iowa, US, talk 98
Co-Authors: *Yinyu Ye*,
2 - SDP Based Solution Methods for Binary Quadratic Problems
Speaker: Nicolo Gusmeroli, AAU - Klagenfurt, AT, talk 378
Co-Authors: *Angelika Wiegele*, *Franz Rendl*,
3 - Sieve-SDP: A simple facial reduction algorithm to preprocess SDPs
Speaker: Yuzixuan Zhu, University of North Carolina, US, talk 317
Co-Authors: *Gabor Pataki*, *Quoc Tran-Dinh*,

Tight relaxations in nonconvex MINLP

Discrete Optimization & Integer Programming
MINLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 128
Organizer: Ambros Gleixner, Zuse Institute Berlin, DE

1 - Using mixed volume theory to compute convex hull volume for trilinear monomials
Speaker: Emily Speakman, Otto von Guericke University, DE, talk 878
Co-Authors: *Gennadiy Averkov*,
2 - Revising the handling of nonlinear constraints in SCIP

Speaker: Stefan Vigerske, GAMS Software GmbH, DE, talk 1005
Co-Authors: *Benjamin Müller*, *Felipe Serrano*, *Fabian Wegscheider*,
3 - Two-dimensional Projections for Separation and Propagation of Bilinear Terms
Speaker: Ambros Gleixner, Zuse Institute Berlin, DE, talk 1248
Co-Authors: *Benjamin Müller*, *Felipe Serrano*,

Proximal Methods for Structured Problems

Continuous Optimization
Variat - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 147
Organizer: Ting Kei Pong, HK Polytechnic University, HK

1 - A successive DC approximation method for nonconvex nonsmooth optimization
Speaker: Tianxiang Liu, PolyU, HK, talk 75
Co-Authors: *Ting Kei Pong*, *Akiko Takeda*,
2 - Cubic Regularization Revisited: Faster (Local) Rates under Weaker Assumptions
Speaker: Man-Chung Yue, Imperial College London, GB, talk 48
Co-Authors: *Zirui Zhou*, *Anthony So*,
3 - Iteratively reweighted l1 algorithms with extrapolation
Speaker: Ting Kei Pong, HK Polytechnic University, HK, talk 17
Co-Authors: *Peiran Yu*,

Algorithms for optimization and variational problems with possibly nonisolated solutions I

Continuous Optimization
Variat - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 152
Organizer: Andreas Fischer, TU Dresden, DE

1 - A special complementarity function revisited
Speaker: Nico Strasdat, TU Dresden, DE, talk 229
Co-Authors: *Roger Behling*, *Andreas Fischer*, *Klaus Schönefeld*,
2 - Critical solutions of nonlinear equations: attraction for Newton-type methods
Speaker: Alexey Izmailov, Moscow State University, RU, talk 108
Co-Authors: *Aleksey Kurennoy*, *Mikhail Solodov*,
3 - Local attraction of Newton methods to critical solutions of constrained systems
Speaker: Andreas Fischer, TU Dresden, DE, talk 230
Co-Authors: *Alexey Izmailov*, *Mikhail Solodov*,

Approximate dynamic programming

Optimization under Uncertainty
Markov - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Invited Session 159
Organizer: David Brown, Duke University, US

1 - Information Relaxation Bounds for Partially Observed Markov Decision Processes
Speaker: Martin Haugh, Imperial College London, GB, talk 314
Co-Authors: *Octavio Ruiz-Lacedelli*,
2 - Approximate Dynamic Programming for Dynamic Assortment Optimization
Speaker: Huseyin Topaloglu, Cornell Tech, US, talk 1280
Co-Authors: *Mika Sumida*, *Paat Rusmevichientong*,
3 - Approximations to Stochastic Dynamic Programs via Information Relaxation Duality
Speaker: David Brown, Duke University, US, talk 1284
Co-Authors: *Santiago Balseiro*,

MINLP methods in gas transport optimization (I)

Discrete Optimization & Integer Programming
MINLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 162
Organizer: Lars Schewe, FAU, DE

1 - MIP techniques for instationary gas transport optimization and gas market models
Speaker: Lars Schewe, FAU, DE, talk 1298
2 - Solving MINLPs by Simultaneous Convexification with Application to Gas Networks
Speaker: Nick Mertens, TU Dortmund, DE, talk 742
Co-Authors: *Maximilian Merkert*, *Dennis Michaels*, *Frauke Liers*, *Alexander Martin*,
3 - Complementarity-Based Nonlinear Programming Techniques for Optimal Mixing in Gas
Speaker: Falk Hante, FAU Erlangen-Nürnberg, DE, talk 1288
Co-Authors: *Martin Schmidt*,

Preference robust optimization

Optimization under Uncertainty
Robust - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 166
Organizer: Erick Delage, HEC Montréal, CA

1 - Robust choice with multi-attribute quasi-concave choice functions
Speaker: William Haskell, National Univ. of Singapore, SG, talk 1168

Co-Authors: *Wenjie Huang*, *Huifu Xu*,
2 - Optimizing aspirational preferences when the choice of a measure is ambiguous
Speaker: Jonathan Li, Telfer School of Management, CA, talk 1409
Co-Authors: *Erick Delage*,
3 - Utility-based Shortfall Risk Models when Preference Information is Incomplete
Speaker: Erick Delage, HEC Montréal, CA, talk 1081
Co-Authors: *Shaoyan Guo*, *Huifu Xu*,

Nonconvex Optimization: Theory and Methods - Part 1

Continuous Optimization
NonSmooth - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12
Invited Session 184
Organizer: Shoham Sabach, Technion - Israel Institute of, IL

1 - From error bounds to the complexity of first-order descent methods
Speaker: Jerome Bolte, TSE, FR, talk 463
2 - Globally Solving the Trust Region Subproblem Using Simple First-Order Methods
Speaker: Yakov Vaisbourd, TAU, IL, talk 493
Co-Authors: *Amir Beck*,
3 - Nonconvex Lagrangian-Based Optimization: Schemes and Global Convergence
Speaker: Shoham Sabach, Technion - Israel Institute of, IL, talk 165

Coordinate Descent and Randomized Direct Search Methods

Continuous Optimization
RandomM - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10
Invited Session 211
Organizer: Martin Takac, Lehigh University, US

1 - When Cyclic Coordinate Descent Outperforms Randomized Coordinate Descent
Speaker: Asu Ozdaglar, MIT, US, talk 1486
Co-Authors: *Mert Gurbuzbalaban*, *Nuri Vanli*, *Pablo Parrilo*,
2 - Random direct search method for unconstrained smooth minimization
Speaker: El houcine Bergou, KAUST-INRA, SA, talk 421
Co-Authors: *Peter Richtarik*, *Eduard Gorbunov*,
3 - Active Metric Learning for Supervised Classification
Speaker: Dimitri Papageorgiou, ExxonMobil, US, talk 1275
Co-Authors: *Krishnan Kumaran*, *Martin Takac*,

Convex regularization and inverse problems

Continuous Optimization
NLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11
Invited Session 216
Organizer: Pierre Weiss, CNRS, FR

1 - T-systems for super-resolution microscopy
Speaker: Vincent Duval, INRIA Paris, FR, talk 1023
Co-Authors: *Gabriel Peyre*, *Emmanuel Soubies*, *Quentin Denoyelle*,
2 - Convex regularisation, sparsity and representation theorem
Speaker: Frederic De Gournay, IMT toulouse, FR, talk 1130
Co-Authors: *Vincent Duval*, *Pierre Weiss*, *Claire Boyer*, *Antonin Chambolle*, *Yohann de Castro*,
3 - Bounds on the size of polyedral cones
Speaker: Jonas Kahn, CNRS, FR, talk 1033

Provable guarantees for Cut Generating Functions

Discrete Optimization & Integer Programming
IPtheory - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1
Invited Session 220
Organizer: Amitabh Basu, Johns Hopkins University, US

1 - Using the geometry of S-free sets to find mixed-integer cut-generating functions
Speaker: Joseph Paat, ETH Zurich, CH, talk 1131
Co-Authors: *Amitabh Basu*, *Santanu Dey*,
2 - Can cut generating functions be good and efficient?
Speaker: Sriram Sankaranarayanan, Johns Hopkins University, US, talk 391
Co-Authors: *Amitabh Basu*,
3 - Optimal cutting planes from the group relaxations
Speaker: Amitabh Basu, Johns Hopkins University, US, talk 409
Co-Authors: *Michele Conforti*, *Marco Di Summa*, *Giacomo Zambelli*,

On the Tree Augmentation Problem

Discrete Optimization & Integer Programming
COMB - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2
Invited Session 240
Organizer: Laura Sanità, University of Waterloo, CA

1 - Beating Approximation Factor 2 For Weighted Tree Augmentation With Bounded Costs
Speaker: David Adjiashvili, ETH Zurich, CH, talk 272
2 - Improved Approximation for Tree Augmentation via Chvatal Gomory Cuts
Speaker: Jochen Koenemann, University of Waterloo, CA, talk 137
Co-Authors: *Samuel Fiorini*, *Martin Gross*, *Laura Sanità*,

3 - Improved Approximation for Tree Augmentation: Saving by Rewiring
Speaker: Rico Zenklusen, ETH Zurich, CH, talk 407
Co-Authors: *Fabrizio Grandoni*, *Christos Kalaitzis*,

Combinatorial Optimization in Chip Design

Specific Models, Algorithms, and Software
Scheduling - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 257
Organizer: Stefan Hougardy, University of Bonn, DE

1 - Faster Adder Circuits for Inputs with Prescribed Arrival Times
Speaker: Ulrich Brenner, University of Bonn, DE, talk 387
Co-Authors: *Anna Hermann*,
2 - BonnCell: Automatic Cell Layout for 7nm Processors
Speaker: Pascal Cremer, University of Bonn, DE, talk 450
Co-Authors: *Stefan Hougardy*, *Thekla Hamm*, *Benjamin Klotz*, *Robert Vicari*, *Simon Thomä*,
3 - Provably Fast and Near-Optimum Gate Sizing
Speaker: Siad Daboul, University of Bonn, DE, talk 345
Co-Authors: *Nicolai Hähnle*, *Stephan Held*, *Ulrike Schorr*,

Scenario discretization techniques in stochastic optimization

Optimization under Uncertainty
Stoch - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 287
Organizer: Fabian Bastin, Université de Montréal, CA

1 - On a two-stage stochastic optimization problem with stochastic constraints
Speaker: Thuy Anh Ta, University of Montreal, CA, talk 1128
Co-Authors: *Fabian Bastin*, *Pierre L'Ecuyer*,
2 - Multistage stochastic optimization: discretization of probability distributions
Speaker: Julien Keutchayan, Polytechnique Montréal, CA, talk 1125
Co-Authors: *David Munger*, *Fabian Bastin*, *Michel Gendreau*,
3 - Effective Heuristics for the Short-Term Hydro-Generation Planning Problem
Speaker: Michel Gendreau, Polytechnique Montréal, CA, talk 670
Co-Authors: *Alexia Marchand*, *Marko Blais*, *Grégory Emiel*,

Global Optimization

Discrete Optimization & Integer Programming
CP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 299
Organizer: Hassan Hijazi, Los Alamos National Laboratory, US

1 - A class of proximal algorithms based on Chebychev centers for nonsmooth convex o
Speaker: Adam Ouorou, Orange Labs Research, FR, talk 657
2 - Convex relaxations for Mixed-Integer Multilinear Functions
Speaker: Kaarthik Sundar, Los Alamos National Laboratory, US, talk 1402
Co-Authors: *Harsha Nagarajan*, *Hassan Hijazi*, *Russell Bent*,
3 - Sparse Certificates for Polynomial Optimization
Speaker: Tillmann Weisser, LAAS-CNRS, FR, talk 860

Distributed Optimization

Specific Models, Algorithms, and Software
Learning - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 325
Organizer: Franck Iutzeler, Univ. Grenoble Alpes, FR

1 - Distributed Optimization with Sparse Communications and Structure Identification
Speaker: Franck Iutzeler, Univ. Grenoble Alpes, FR, talk 452
Co-Authors: *Dmitry Grishchenko*, *Jerome Malick*, *Massih-Reza Amini*,
2 - Random gradient extrapolation for distributed and stochastic optimization
Speaker: Guanghui Lan, Georgia Institute of Technolog, US, talk 1584
3 - Distributed Computation of Wasserstein Barycenters over Networks
Speaker: Alexander Gasnikov, MIPT, RU, talk 315
Co-Authors: *Cesar Uribe*, *Pavel Dvurechensky*, *Darina Dvinskikh*, *Angelia Nedich*,

Theory and Methods for ODE- and PDE-Constrained Optimization 1

Continuous Optimization
Control - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Contributed Session 331
Chair: Carl Greiff, Lund Unversity, SE

1 - On the Barzilai-Borwein step-sizes in Hilbert spaces
Speaker: Behzad Azmi, RICAM Linz, AT, talk 831
Co-Authors: *Karl Kunisch*,
2 - Shape Optimization with Stress Constraints for Frictional Contact Problems
Speaker: Benjamin Horn, TU Darmstadt, DE, talk 754
Co-Authors: *Stefan Ulbrich*,
3 - Quadratic programmimg for time-optimal control in

differentially flat systems
Speaker: Carl Greiff, Lund Unversity, SE, talk 1484
Co-Authors: *Anders Robertsson*,

Matching and Matroids

Discrete Optimization & Integer Programming
APPROX - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4
Invited Session 341
Organizer: José Soto, Universidad de Chile, CL

1 - Maximizing Efficiency in Dynamic Matching Markets
Speaker: Maximilien Burq, MIT, US, talk 1309
Co-Authors: *Itai Ashlagi*, *Amin Saberi*, *Patrick Jaillet*,
2 - Online Weighted Matching: Beating the 1/2 Barrier
Speaker: Morteza Zadimoghaddam, Google Inc., CH, talk 188
3 - Strong Algorithms for the Ordinal Matroid Secretary Problem
Speaker: José Soto, Universidad de Chile, CL, talk 1170
Co-Authors: *Victor Verdugo*, *Abner Turkieltaub*,

Implementation of interior-point methods for large-scale problems and applications I

Specific Models, Algorithms, and Software
Algo - Mo 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6
Invited Session 353
Organizer: Jordi Castro, Univ. Politècnica de Catalunya, ES

1 - A feasible direction interior point algorithm for linear programming
Speaker: Jose Herskovits, UFRJ, BR, talk 31
Co-Authors: *Miluzca Victorio*, *Nelson Maculan*,
2 - A specialized interior-point algorithm for very large minimum cost flows in bipa
Speaker: Stefano Nasini, IESEG School of Management, FR, talk 38
Co-Authors: *Jordi Castro*,

Distributionally Robust Optimization - New Theory and Applications

Optimization under Uncertainty
Robust - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5
Invited Session 356
Organizer: Zhichao Zheng, Singapore Management Uni, SG

1 - Data-Driven Bounded Rationality in Games- A Robust Framework
Speaker: Yini Gao, Singapore Management Universit, SG, talk 440
Co-Authors: *Chung Piaw Teo*,
2 - Distributionally Robust Mechanism Design
Speaker: Cagil Kocyigit, EPFL, CH, talk 405
Co-Authors: *Garud Iyengar*, *Daniel Kuhn*, *Wolfram Wiesemann*,
3 - Schedule Reliability in Liner Shipping by Distributionally Robust Optimization
Speaker: Zhichao Zheng, Singapore Management Uni, SG, talk 398
Co-Authors: *Abraham Zhang*, *Chung Piaw Teo*,

Risk and Energy Markets

Optimization under Uncertainty
Game - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5
Contributed Session 376
Chair: Julio Deride, Sandia National Laboratories, US

1 - On solving risk-averse equilibrium problems via reformulations
Speaker: Olivier Huber, UW-Madison, US, talk 1126
Co-Authors: *Michael Ferris*,
2 - On risk averse competitive equilibrium
Speaker: Henri Gerard, Ponts ParisTech, FR, talk 1407
Co-Authors: *Vincent Leclère*, *Andy Philpott*,
3 - Stochastic General Equilibrium Model with Application to Energy Markets
Speaker: Julio Deride, Sandia National Laboratories, US, talk 1606

Portfolio Optimization

Specific Models, Algorithms, and Software
Sciences - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8
Contributed Session 393
Chair: Bernardo Pagnoncelli, Universidad Adolfo Ibanez, CL

1 - A Multiplicative Weights Update Algorithm for Portfolio Selection Problems
Speaker: Luca Mencarelli, IFP Energies nouvelles, FR, talk 162
2 - Regularized portfolio optimization with risk measures
Speaker: Bernardo Pagnoncelli, Universidad Adolfo Ibanez, CL, talk 523
Co-Authors: *Felipe Del Canto*, *Arturo Cifuentes*,
3 - Log-optimal portfolios under random horizon
Speaker: Sina Yansori, University of Alberta, CA, talk 312
Co-Authors: *Tahir Choulli*,

Advances in Linear, Non Linear and Mixed-Integer Optimization

Specific Models, Algorithms, and Software
Algo - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 400
Chair: Hiroshige Dan, Kansai University, JP

1 - Computational Experiments with Nested Dantzig-Wolfe Decompositions
Speaker: Erik Mühmer, RWTH Aachen University, DE, talk 1424
Co-Authors: *Marco Lübbecke*, *Jonas Witt*,
2 - Restrict-and-fix: a constructive heuristic for mixed-integer programs
Speaker: Xavier Schepler, Recommerce Lab, FR, talk 1573
Co-Authors: *Julien Kritter*, *Sophie Michel*, *Cédric Joncour*,
3 - Automatic Differentiation Software for Indexed Optimization Problems
Speaker: Hiroshige Dan, Kansai University, JP, talk 1049
Co-Authors: *Masashi Noguchi*, *Koei Sakiyama*,

Scheduling with setup, uncertainty and precedences

Discrete Optimization & Integer Programming
COMB - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 419
Organizer: Monaldo Mastrolilli, IDSIA, CH

1 - Empowering the Configuration-IP
Speaker: Kim-Manuel Klein, EPFL, CH, talk 120
Co-Authors: *Klaus Jansen*, *Marten Maack*, *Malin Rau*,
2 - Scheduling under Explorable Uncertainty
Speaker: Nicole Megow, University of Bremen, DE, talk 423
Co-Authors: *Christoph Duerr*, *Thomas Erlebach*, *Julie Meißner*,
3 - Min-sum scheduling under precedence constraints
Speaker: Jose Verschae, P Univ Catolica, CL, talk 461
Co-Authors: *Andreas Schulz*,

Sparse Recovery

Continuous Optimization
NLP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Contributed Session 432
Chair: Mustafa Pinar, Bilkent University, TR

1 - LP-based Sparse Solutions Revisited
Speaker: John Chinneck, Carleton University, CA, talk 630
2 - Sparse Recovery and Convex Quadratic Splines
Speaker: Mustafa Pinar, Bilkent University, TR, talk 660
3 - Efficient ℓ_0 Trend Filtering
Speaker: Olof Troeng, Lund University, SE, talk 1350
Co-Authors: *Mattias Fält*,

Topics in power systems

Specific Models, Algorithms, and Software
Energy - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Invited Session 438
Organizer: Alberto Lamadrid, Lehigh University, US

1 - Consumers Flexibility Estimation at the TSO Level for Balancing Services
Speaker: Giulia De Zotti, DTU, DK, talk 1656
Co-Authors: *Ali Pourmousavi*, *Juan Morales*, *Henrik Madsen*, *Niels Kjølstad Poulsen*,
2 - Decentralized control of DC-segmented power systems
Speaker: Joshua Taylor, University of Toronto, CA, talk 683
3 - Response to Disruptions in Electricity with Stochastic Microgrids
Speaker: Alberto Lamadrid, Lehigh University, US, talk 684
Co-Authors: *Luis Zuluaga*, *Kwami Sedzro*, *Xin Chi*,

Facility Layout

Specific Models, Algorithms, and Software
Logistics - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Contributed Session 450
Chair: Anders Gullhav, NTNU, NO

1 - Combinatorial Bounds for the (extended) Double Row Facility Layout Problem
Speaker: Mirko Dahlbeck, Universität Göttingen,Dortmund, DE, talk 1304
Co-Authors: *Anja Fischer*, *Frank Fischer*,
2 - A Matheuristic Approach to the Hospital Facility Layout Problem
Speaker: Anders Gullhav, NTNU, NO, talk 1019
Co-Authors: *Henrik Andersson*, *Bjørn Nygreen*, *Vilde Kvillum*, *Anne Marit Vigerust*,
3 - A Multi task robot layout optimization with inventory lot-sizing problem
Speaker: Hanane Khamlichi, FST - Tangier, MA, talk 1328
Co-Authors: *Kenza Oufaska*, *Rachid Dkiouak*, *Tarik Zouadi*,

Algorithms for nonlinear conic problems

Continuous Optimization
SDP - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 463
Chair: Takayuki Okuno, RIKEN AIP, JP

1 - Augmented Lagrangian for nonlinear SDPs applied to the covering problem
Speaker: Leonardo Mito, IME-USP, BR, talk 1570

Co-Authors: *Gabriel Haeser*, *Ernesto Birgin*, *Daiana Viana*, *Walter Bofill*,
2 - Long-Step Path-Following Algorithm for Nonlinear Symmetric Programming Problems
Speaker: Cunlu Zhou, University of Notre Dame, US, talk 667
Co-Authors: *Leonid Faybusovich*,
3 - A primal-dual path following method for nonlinear semi-infinite SDPs
Speaker: Takayuki Okuno, RIKEN AIP, JP, talk 704
Co-Authors: *Masao Fukushima*,

Decisions and learning from data

Specific Models, Algorithms, and Software
Learning - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7
Contributed Session 481
Chair: Christopher McCord, MIT, US

1 - Gaussian mixture penalization for trajectory optimization problems
Speaker: Cédric Rommel, CMAP INRIA Safety Line, FR, talk 1082
Co-Authors: *Frédéric Bonnans*, *Pierre Martinon*, *Baptiste Gregorutti*,
2 - Optimization over Continuous Decisions with Observational Data
Speaker: Christopher McCord, MIT, US, talk 1468
Co-Authors: *Dimitris Bertsimas*,
3 - Combining Machine Learning and Optimization: Learning to emulate an expert
Speaker: Oskar Schneider, FAU, DE, talk 889
Co-Authors: *Andreas Bärmann*, *Sebastian Pokutta*,

IP Practice I

Discrete Optimization & Integer Programming
IPpractice - Mo 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1
Contributed Session 506
Chair: Maurice Queyranne, UBC Sauder School of Business, CA

1 - IP models for dimensionality reduction and feature selection in categorical da
Speaker: Raphael Hauser, Oxford Mathematical Institute, GB, talk 1531
Co-Authors: *Reka Agnes Kovacs*, *Oktay Gunluk*,
2 - Network models for multiobjective discrete optimization
Speaker: Carlos Cardonha, IBM Research, BR, talk 558
Co-Authors: *Merve Bodur*, *Andre Cire*, *David Bergman*,
3 - Optimum Turn-Restricted Paths, Nested Compatibility, and Optimum Convex Polygons
Speaker: Maurice Queyranne, UBC Sauder School of Business, CA, talk 646
Co-Authors: *Laurence Wolsey*,

Adaptivity in non smooth optimization

Continuous Optimization
NonSmooth - Mo 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12
Invited Session 558
Organizer: Masaru Ito, Nihon University, JP

1 - An adaptive first order method for weakly smooth and uniformly convex problems
Speaker: Masaru Ito, Nihon University, JP, talk 990
Co-Authors: *Mituhiro Fukuda*,
2 - A Subgradient Algorithm for solving variational Inequality Problem
Speaker: Somayya Komal, KMUTT, Bangkok, Thailand, TH, talk 732
Co-Authors: *Poom Kumam*,

Gradient Methods for Constrained Optimization Problems

Continuous Optimization
NLP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8
Invited Session 4
Organizer: Igor Konnov, Kazan Federal University, RU

1 - Simple Adaptive Versions of Iterative Optimization Methods
Speaker: Igor Konnov, Kazan Federal University, RU, talk 324
2 - Subgradient Projection Algorithm with Computational Errors
Speaker: Alexander Zaslavski, The Technion - IIT, IL, talk 474
3 - An active-set framework for minimizing nonconvex functions over the simplex
Speaker: Andrea Cristofari, University of Padua, IT, talk 584
Co-Authors: *Marianna De Santis*, *Stefano Lucidi*, *Francesco Rinaldi*,

Polynomial and tensor optimization III

Continuous Optimization
NLP - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11
Invited Session 7
Organizer: Jiawang Nie, Univ. of California San Diego, US

1 - Higher order cone programming
Speaker: Lek-Heng Lim, University of Chicago, US, talk 368
Co-Authors: *Lijun Ding*,
2 - Ranks and decompositions of Hankel tensors
Speaker: Ke Ye, Chinese Academy of Sciences, CN, talk 13

Co-Authors: *Jiawang Nie*,
3 - Symmetric Sums of Squares over k-Subset Hypercubes
Speaker: Annie Raymond, University of Massachusetts, US, talk 363
Co-Authors: *James Saunderson*, *Mohit Singh*, *Rekha Thomas*,
4 - Tight relaxations for polynomial optimization and lagrange multiplier expression
Speaker: Jiawang Nie, Univ. of California San Diego, US, talk 5

Advances in DFO I

Continuous Optimization
DerFree - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 40
Chair: Sébastien Le Digabel, Polytechnique Montreal, CA

1 - Calculus Rules of the Simplex Gradient
Speaker: Warren Hare, University of British Columbia, CA, talk 517
Co-Authors: *Gabriel Jarry-Bolduc*,
2 - Derivative free global Optimization with categorical-continuous variables
Speaker: Miguel Munoz Zuniga, IFPEN, FR, talk 612
Co-Authors: *Delphine Sinoquet*,
3 - A Taxonomy of Constraints for Blackbox-Based Optimization
Speaker: Stefan Wild, Argonne National Laboratory, US, talk 1183
Co-Authors: *Sébastien Le Digabel*,

Novel data-driven OR techniques for power system operations and planning

Specific Models, Algorithms, and Software
Energy - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 52
Organizer: Juan Morales, University of Malaga, ES

1 - Chronological Time-Period Clustering for Optimal Capacity Expansion Planning
Speaker: Salvador Pineda Morente, University of Málaga, ES, talk 270
Co-Authors: *Juan Morales*,
2 - Energy and Reserve Dispatch with Distributionally Robust Joint Chance Constraints
Speaker: Christos Ordoudis, DTU, DK, talk 731
Co-Authors: *Viet Anh Nguyen*, *Daniel Kuhn*, *Pierre Pinson*,
3 - Predicting the electricity demand response via data-driven inverse optimization
Speaker: Juan Morales, University of Malaga, ES, talk 267
Co-Authors: *Javier Saez-Gallego*,

Mixed-Integer Conic Optimization

Discrete Optimization & Integer Programming
MINLP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 57
Organizer: Sven Wiese, MOSEK ApS, DK

1 - Exact methods based on SDP for the k-item quadratic knapsack problem
Speaker: Lucas Letocart, LIPN, CNRS Universite Paris 13, FR, talk 721
Co-Authors: *Frederic Roupin*, *Angelika Wiegele*,
2 - Knapsack Constraints over the Positive Semidefinite Cone
Speaker: Tristan Gally, TU Darmstadt, DE, talk 712
Co-Authors: *Marc Pfetsch*,
3 - The Mixed-integer Conic Optimizer in MOSEK
Speaker: Sven Wiese, MOSEK ApS, DK, talk 534

Polynomial optimization in binary variables

Discrete Optimization & Integer Programming
MINLP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 58
Organizer: Elisabeth Rodriguez-Heck, University of Liege, BE

1 - Unconstrained 0-1 polynomial optimization through convex quadratic reformulation
Speaker: Arnaud Lazare, UMA-CEDRIC ENSTA, FR, talk 457
Co-Authors: *Sourour Elloumi*, *Amélie Lambert*,
2 - A study of specially structured polynomial matroid optimization problems
Speaker: Anja Fischer, TU Dortmund University, DE, talk 757
Co-Authors: *Frank Fischer*, *Tom McCormick*,
3 - Linear and quadratic reformulations of nonlinear 0-1 optimization problems
Speaker: Elisabeth Rodriguez-Heck, University of Liege, BE, talk 462
Co-Authors: *Endre Boros*, *Yves Crama*,

Lattice methods in Integer Optimisation

Discrete Optimization & Integer Programming
IPtheory - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 78
Organizer: Iskander Aliev, Cardiff University, GB

1 - Approximation of corner polyhedra with intersection

cuts
Speaker: Gennadiy Averkov, OvGU Magdeburg, DE, talk 77
Co-Authors: *Amitabh Basu*, *Joseph Paat*,
2 - The Support of Integer Optimal Solutions
Speaker: Timm Oertel, Cardiff University, GB, talk 100
Co-Authors: *J. De Loera*, *Iskander Aliev*, *Friedrich Eisenbrand*, *Robert Weismantel*,
3 - Distances to Lattice Points in Knapsack Polyhedra
Speaker: Iskander Aliev, Cardiff University, GB, talk 211
Co-Authors: *Martin Henk*, *Timm Oertel*,

Solving large scale convex composite programming

Continuous Optimization
SDP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 130
Organizer: Kim-Chuan Toh, National U. of Singapore, SG

1 - A block symmetric Gauss-Seidel decomposition theorem for convex composite QP
Speaker: Kim-Chuan Toh, National U. of Singapore, SG, talk 174
Co-Authors: *Xudong Li*, *Defeng Sun*,
2 - Fast algorithms for large scale generalized distance weighted discrimination
Speaker: Xin Yee Lam, NUS, SG, talk 445
Co-Authors: *J.S. Marron*, *Kim-Chuan Toh*, *Defeng Sun*,
3 - An Efficient Semismooth Newton Based Algorithm for Convex Clustering
Speaker: Yancheng Yuan, NUS, SG, talk 446
Co-Authors: *Defeng Sun*, *Kim-Chuan Toh*,

Structure and Learning in Power Grid Optimization

Specific Models, Algorithms, and Software
Energy - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Invited Session 135
Organizer: Deepjyoti Deka, Los Alamos National Lab, US

1 - Chance-Constrained Outage Scheduling using a Machine Learning Proxy
Speaker: Gal Dalal, Technion, IL, talk 432
Co-Authors: *Elad Gilboa*, *Louis Wehenkel*, *Shie Mannor*,
2 - Statistical Learning For DC Optimal Power Flow
Speaker: Sidhant Misra, Los Alamos National Laboratory, US, talk 383
Co-Authors: *Line Roald*, *Yeesian Ng*,
3 - Non-Stationary Streaming PCA
Speaker: Apurv Shukla, Columbia University, US, talk 316
Co-Authors: *Seyoung Yun*, *Daniel Bienstock*,

Nonlinear Optimization and Variational Inequalities VI

Continuous Optimization
Variat - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 146
Organizer: Cong Sun, Beijing Univ. Post. Telecomm., CN

1 - Balance analysis of sparsity and robustness for portfolio adjustment problem
Speaker: Fengmin Xu, Xi'an Jiaotong University, CN, talk 797
Co-Authors: *Zhihua Zhao*,
2 - Two-stage stochastic program and stochastic variational inequalities
Speaker: Chao Zhang, Beijing Jiaotong University, CN, talk 1047
3 - Proximal Stochastic Quasi-Newton methods for Nonconvex Composite Optimization
Speaker: Xiao Wang, Chinese Academy of Sciences, CN, talk 465
Co-Authors: *Xiaoyu Wang*, *Yaxiang Yuan*,
4 - General inertial proximal gradient method for nonconvex nonsmooth optimization
Speaker: Zhongming Wu, Southeast University, CN, talk 583
Co-Authors: *Min Li*,

MINLP methods in gas transport optimization (II)

Discrete Optimization & Integer Programming
MINLP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 163
Organizer: Lars Schewe, FAU, DE

1 - Exploiting acyclic orientations to solve nonlinear potential-based flow problems
Speaker: Benjamin Hiller, Zuse Institute Berlin, DE, talk 905
Co-Authors: *Kai-Helge Becker*,
2 - ASTS-Orientations on Undirected Graphs - A tool for optimizing network flows
Speaker: Kai Becker, Zuse-Institute Berlin, DE, talk 1446
Co-Authors: *Benjamin Hiller*,
3 - Robust Optimal Discrete Arc Sizing for Tree-Shaped Potential Networks
Speaker: Johannes Thürauf, Universität Erlangen-Nürnberg, DE, talk 546
Co-Authors: *Lars Schewe*, *Martin Schmidt*, *Martin Robinius*, *Detlef Stolten*, *Lara Welder*,

Advances in optimization methods for time dependent problems:I

Continuous Optimization
Control - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 223

Organizer: Matthias Heinkenschloss, Rice University, US

1 - Exponentially convergent receding horizon constrained optimal control
Speaker: Mihai Anitescu, Argonne National Laboratory, US, talk 529
Co-Authors: *Wanting Xu*,
2 - Parallel strategies for DAE optimization with direct Schur-complement decomp.
Speaker: Carl Laird, Sandia National Laboratories, US, talk 1356
Co-Authors: *Santiago Rodriguez*, *Bethany Nicholson*,
3 - Shape optimization for unsteady fluid-structure interaction
Speaker: Johannes Haubner, Technical University of Munich, DE, talk 1028
Co-Authors: *Michael Ulbrich*,
4 - A parallel-in-time gradient-type method for optimal control problems
Speaker: Matthias Heinkenschloss, Rice University, US, talk 512

Distributionally Robust Stochastic Programming: Theory and Applications

Optimization under Uncertainty
Stoch - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 250
Organizer: Ran Ji, George Mason University, US

1 - Ambiguous Chance-constrained Binary Programs Under Mean-covariance Information
Speaker: Yiling Zhang, University of Michigan, US, talk 43
Co-Authors: *Ruiwei Jiang*, *Siqian Shen*,
2 - Distributionally Robust Optimization with optimal transport (Wasserstein) costs
Speaker: Karthyek Murthy, SUTD, SG, talk 1007
Co-Authors: *Jose Blanchet*, *Fan Zhang*,
3 - Distributionally Robust Chance-Constrained Optimization with Wasserstein Metric
Speaker: Ran Ji, George Mason University, US, talk 255
Co-Authors: *Miguel Lejeune*,

Extending the Reach of First-Order Methods, Part I

Continuous Optimization
NonSmooth - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 285
Organizer: Haihao Lu, MIT, US

1 - Subgradient Method Convergence Rates without Lipschitz Continuity or Convexity
Speaker: Benjamin Grimmer, Cornell University, US, talk 1154
Co-Authors: *Damek Davis*,
2 - Relative smoothness condition and its application to third-order methods.
Speaker: Yurii Nesterov, UCL, BE, talk 720
3 - Generalized Stochastic Frank-Wolfe Method
Speaker: Haihao Lu, MIT, US, talk 1430
Co-Authors: *Robert Freund*,

Riemannian geometry in optimization for learning

Specific Models, Algorithms, and Software
Learning - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 320
Organizer: Nicolas Boumal, Princeton University, US

1 - Global rates of convergence for nonconvex optimization on manifolds
Speaker: Nicolas Boumal, Princeton University, US, talk 625
Co-Authors: *Coralia Cartis*, *P.-A. Absil*,
2 - A parallel Douglas-Rachford algorithm for data on Hadamard manifolds
Speaker: Ronny Bergmann, TU Chemnitz, DE, talk 808
3 - Riemannian optimization for the canonical tensor rank approximation problem
Speaker: Paul Breiding, MPI MiS Leipzig, DE, talk 1227
Co-Authors: *Nick Vannieuwenhoven*,
4 - Primal-Dual Optimization Algorithms over Riemannian Manifolds
Speaker: Junyu Zhang, University of Minnesota, US, talk 663
Co-Authors: *Shiqian Ma*, *Shuzhong Zhang*,

Exploiting structure in constrained optimization

Specific Models, Algorithms, and Software
Learning - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 334
Organizer: Mihai Cucuringu, Alan Turing Institute-Oxford, GB

1 - Provably robust estimation of modulo 1 samples of a smooth function
Speaker: Hemant Tyagi, Alan Turing Institute, GB, talk 1121
Co-Authors: *Mihai Cucuringu*,
2 - Efficient DC Algorithm for constrained sparse optimization problems
Speaker: Akiko Takeda, The University of Tokyo, JP, talk 682
Co-Authors: *Katsuya Tono*, *Jun-ya Gotoh*, *Tianxiang Liu*, *Ting Kei Pong*,
3 - Distributionally Ambiguous Optimization Techniques for Batch Bayesian Optimizati
Speaker: Nikitas Rontsis, University of Oxford, GB, talk 1259

Co-Authors: *Michael Osborne*, *Paul Goulart*,
4 - On critical points of quadratic low-rank matrix optimization problems
Speaker: Andre Uschmajew, MPI MiS Leipzig, DE, talk 1377
Co-Authors: *Bart Vandereycken*,

Scheduling and File Migration

Discrete Optimization & Integer Programming
APPROX - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Contributed Session 345
Chair: Asaf Levin, The Technion, IL

1 - Scheduling on Uniform Nonsimultaneous Parallel Machines
Speaker: Liliana Grigoriu, University of Siegen, DE, talk 1238
Co-Authors: *Donald Friesen*,
2 - On phase-based algorithms for online file migration
Speaker: Marcin Bienkowski, University of Wroclaw, PL, talk 1678
Co-Authors: *Jaroslaw Byrka*, *Marcin Mucha*,
3 - A unified framework for designing EPTAS's for load balancing on parallel machine
Speaker: Asaf Levin, The Technion, IL, talk 1255
Co-Authors: *Ishai Kones*,

Complexity of Randomized Algorithms

Continuous Optimization
RandomM - Mo 5:00pm-6:30pm, Format: 3x20 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 347
Organizer: Raghu Pasupathy, Purdue, US

1 - On the Convergence of SAGA-like Algorithms
Speaker: Martin Morin, Lund University, SE, talk 1285
Co-Authors: *Pontus Giselsson*,
2 - On the linear convergence of the projected stochastic gradient method
Speaker: Bang Vu, EPFL-Switzerland, CH, talk 264
Co-Authors: *Volkan Cevher*,
3 - The Complexity of Adaptive Sampling Accelerated Gradient Dsescent
Speaker: Raghu Pasupathy, Purdue, US, talk 247
Co-Authors: *David Newton*, *Farzad Yousefian*,

Advances in Adjustable Robust Optimization

Optimization under Uncertainty
Robust - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 350
Organizer: Do Young Yoon, Stanford University, US

1 - Robust optimization for models with uncertain SOC and SDP constraints
Speaker: Dick den Hertog, Tilburg University, NL, talk 706
Co-Authors: *Jianzhe Zhen*, *Frans de Ruiter*,
2 - Approximation of uncertain convex inequalities
Speaker: Ernst Roos, Tilburg University, NL, talk 710
Co-Authors: *Dick den Hertog*, *Aharon Ben-Tal*,
3 - Monitoring with Limited Information
Speaker: Do Young Yoon, Stanford University, US, talk 954
Co-Authors: *Dan Iancu*, *Nikos Trichakis*,

Implementation of interior-point methods for large-scale problems and applications II

Specific Models, Algorithms, and Software
Algo - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 352
Organizer: Jordi Castro, Univ. Politècnica de Catalunya, ES

1 - On the implementation of the crossover algorithm
Speaker: Csaba Meszaros, FICO, GB, talk 992
2 - Interior point methods applied to context-free grammar parameter estimation
Speaker: Aurelio Oliveira, University of Campinas, BR, talk 1040
Co-Authors: *Sofia Lopez*,
3 - A new specialized interior-point method for support vector machines
Speaker: Jordi Castro, Univ. Politècnica de Catalunya, ES, talk 81

Variational Analysis 4

Continuous Optimization
Variat - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 370
Organizer: Jo Brueggemann, Weierstrass Institute, DE

1 - Path-following method for a class of obstacle problems with integral constraints
Speaker: Jo Brueggemann, Weierstrass Institute, DE, talk 1397
Co-Authors: *Michael Hintermüller*, *Carlos Rautenberg*,
2 - Nonconvex integration using ϵ-subdifferentials
Speaker: Yboon García Ramos, Universidad del Pacífico, PE, talk 132
Co-Authors: *Abderrah Hantoute*, *Rafael Correa*,
3 - A family of two-point stepsize gradient methods
Speaker: Yakui Huang, Hebei University of Technology, CN, talk 397
Co-Authors: *Yu-Hong Dai*, *Xin-Wei Liu*,

4 - Proximal alternating direction method of multipliers in the nonconvex setting
Speaker: Khoa Nguyen, University of Vienna, AT, talk 622
Co-Authors: *Radu Ioan Bot*,

Learning and dynamic programming

Optimization under Uncertainty
Markov - Mo 5:00pm-6:00pm, Format: 2x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 381
Chair: Boxiao Chen, University of Illinois Chicago, US

1 - A unifying computation of Whittle's Index for Markovian bandits
Speaker: Manu Gupta, IRIT, FR, talk 1355
Co-Authors: *Urtzi Ayesta*, *Ina Maria Verloop*,
2 - A verification theorem for indexability of real-state restless bandits
Speaker: Jose Nino-Mora, Carlos III University, Madrid, ES, talk 1070

Structure from evidence

Specific Models, Algorithms, and Software
Sciences - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 386
Organizer: Peter Gritzmann, TU Munich, DE

1 - Mathematical Programming in Quantum Information and Computation
Speaker: Douglas Gonçalves, UFSC, BR, talk 786
2 - Detection of Uninformed Experts
Speaker: Jorge Barreras, University of Pennsylvania, US, talk 1444
3 - On constrained flow and multi assignment problems for plasma particle tracking
Speaker: Peter Gritzmann, TU Munich, DE, talk 1252
Co-Authors: *Andreas Alpers*,

Combinatorial optimization and convexity

Discrete Optimization & Integer Programming
COMB - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 424
Chair: Yu Yokoi, National Inst. of Informatics, JP

1 - Discrete convexity in binary VCSPs
Speaker: Yuni Iwamasa, University of Tokyo, JP, talk 1017
Co-Authors: *Kazuo Murota*, *Hiroshi Hirai*, *Standa Zivny*,
2 - Low matrix completion by a majorized penalty approach
Speaker: Fei Wang, Royal Institute of Technology, SE, talk 1400
Co-Authors: *Anders Forsgren*, *Henry Wolkowicz*,
3 - Abstract tropical linear programming
Speaker: Georg Loho, EPFL, CH, talk 1479
4 - List Supermodular Coloring
Speaker: Yu Yokoi, National Inst. of Informatics, JP, talk 973
Co-Authors: *Satoru Iwata*,

Practical aspects of network optimization

Discrete Optimization & Integer Programming
COMB - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Contributed Session 427
Chair: Kai Hoppmann, Zuse Institute Berlin, DE

1 - Energy-Efficient in Multi-Hop Wireless Networks Problem
Speaker: Sonia Vanier, Université Panthéon-Sorbonne, FR, talk 1133
2 - Optimal division for the multi-member constituency system
Speaker: Keisuke Hotta, Bunkyo University, JP, talk 800
Co-Authors: *Toshio Nemoto*, *Junichiro Wada*,
3 - Maintenance Scheduling in a Railway Corridor
Speaker: Saman Eskandarzadeh, University of Newcastle, AU, talk 936
Co-Authors: *Thomas Kalinowski*, *Hamish Waterer*,
4 - Pushing a Network to its Limits - Finding Maximum Min-Cost-Flows
Speaker: Kai Hoppmann, Zuse Institute Berlin, DE, talk 594

Modeling in NLP

Continuous Optimization
NLP - Mo 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 433
Chair: Laura Balzano, Univ of Michigan, US

1 - Low Algebraic Dimension Matrix Completion
Speaker: Laura Balzano, Univ of Michigan, US, talk 1080
Co-Authors: *Greg Ongie*, *Daniel Pimentel-Alarcon*, *Rebecca Willett*, *Robert Nowak*,
2 - DC programming algorithm for fully convex bilevel optimization
Speaker: Mirai Tanaka, ISM, JP, talk 1460
Co-Authors: *Alain Zemkoho*,
3 - An inertial proximal point methods for solving minimization problems
Speaker: Nuttapol Pakkaranang, KMUTT, TH, talk 829
Co-Authors: *Poom Kumam*, *Prasit Cholamjiak*,

Packing and Capacity Management

Specific Models, Algorithms, and Software

Logistics - Mo 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 452
Chair: Eugene Zak, Amazon, US

1 - Solving Irregular Strip Packing Problems with free rotations
Speaker: Marina Andretta, University of Sao Paulo, BR, talk 1326
Co-Authors: *Jeinny Peralta*, *Jose Oliveira*,
2 - A 3D-knapsack problem with truncated pyramids and static stability constraint
Speaker: Alexandre Le Jean, UGA Grenoble, Fives Syleps, FR, talk 1085
Co-Authors: *Olivier Briant*, *Berenger David*, *Nadia Brauner*, *Mircea Cocan*,
3 - Minimization of sum of inverse sawtooth functions
Speaker: Eugene Zak, Amazon, US, talk 11

New models in robust optimization

Optimization under Uncertainty
Robust - Mo 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Contributed Session 459
Chair: Juan Borrero, Oklahoma State University, US

1 - On using cardinality constrained uncertainty for objective coefficients
Speaker: Jaeyoong Lim, KAIST, KR, talk 1201
Co-Authors: *Sungsoo Park*,
2 - Robust optimization of PDE-constrained problems using second-order methods
Speaker: Philip Kolvenbach, TU Darmstadt, DE, talk 850
Co-Authors: *Stefan Ulbrich*,
3 - Robust optimization with non-convex uncertainty sets
Speaker: Juan Borrero, Oklahoma State University, US, talk 758
Co-Authors: *Leonardo Lozano*,

Convergence and Approximation in Conic Programming

Continuous Optimization
SDP - Mo 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 465
Chair: Tamás Terlaky, Lehigh University, US

1 - Convergence Rate of Block Coordinate Ascent for Nonconvex Burer-Monteiro Method
Speaker: Nuri Vanli, MIT, US, talk 1499
Co-Authors: *Asu Ozdaglar*, *Pablo Parrilo*, *Murat Erdogdu*,
2 - Towards efficient approximation of p-cones
Speaker: Yuriy Zinchenko, U of Calgary and Gurobi LLC, CA, talk 919
Co-Authors: *Pooyan Shirvani*, *Liang Qihe*,
3 - Quadratic convergence to the optimal solution of second-order conic optimization
Speaker: Tamás Terlaky, Lehigh University, US, talk 952
Co-Authors: *Ali Mohammad-Nezhad*,

Algorithms for matching markets

Discrete Optimization & Integer Programming
APPROX - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 467
Organizer: Amin Saberi, Stanford University, US

1 - Concise Bidding Through Dependent Randomized Rounding
Speaker: Arash Asadpour, NYU Stern, US, talk 1670
Co-Authors: *Hossein Bateni*, *Vahab Mirrokni*, *Kshipra Bhawalkar*,
2 - Robust Repeated Auctions under Heterogeneous Buyer Behavior
Speaker: Balasubraman Sivan, Google Research, US, talk 1672
Co-Authors: *Shipra Agrawal*, *Constantinos Daskalakis*, *Vahab Mirrokni*,
3 - Proportional Allocation: Simple, Distributed, and Diverse Matching w High Entropy
Speaker: Vahab Mirrokni, Google Research, US, talk 1675
Co-Authors: *Shipra Agrawal*, *Morteza Zadimoghaddam*,
4 - Matching in dynamic environments
Speaker: Amin Saberi, Stanford University, US, talk 1669

Sparsity, variable selection and efficient algorithms

Specific Models, Algorithms, and Software
Learning - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 475
Chair: Alex Sholokhov, MIPT, RU

1 - Distributed algorithms for statistical learning with structured sparsity
Speaker: Sam Tajbakhsh, Ohio State University, US, talk 1626
Co-Authors: *Dewei Zhang*,
2 - Sparse regression: Scalable algorithms and empirical performance
Speaker: Jean Pauphilet, MIT, US, talk 1139
Co-Authors: *Dimitris Bertsimas*, *Bart Van Parys*,
3 - Sparsified Huge-Scale Optimization for Regularized Regression Problems
Speaker: Alex Sholokhov, MIPT, RU, talk 1523
Co-Authors: *Yury Maximov*,
4 - Forward stepwise variable selection based on relative weights
Speaker: Zixin Shen, National Taiwan University, TW, talk 995
Co-Authors: *Argon Chen*,

Differentiability, convexity, and modeling in stochastic optimization

Optimization under Uncertainty
Stoch - Mo 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 493
Chair: Kai Spuerkel, University of Duisburg-Essen, DE

1 - Stochastic optimization with probabilistic/robust (probust) constraints
Speaker: Holger Heitsch, Weierstrass Institute, DE, talk 1554
2 - Subdifferential characterization of probability functions
Speaker: Pedro Perez-Aros, University of O'higgins, CL, talk 907
Co-Authors: *René Henrion*, *Abderrah Hantoute*,
3 - Strong Convexity in Stochastic Programming with Deviation Risk Measures
Speaker: Kai Spuerkel, University of Duisburg-Essen, DE, talk 1666
Co-Authors: *Ruediger Schultz*, *Matthias Claus*,

Data Mining

Discrete Optimization & Integer Programming
IPpractice - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Contributed Session 504
Chair: Marcus Poggi, PUC-Rio Informatica, BR

1 - A weighting local search for huge assignment problems in item recommendation
Speaker: Takahiro Kan, Osaka University, JP, talk 810
Co-Authors: *Shunji Umetani*, *Hiroshi Morita*,
2 - Exact Clustering via Integer Programming and Maximum Satisfiability
Speaker: Atsushi Miyauchi, RIKEN AIP, JP, talk 1209
Co-Authors: *Tomohiro Sonobe*, *Noriyoshi Sukegawa*,
3 - The best subset selection problem in regression
Speaker: Dennis Kreber, Trier University, DE, talk 996
4 - Cut and Column Generation for Process Discovery
Speaker: Marcus Poggi, PUC-Rio Informatica, BR, talk 1475
Co-Authors: *Georges Spyrides*, *Beatriz Santiago*, *Helio Lopes*,

IP Practice II

Discrete Optimization & Integer Programming
IPpractice - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Contributed Session 508
Chair: Petra Bartmeyer, Unicamp, BR

1 - Application of the SSSDP method to combinatorial optimisation problems
Speaker: Gaël Guillot, Université de Bordeaux, FR, talk 1617
Co-Authors: *François Clautiaux*, *Boris Detienne*,
2 - A Parallel Branch and Bound with DC Algorithm for Mixed Integer Optimization
Speaker: Yi-Shuai Niu, Shanghai Jiao Tong University, CN, talk 182
3 - Two-dimensional bin packing problem with defects on bins
Speaker: Quentin Viaud, Saint-Gobain Recherche, FR, talk 1538
Co-Authors: *François Clautiaux*, *Ruslan Sadykov*, *Francois Vanderbeck*,
4 - A new approach to relax the binary variables on binary quadratic problems
Speaker: Petra Bartmeyer, Unicamp, BR, talk 32
Co-Authors: *Christiano Lyra*,

Manufacturing

Specific Models, Algorithms, and Software
Scheduling - Mo 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 530
Chair: Younsoo Lee, Seoul National University, KR

1 - Detailed production planning models for semiconductor manufacturing with profit
Speaker: Sébastien Beraudy, Ecole des Mines de St Etienne, FR, talk 1335
Co-Authors: *Nabil Absi*, *Stéphane Dauzère-Pérès*,
2 - Scheduling in the Photolithography Bay
Speaker: Teun Janssen, TU Delft, NL, talk 1474
Co-Authors: *Leo van Iersel*, *Jan Driessen*, *Thomas Bosman*, *Stéphane Dauzère-Pérès*, *Claude Yugma*,
3 - Column generation and fix-and-optimize for the lot-sizing with remanufacturing
Speaker: Hugo Harry Kramer, Universidade Federal Paraíba, BR, talk 616
Co-Authors: *Jesus Cunha*, *Rafael Melo*,
4 - On the discrete lot-sizing and scheduling problem with sequence-dependent setup
Speaker: Younsoo Lee, Seoul National University, KR, talk 803
Co-Authors: *Kyungsik Lee*,

Stochastic and Nonlinear Optimization I

Continuous Optimization
NLP - Tu 8:30am-10:30am, Format: 4x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 47
Organizer: Jorge Nocedal, Northwestern University, US

1 - A Progressive Batching L-BFGS Method for Machine Learning
Speaker: Raghu Bollapragada, Northwestern University, US,

talk 564
Co-Authors: *Jorge Nocedal*, *Hao-Jun Shi*, *Dheevatsa Mudigere*, *Ping Tak Tang*,
2 - Convexity "à la carte"
Speaker: Leon Bottou, Facebook, US, talk 591
Co-Authors: *Martin Arjovsky*, *David Lopez-Paz*, *Maxime Oquab*,
3 - On variance reduction for stochastic optimization with multiplicative noise
Speaker: Philip Thompson, CREST-ENSAE, FR, talk 1147
Co-Authors: *Alejandro Jofre*,
4 - Characterizing Worst-Case Complexity of Algorithms for Nonconvex Optimization
Speaker: Frank Curtis, Lehigh University, US, talk 434
Co-Authors: *Daniel Robinson*,

Bayesian and Randomized Optimization II

Continuous Optimization
DerFree - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 79
Chair: Youssef Diouane, ISAE-SUPAERO, FR

1 - Adaptive modeling strategy for high-dimensional constrained global optimization
Speaker: Nathalie Bartoli, ONERA, FR, talk 1296
Co-Authors: *Thierry Lefebvre*, *Sylvain Dubreuil*, *Rémy Priem*, *Joaquim Martins*, *Joseph Morlier*,
2 - Modeling an Augmented Lagrangian for Blackbox Constrained Optimization
Speaker: Robert Gramacy, Virginia Tech, US, talk 276
3 - Bayesian optimization under mixed constraints
Speaker: Victor Picheny, INRA, FR, talk 536
Co-Authors: *Robert Gramacy*, *Stefan Wild*, *Sébastien Le Digabel*,
4 - Bayesian Optimization Guided by Max-values
Speaker: Zi Wang, MIT, US, talk 637
Co-Authors: *Stefanie Jegelka*,

Algebraic and geometric aspects of semidefinite programming

Continuous Optimization
SDP - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 85
Organizer: Hamza Fawzi, University of Cambridge, GB

1 - Certificates of polynomial nonnegativity via hyperbolic optimization
Speaker: James Saunderson, Monash University, AU, talk 1680
2 - Log-barrier interior point methods are not strongly polynomial
Speaker: Xavier Allamigeon, INRIA and Ecole Polytechnique, FR, talk 372
Co-Authors: *Pascal Benchimol*, *Stephane Gaubert*, *Michael Joswig*,
3 - Slack ideals of polytopes
Speaker: Amy Wiebe, University of Washington, US, talk 713
Co-Authors: *João Gouveia*, *Antonio Macchia*, *Rekha Thomas*,
4 - Measuring Optimality Gap in Conic Programming Approximations with Gaussian Width
Speaker: Dogyoon Song, MIT, US, talk 703
Co-Authors: *Pablo Parrilo*, *Christos Thrampoulidis*,

Theory and algorithms in conic linear programming 1

Continuous Optimization
SDP - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 88
Organizer: Gabor Pataki, UNC Chapel Hill, US

1 - Low-Rank Matrix Completion (LRMC) using Nuclear Norm (NN) with Facial Reduction
Speaker: Henry Wolkowicz, University of Waterloo, CA, talk 480
2 - Solving conic systems via projection and rescaling
Speaker: Negar Soheili, Univ. of Illinois at Chicago, US, talk 744
Co-Authors: *Javier Pena*,
3 - Projection and presolve in MOSEK: exponential and power cones
Speaker: Henrik Friberg, MOSEK, DK, talk 508
4 - TOTAL DUAL INTEGRALITY FOR CONVEX, SEMIDEFINITE, AND EXTENDED FORMULATIONS
Speaker: Levent Tuncel, University of Waterloo, CA, talk 707
Co-Authors: *Marcel de Carli Silva*,

Advances in Bundle Methods for Convex Optimization

Continuous Optimization
NonSmooth - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

Invited Session 93
Organizer: Christoph Helmberg, TU Chemnitz, DE

1 - An Asynchronous Parallel Bundle Method Based on Inexact Oracles
Speaker: Frank Fischer, Universität Kassel, DE, talk 715
2 - Fully Incremental Bundle Methods: (Un)cooperative (Un)faithful Oracles and Upper
Speaker: Antonio Frangioni, Università di Pisa, IT, talk 56
Co-Authors: *Wim van Ackooij*,
3 - The Bundle Method for Getting an Improved SDP Relaxation of the Stability Number
Speaker: Elisabeth Gaar, AAU Klagenfurt, AT, talk 269
Co-Authors: *Franz Rendl*,
4 - A Dynamic Scaling Approach for Bundle Methods in

Convex Optimization
Speaker: Christoph Helmberg, TU Chemnitz, DE, talk 145
Co-Authors: *Alois Pichler*,

Machine learning and sparse optimisation

Continuous Optimization
NLP - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 109
Organizer: Coralia Cartis, University of Oxford, GB

1 - Condition numbers and weak average-case complexity in optimization
Speaker: Martin Lotz, The University of Manchester, GB, talk 957
Co-Authors: *Dennis Amelunxen*, *Jake Walvin*,
2 - A Long (Random) Walk Solves All Your (Linear) Problems
Speaker: Armin Eftekhari, Alan Turing Institute, GB, talk 1199
Co-Authors: *Martin Lotz*, *Peter Richtarik*,
3 - Manifold lifting: problems and methods
Speaker: Florentin Goyens, Oxford University, GB, talk 1182
Co-Authors: *Armin Eftekhari*, *Coralia Cartis*, *Greg Ongie*,
4 - Sparse non-negative super-resolution: simplified and stabilized
Speaker: Jared Tanner, University of Oxford, GB, talk 1462
Co-Authors: *Armin Eftekhari*, *Andrew Thompson*, *Bogdan Toader*, *Hemant Tyagi*,

Nonlinear Optimization with Uncertain Constraints

Optimization under Uncertainty
Robust - Tu 9:00am-10:30am, Format: 3x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 110
Organizer: Charlie Vanaret, Argonne National Laboratory, US

1 - Nonlinear programming reformulations of chance constraints (Part 2)
Speaker: Andreas Waechter, Northwestern University, US, talk 1427
Co-Authors: *Alejandra Pena-Ordieres*, *Jim Luedtke*,
2 - Nonlinear programming reformulations of chance constraints (Part 1)
Speaker: Alejandra Pena-Ordieres, Northwestern University, US, talk 1441
Co-Authors: *Andreas Waechter*, *Jim Luedtke*,
3 - Sequential Linearization for Nonlinear Robust Optimization
Speaker: Sven Leyffer, Argonne National Laboratory, US, talk 1071

Algorithms for stochastic games : new approaches

Optimization under Uncertainty
Markov - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Invited Session 137
Organizer: Hugo Gimbert, CNRS, LABRI, Universite de Bor, FR

1 - Quasi-polynomial algorithms for solving parity games
Speaker: Marcin Jurdzinski, University of Warwick, GB, talk 1042
Co-Authors: *Ranko Lazic*,
2 - One-Counter Stochastic Games with Zero-Reachability Objectives
Speaker: Antonin Kucera, Masaryk University, CZ, talk 1330
3 - Around tropically convex constraint satisfaction problems.
Speaker: Marcello Mamino, Università di Pisa, IT, talk 1410
Co-Authors: *Manuel Bodirsky*,
4 - The condition number of stochastic mean payoff games
Speaker: Mateusz Skomra, Ecole Polytechnique and INRIA, FR, talk 1371
Co-Authors: *Xavier Allamigeon*, *Stephane Gaubert*, *Ricardo Katz*,

Machine Learning for Optimization

Discrete Optimization & Integer Programming
IPpractice - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 138
Organizer: Bistra Dilkina, Univ of Southern California, US

1 - Machine Learning for Branch and Bound
Speaker: Bistra Dilkina, Univ of Southern California, US, talk 1090
2 - Learning when to use a decomposition
Speaker: Markus Kruber, RWTH Aachen University, DE, talk 1142
Co-Authors: *Marco Lübbecke*, *Axel Parmentier*,
3 - Learning Combinatorial Optimization Algorithms Over Graphs
Speaker: Elias Khalil, Georgia Tech, US, talk 1083
Co-Authors: *Hanjun Dai*, *Yuyu Zhang*, *Bistra Dilkina*, *Le Song*,
4 - Learning Discrete Optimization
Speaker: Andrea Lodi, Polytechnique Montreal, CA, talk 1034

Nonlinear Optimization and Variational Inequalities V

Continuous Optimization
Variat - Tu 8:30am-10:30am, Format: 4x30 min

Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 145

Organizer: Xin Liu, Chinese Academy of Sciences, CN

1 - Lower-order regularization method for group sparse optimization with application
Speaker: Yaohua Hu, Shenzhen University, CN, talk 84
Co-Authors: *Chong Li*, *Kaiwen Meng*, *Jing Qin*, *Xiaoqi Yang*,
2 - Solving Constrained TV2L1-L2 MRI Signal Reconstruction via an Efficient ADMM
Speaker: Tingting Wu, NJUPT, CN, talk 64
Co-Authors: *Z.W. Wang*, *Z.M. Jin*, *J. Zhang*,
3 - On solving saddle-point problems and non-linear monotone equations
Speaker: Oleg Burdakov, Linkoeping University, SE, talk 1258
4 - A first-order method for semidefinite stochastic variational inequality problems
Speaker: Javad Feizollahi, Georgia State University, US, talk 698
Co-Authors: *Nahidsadat Majlesinasab*, *Farzad Yousefian*,

Optmization Algorithms and Variational Inequalites I

Continuous Optimization
Variat - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 148

Organizer: Bo Jiang, Nanjing Normal University, CN

1 - Smoothing quadratic regularization method for the hemivariational inequalities
Speaker: Yu-Hong Dai, Chinese Academy of Sciences, CN, talk 799
Co-Authors: *Yanfang Zhang*, *Weimin Han*,
2 - ADMM for Optimization Problems Involving Nonconvex Functions
Speaker: Deren Han, Nanjing Normal University, CN, talk 438
3 - ADMM-based methods for monotone inverse variational inequalities
Speaker: Xingju Cai, Nanjing Normal University, CN, talk 418
4 - Vector Transport-Free SVRG with General Retraction for Riemannian Optimization
Speaker: Bo Jiang, Nanjing Normal University, CN, talk 320
Co-Authors: *Shiqian Ma*, *Anthony So*, *Shuzhong Zhang*,

Larges Scale and Distributed Optimization

Continuous Optimization
RandomM - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 214

Organizer: Ermin Wei, Northwestern University, US

1 - On Linear Convergence for Douglas-Rachford splitting and ADMM
Speaker: Pontus Giselsson, Lund University, SE, talk 291
2 - Block-Iterative and Asynchronous Projective Splitting for Monotone Operators
Speaker: Jonathan Eckstein, Rutgers University, US, talk 240
Co-Authors: *Patrick Johnstone*, *Jean-Paul Watson*,
3 - Achieving Geometric Convergence for Distributed Asynchronous Optimization
Speaker: Gesualdo Scutari, Purdue University, US, talk 634
Co-Authors: *Ye Tian*, *Ying Sun*,
4 - Asynchronous Distributed Network Newton Method
Speaker: Ermin Wei, Northwestern University, US, talk 209
Co-Authors: *Fatemeh Mansoori*,

Extended formulations

Discrete Optimization & Integer Programming
IPtheory - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 219

Organizer: Stefan Weltge, Technical University of Munich, DE

1 - Balas formulation for the union of polytopes is optimal
Speaker: Michele Conforti, University of Padova, IT, talk 567
Co-Authors: *Marco Di Summa*, *Yuri Faenza*,
2 - Strengthening Convex Relaxations of 0/1-Sets Using Boolean Formulas
Speaker: Tony Huynh, Université Libre de Bruxelles, BE, talk 78
Co-Authors: *Samuel Fiorini*, *Stefan Weltge*,
3 - Lower Bounds for Approximating the Matching Polytope
Speaker: Makrand Sinha, University of Washington, US, talk 95
4 - Lifting Linear Extension Complexity Bounds to the Mixed-Integer Setting
Speaker: Stefan Weltge, Technical University of Munich, DE, talk 59
Co-Authors: *Alfonso Cevallos*, *Rico Zenklusen*,

Optimization Methods for PDE Constrained Problems

Continuous Optimization
Control - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 221

Organizer: Michael Ulbrich, Technical University of Munich, DE

1 - An affine covariant composite step method with inexact step computations
Speaker: Anton Schiela, Uni Bayreuth, DE, talk 1253

Co-Authors: *Manuel Schaller*,
2 - Optimal Control under Uncertainty: Adaptive Solution with Low-rank Tensors
Speaker: Sebastian Garreis, Technical University of Munich, DE, talk 1062
Co-Authors: *Michael Ulbrich*,
3 - On the optimal control of quasi-variational inequalities
Speaker: Carlos Rautenberg, HU Berlin - WIAS, DE, talk 980
Co-Authors: *Amal Alphonse*, *Michael Hintermüller*,
4 - Inexact bundle methods for nonconvex problems in Hilbert space with applications
Speaker: Michael Ulbrich, Technical University of Munich, DE, talk 1265
Co-Authors: *Lukas Hertlein*,

Streaming

Discrete Optimization & Integer Programming
APPROX - Tu 8:30am-10:30am, Format: 4x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 228
Organizer: Michael Kapralov, EPFL, CH

1 - Counting subgraphs in graph streams
Speaker: Eric Price, UT Austin, US, talk 1560
Co-Authors: *John Kallaugher*,
2 - Sublinear Time Low Rank Approximation of Positive Semidefinite Matrices
Speaker: David Woodruff, CMU, US, talk 1417
3 - Estimating Graph Parameters from Random Order Streams
Speaker: Pan Peng, The University of Sheffield, GB, talk 1247
Co-Authors: *Christian Sohler*,
4 - $(1 + \Omega(1))$**-Approximation to MAX-CUT Requires Linear Space**
Speaker: Michael Kapralov, EPFL, CH, talk 1496
Co-Authors: *Sanjeev Khanna*, *Madhu Sudan*, *Ameya Velingker*,

Addressing problems with complex geometries

Continuous Optimization
NonSmooth - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 229
Organizer: Edouard Pauwels, Université Toulouse 3, FR

1 - Sensitivity analysis for mirror-stratifiable convex functions
Speaker: Jerome Malick, CNRS, FR, talk 562
2 - An accelerated proximal method for minimizing compositions of convex functions
Speaker: Courtney Paquette, Lehigh University, US, talk 903
Co-Authors: *Dmitriy Drusvyatskiy*, *Damek Davis*,
3 - How to perturb semi-algebraic problems to ensure constraint qualification?
Speaker: Antoine Hochart, Universidad Adolfo Ibáñez, CL, talk 554
Co-Authors: *Jerome Bolte*, *Edouard Pauwels*,
4 - The multiproximal linearization method for convex composite problems
Speaker: Edouard Pauwels, Université Toulouse 3, FR, talk 142
Co-Authors: *Jerome Bolte*, *Zheng Zheng Chen*,

MIP under Uncertainty 1

Discrete Optimization & Integer Programming
IPtheory - Tu 9:00am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 231
Organizer: Fatma Kilinc-Karzan, Carnegie Mellon University, US

1 - Distributionally Robust Combinatorial Optimization
Speaker: Shabbir Ahmed, Georgia Tech, US, talk 1562
Co-Authors: *Ruiwei Jiang*, *Mohit Singh*,
2 - Risk-Averse Set Covering Problems
Speaker: Simge Kucukyavuz, University of Washington, US, talk 927
Co-Authors: *Hao-Hsiang Wu*,
3 - Mixed-Integer Recourse via Prioritization
Speaker: Ruiwei Jiang, University of Michigan, US, talk 1189
Co-Authors: *Yuanyuan Guo*,

LP, Mixed Integer Convex Programming and Decomposition

Specific Models, Algorithms, and Software
Algo - Tu 8:30am-10:30am, Format: 4x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 236
Organizer: Thorsten Koch, ZIB and TU Berlin, DE

1 - Optimising over Gradient-Boosted Regression Trees with Convex Penalty Functions
Speaker: Miten Mistry, Imperial College London, GB, talk 643
Co-Authors: *Ruth Misener*, *Robert Lee*, *Dimitrios Letsios*, *Gerhard Krennrich*,
2 - An advanced initialization procedure for the simplex algorithm
Speaker: Nikolaos Ploskas, Carnegie Mellon University, US, talk 88
Co-Authors: *Nikolaos Sahinidis*, *Nikolaos Samaras*,
3 - Experiments with a general Benders' decomposition framework for SCIP
Speaker: Stephen Maher, Lancaster University, GB, talk 330
4 - Progress in the Branch-Price-and-Cut Solver GCG
Speaker: Christian Puchert, RWTH Aachen University, DE, talk 1349

Co-Authors: *Marco Lübbecke*, *Michael Bastubbe*, *Jonas Witt*, *Stephen Maher*,

Matching games and beyond

Discrete Optimization & Integer Programming
COMB - Tu 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2
Invited Session 241
Organizer: Jochen Koenemann, University of Waterloo, CA

1 - Stabilizing Weighted Graphs
Speaker: Zhuan Khye Koh, University of Waterloo, CA, talk 207
Co-Authors: *Laura Sanità*,
2 - Computing the Nucleolus of Weighted Cooperative Matching Games in Poly Time
Speaker: Justin Toth, University of Waterloo, CA, talk 135
Co-Authors: *Jochen Koenemann*, *Kanstantsin Pashkovich*,
3 - New and simple algorithms for stable flow problems
Speaker: Jannik Matuschke, Technische Universität München, DE, talk 1493
Co-Authors: *Agnes Cseh*,
4 - The complexity of cake cutting with unequal shares
Speaker: Agnes Cseh, Hungarian Academy of Sciences, HU, talk 217
Co-Authors: *Tamás Fleiner*,

Equilibrium Computation in Congestion Games

Discrete Optimization & Integer Programming
COMB - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1
Invited Session 242
Organizer: Umang Bhaskar, TIFR, IN

1 - Multiplicative Weights Update with Constant Step-Size in Congestion Games
Speaker: Ioannis Panageas, MIT, US, talk 675
Co-Authors: *Gerasimos Palaiopanos*, *Georgios Piliouras*,
2 - Equilibrium Computation in Resource Allocation Games
Speaker: Tobias Harks, Augsburg University, DE, talk 948
Co-Authors: *Veerle Timmermans*,
3 - Computing Efficient Nash Equilibria in Congestion Games
Speaker: Guido Schäfer, CWI, NL, talk 773
Co-Authors: *Pieter Kleer*,
4 - Equilibrium Computation in Atomic Splittable Routing Games with Convex Costs
Speaker: Umang Bhaskar, TIFR, IN, talk 944
Co-Authors: *Phani Lolakapuri*,

Risk-averse stochastic programming

Optimization under Uncertainty
Stoch - Tu 8:30am-10:30am, Format: 4x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5
Invited Session 252
Organizer: Andrzej Ruszczynski, Rutgers University, US

1 - Asymptotics of stochastic optimization problems with composite risk functionals
Speaker: Darinka Dentcheva, Stevens Institute of Technolog, US, talk 600
Co-Authors: *Andrzej Ruszczynski*, *Gregory Stock*,
2 - Multi-objective risk-averse two-stage stochastic programming problems
Speaker: Ozlem Cavus, Bilkent University, TR, talk 148
Co-Authors: *Cagin Ararat*, *Irfan Mahmutogullari*,
3 - Distributionally robust stochastic programming
Speaker: Alexander Shapiro, Ga Tech Institution, US, talk 1677
4 - Risk Disintegration with Application to Partially Observable Systems
Speaker: Andrzej Ruszczynski, Rutgers University, US, talk 249
Co-Authors: *Darinka Dentcheva*,

Approximation Algorithms for Clustering

Discrete Optimization & Integer Programming
APPROX - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4
Invited Session 256
Organizer: Chaitanya Swamy, University of Waterloo, CA

1 - Better Guarantees for k-Means Problem using Primal-Dual Algorithms
Speaker: Sara Ahmadian, University of Waterloo, CA, talk 1515
Co-Authors: *Ola Svensson*, *Ashkan Norouzi Fard*, *Justin Ward*,
2 - On the Local Structure of Stable Clustering Instances
Speaker: Chris Schwiegelshohn, Sapienza, University of Rome, IT, talk 1325
Co-Authors: *Vincent Cohen-Addad*,
3 - Approximation Bounds for Hierarchical Clustering
Speaker: Benjamin Moseley, Carnegie Mellon University, US, talk 1648
Co-Authors: *Joshua Wang*,
4 - Unifying k-Median and k-Center: Approximation Algorithms for Ordered k-Median
Speaker: Chaitanya Swamy, University of Waterloo, CA, talk 1364
Co-Authors: *Deeparnab Chakrabarty*,

Graphical Optimization Model 1

Discrete Optimization & Integer Programming
CP - Tu 8:30am-10:30am, Format: 4x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 295
Organizer: Joris Kinable, Eindhoven University, NL

1 - On the integrated last mile transportation problem
Speaker: David Bergman, University of Connecticut, US, talk 920
Co-Authors: *Arvind Raghunathan*, *John Hooker*, *Shingo Kobori*, *Thiago Serra*,
2 - Cut Generation for Integer (Non-)Linear Programming via Decision Diagrams
Speaker: Willem-Jan van Hoeve, Carnegie Mellon University, US, talk 1317
Co-Authors: *Christian Tjandraatmadja*, *Danial Davarnia*,
3 - Hybrid Optimization Methods for Time-Dependent Sequencing Problems
Speaker: Joris Kinable, Eindhoven University, NL, talk 1161
Co-Authors: *Andre Cire*, *Willem-Jan van Hoeve*,
4 - Compact Representation of Near-Optimal Integer Programming Solutions
Speaker: John Hooker, Carnegie Mellon Univ, US, talk 763
Co-Authors: *Thiago Serra*,

Algorithmic Game Theory I

Optimization under Uncertainty
Game - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Invited Session 311
Organizer: Luce Brotcorne, inria, FR

1 - Solving Strong Stackelberg Equilibrium in Stochastic Games
Speaker: Victor Bucarey, Universidad de Chile, CL, talk 1611
Co-Authors: *Fernando Ordoñez*, *Alain Jean-Marie*, *Eugenio Della Vecchia*,
2 - Models for the single-minded bundle pricing problem
Speaker: Fränk Plein, Université Libre de Bruxelles, BE, talk 515
Co-Authors: *Sourour Elloumi*, *Martine Labbé*,
3 - Branch-and-cut algorithm for the Rank Pricing problem
Speaker: Concepcion Dominguez, Inria, FR, talk 1643
Co-Authors: *Martine Labbé*, *Alfredo Marín*, *Carmen Galé*, *Herminia Calvete*,
4 - A matheuristic for the bilevel 0-1 public-private partnership problem
Speaker: Yury Kochetov, Institute of Mathematics, RU, talk 499
Co-Authors: *Alexander Zyryanov*, *Sergey Lavlinskii*,

Optimization in Statistical Learning

Specific Models, Algorithms, and Software
Learning - Tu 8:30am-10:30am, Format: 4x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 326
Organizer: Quentin Berthet, University of Cambridge, GB

1 - Near-linear time approximation algorithms for optimal transport
Speaker: Jonathan Weed, MIT, US, talk 1602
Co-Authors: *Jason Altschuler*, *Philippe Rigollet*,
2 - Sharp Oracle Inequalities for nonconvex regularized M-estimators
Speaker: Andreas Elsener, ETH Zurich, CH, talk 1561
Co-Authors: *Sara van de Geer*,
3 - Sharpness, Restart and Compressed Sensing Performance
Speaker: Alexandre d Aspremont, CNRS - ENS, FR, talk 590
Co-Authors: *Vincent Roulet*, *Nicolas Boumal*,
4 - Towards a deeper understanding of generalization for kernel learning
Speaker: Fan Yang, UC Berkeley, US, talk 1597
Co-Authors: *Martin Wainwright*, *Yuting Wei*, *Raaz Dwivedi*,

Statistics meets optimization: going beyond convexity

Specific Models, Algorithms, and Software
Learning - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 337
Organizer: John Duchi, Stanford University, US

1 - Learning ReLUs and over-parameterized neural networks via gradient descent
Speaker: Mahdi Soltanolkotabi, USC, US, talk 1580
2 - When are nonconvex optimization problems not scary?
Speaker: Ju Sun, Stanford University, US, talk 953
Co-Authors: *Qing Qu*, *John Wright*, *Yu Bai*, *David Barmherzig*, *Emmanuel Candes*,
3 - Solving composite optimization problems, with applications to phase retrieval an
Speaker: John Duchi, Stanford University, US, talk 1157
Co-Authors: *Feng Ruan*,
4 - Optimal iterative thresholding algorithms for sparse optimization
Speaker: Rina Barber, University of Chicago, US, talk 1644
Co-Authors: *Haoyang Liu*,

Interval Global Optimization

Specific Models, Algorithms, and Software
Sciences - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 339
Organizer: Frederic Messine, LAPLACE-ENSEEIHT-INPT, FR

1 - Nonlinear Symbolic Transformations for Simplifying Functions – Interval Methods
Speaker: Tibor Csendes, University of Szeged, HU, talk 1420
Co-Authors: *Elvira Antal*,
2 - An Interval Branch and Bound Algorithm for Param-

eter Estimation
Speaker: Bertrand Neveu, Ecole des Ponts, FR, talk 1454
Co-Authors: *Pascal Monasse*, *Martin de la Gorce*, *Gilles Trombettoni*,
3 - Interval Branch-and-Bound Algorithm for semi-infinite programming
Speaker: Dominique Monnet, ENSTA Bretagne, FR, talk 1530
Co-Authors: *Jordan Ninin*, *Benoit Clement*,
4 - Reliable convex relaxation techniques for interval global optimization codes
Speaker: Frederic Messine, LAPLACE-ENSEEIHT-INPT, FR, talk 1374
Co-Authors: *Gilles Trombettoni*,

Path and tree problems

Specific Models, Algorithms, and Software
Network - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 360
Chair: Arthur Delarue, MIT, US

1 - Approximate Shortest Paths and Transshipment in Distributed and Streaming Models
Speaker: Andreas Karrenbauer, MPI for Informatics, DE, talk 1382
Co-Authors: *Ruben Becker*, *Christoph Lenzen*, *Sebastian Krinninger*,
2 - Exact IP-based approaches for the longest induced path problem.
Speaker: Dmytro Matsypura, The University of Sydney, AU, talk 290
Co-Authors: *Alexander Veremyev*, *Oleg Prokopyev*, *Eduardo Pasiliao*,
3 - Adding Edges of Short Lengths Incident with the Root to Complete K-ary Tree
Speaker: Kiyoshi Sawada, Univ. of Mktg. - Distr. Sci., JP, talk 1521
4 - Travel Time Estimation in the Age of Big Data
Speaker: Arthur Delarue, MIT, US, talk 784
Co-Authors: *Dimitris Bertsimas*, *Patrick Jaillet*, *Sebastien Martin*,

Unconstrained Optimization

Continuous Optimization
NLP - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Contributed Session 401
Chair: Ekkehard Sachs, Trier University, DE

1 - SYMMBK algorithm applied to Newton-Krylov methods for unconstrained optimization
Speaker: Andrea Caliciotti, University of Rome La Sapienza, IT, talk 1315
Co-Authors: *Giovanni Fasano*, *Florian Potra*, *Massimo Roma*,
2 - Regularizing trust-region methods for ill-posed nonlinear least-squares problems
Speaker: Elisa Riccietti, IRIT, FR, talk 557
Co-Authors: *Stefania Bellavia*, *Benedetta Morini*,
3 - Approximate Inverse Preconditioning for Newton-Krylov methods
Speaker: Massimo Roma, SAPIENZA Universita' di Roma, IT, talk 1164
Co-Authors: *Mehiddin Al-Baali*, *Andrea Caliciotti*, *Giovanni Fasano*,
4 - Second Order Adjoints
Speaker: Ekkehard Sachs, Trier University, DE, talk 1378
Co-Authors: *Noemi Petra*,

Robust Optimization and Operations Mangement

Optimization under Uncertainty
Robust - Tu 9:00am-10:30am, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 410
Organizer: Chaithanya Bandi, Northwestern University, US

1 - Robustness of Static Pricing Policies in the Face of Strategic Customers
Speaker: Nikos Trichakis, MIT, US, talk 1186
Co-Authors: *Yiwei Chen*,
2 - Prior-Independent Optimal Auctions
Speaker: Omar Besbes, Columbia University, US, talk 1214
Co-Authors: *Amine Allouah*,
3 - Design and Control of Multi-class Queueing Networks via Robust Optimization
Speaker: Chaithanya Bandi, Northwestern University, US, talk 739
Co-Authors: *Itai Gurvich*,

Facility Location

Specific Models, Algorithms, and Software
Logistics - Tu 9:00am-10:30am, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 414
Chair: Ivan Contreras, Concordia University, CA

1 - Exact solution of single source quadratic capacitated location problems
Speaker: Ivan Contreras, Concordia University, CA, talk 1506
2 - Optimal multi-facility location for competing firms under quantity competition
Speaker: Blas Pelegrin, Universidad de Murcia, ES, talk 187
Co-Authors: *Pascual Fernández*, *M. Dolores García Pérez*,
3 - A new formulation for the Hamiltonian p-median problem
Speaker: Daniel Santos, CMAF-CIO, FCUL, PT, talk 822
Co-Authors: *Luís Gouveia*, *Tolga Bektas*,

Exact approaches for problems over lattices and graphs

Discrete Optimization & Integer Programming
COMB - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 425
Chair: Daniele Catanzaro, CORE - UCL, BE

1 - Why is maximum clique often easy in practice?
Speaker: Austin Buchanan, Oklahoma State University, US, talk 279
Co-Authors: *Jose Walteros*,
2 - Scheduling for Last-Mile Food Delivery
Speaker: Matteo Cosmi, Roma Tre University, IT, talk 1408
Co-Authors: *Gianpaolo Oriolo*, *Veronica Piccialli*, *Simone Terranova*, *Paolo Ventura*,
3 - Optimizing over lattices of unrooted binary trees: Part I - Foundations
Speaker: Martin Frohn, CORE - UCL, BE, talk 1030
Co-Authors: *Daniele Catanzaro*, *Raffaele Pesenti*,
4 - Optimizing over lattices of unrooted binary trees: Part II - On the BMEP
Speaker: Daniele Catanzaro, CORE - UCL, BE, talk 830
Co-Authors: *Martin Frohn*, *Raffaele Pesenti*,

Pricing

Specific Models, Algorithms, and Software
Learning - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 478
Chair: Anastasiya Ivanova, MIPT, RU

1 - Distributed price adjustment for the resource allocation problem
Speaker: Anastasiya Ivanova, MIPT, RU, talk 780
Co-Authors: *Alexander Gasnikov*,
2 - Price forecasting with machine learning algorithms for recommerce activities
Speaker: Yesmine Rouis, Recommerce Lab, FR, talk 1586
Co-Authors: *Sara Calleja*, *Xavier Schepler*, *Jeanjean Antoine*,
3 - Volume forecasting with machine learning algorithms for recommerce activities
Speaker: Sara Calleja, Recommerce Lab, FR, talk 1592
Co-Authors: *Jeanjean Antoine*, *Yesmine Rouis*, *Xavier Schepler*,
4 - Optimal Pricing and Introduction Timing of New Virtual Machines
Speaker: Spyros Zoumpoulis, INSEAD, FR, talk 1525
Co-Authors: *Ian Kash*, *Peter Key*,

Cutting Planes for Integer Programs

Discrete Optimization & Integer Programming
IPtheory - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Contributed Session 512
Chair: Matthias Köppe, UC Davis, US

1 - Characterization and Approximation of General Dual-Feasible Functions
Speaker: Jiawei Wang, UC Davis, US, talk 894
Co-Authors: *Matthias Köppe*,
2 - All finite group complexity injects
Speaker: Yuan Zhou, University of Kentucky, US, talk 1203
3 - Projective cutting-planes by projecting interior points onto polytope facets
Speaker: Daniel Porumbel, Cons. National Art et Metiers, FR, talk 1136
4 - cutgeneratingfunctionology: Python software for CGFs and superadditive duality
Speaker: Matthias Köppe, UC Davis, US, talk 1205
Co-Authors: *Yuan Zhou*, *Jiawei Wang*,

Electric Vehicles and Decarbonization

Specific Models, Algorithms, and Software
Energy - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Contributed Session 519
Chair: Martim Joyce-Moniz, Polytechnique Montreal - GERAD, CA

1 - A techno-economic analysis of the impact of decarbonization
Speaker: Paolo Pisciella, NTNU, NO, talk 1322
2 - Equilibrium Analysis of a Carbon Tax With Pass-through Restrictions
Speaker: Francisco Munoz, Universidad Adolfo Ibáñez, CL, talk 701
Co-Authors: *Gabriel Diaz*, *Rodrigo Moreno*,
3 - Management of EV Charging Stations under Advance Reservations Schemes
Speaker: Daniel Olivares, PUC-Chile, CL, talk 342
Co-Authors: *Matias Negrete-Pincetic*, *Alvaro Lorca*, *Rodrigo Bernal*,
4 - Increasing electric vehicle adoption via strategic siting of charging stations
Speaker: Martim Joyce-Moniz, Polytechnique Montreal - GERAD, CA, talk 179
Co-Authors: *Miguel Anjos*, *Bernard Gendron*,

Risk Models for Electricity Markets

Specific Models, Algorithms, and Software
Energy - Tu 8:30am-10:30am, Format: 4x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 521
Chair: Michael Ferris, University of Wisconsin, US

1 - Risky Capacity Equilibrium Models for risk averse investment equilibria
Speaker: Daniel Ralph, University of Cambridge, GB, talk 1681

Co-Authors: *Gauthier de Maere*, *Andreas Ehrenmann*, *Yves Smeers*,
2 - Payment mechanisms, efficiency savings and risk-aversion in electricity markets
Speaker: Ryan Cory-Wright, MIT, US, talk 565
Co-Authors: *Golbon Zakeri*, *Andy Philpott*,
3 - Risk and Information Sharing in Peer-to-Peer Electricity Markets
Speaker: Fabio Moret, DTU, DK, talk 1052
Co-Authors: *Pierre Pinson*, *Athanasios Papakonstantinou*,
4 - Dynamic Risked Equilibrium for Energy Planning
Speaker: Michael Ferris, University of Wisconsin, US, talk 1455
Co-Authors: *Andy Philpott*,

Asymptotic Lagrangian duality for nonsmooth optimization

Invited Talks
KEYNOTE - Tu 11:00am-12:00am, Format: 1x60 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 541
Organizer: Xiaojun Chen, Hong Kong Polytechnic Univ., HK

1 - Asymptotic Lagrangian duality for nonsmooth optimization
Speaker: Regina Burachik, UniSA, AU, talk 1635

Lower bounds on the size of linear programs

Invited Talks
KEYNOTE - Tu 11:00am-12:00am, Format: 1x60 min
Room: BROCA Building: W, 3rd floor, Zone: 0

Invited Session 545
Organizer: Volker Kaibel, OVGU Magdeburg, DE

1 - Lower Bounds on the Size of Linear Programs
Speaker: Thomas Rothvoss, University of Washington, US, talk 1578

Adaptive Robust Optimization with Scenario-wise Ambiguity Sets

Invited Talks
SEMI - Tu 11:00am-12:00am, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 551
Organizer: Daniel Kuhn, EPFL, CH

1 - Adaptive Robust Optimization with Scenario-wise Ambiguity Sets
Speaker: Melvyn Sim, NUS, SG, talk 1686
Co-Authors: *Chen Zhi*, *Peng Xiong*,

The Resurgence of Proximal Methods in Optimization

Invited Talks
PLENARY - Tu 1:30pm-2:30pm, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 555
Organizer: Claudia Sagastizabal, Unicamp, BR

1 - The resurgence of proximal methods in optimization
Speaker: Marc Teboulle, Tel Aviv University, IL, talk 1583

Sum-of-squares and moment problems: methods and applications

Continuous Optimization
NLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 2
Organizer: Etienne De Klerk, Tilburg University, NL

1 - LP, SOCP, and Optimization-Free Approaches to Polynomial Optimization
Speaker: Amir Ali Ahmadi, Princeton University, US, talk 350
Co-Authors: *Anirudha Majumdar*, *Georgina Hall*,
2 - Distributionally robust optimization with SOS polynomial density functions and m
Speaker: Krzysztof Postek, Erasmus University Rotterdam, NL, talk 14
Co-Authors: *Etienne De Klerk*, *Daniel Kuhn*,
3 - Nonnegative polynomials, and applications to learning
Speaker: Georgina Hall, Princeton University, US, talk 250
Co-Authors: *Amir Ali Ahmadi*, *Mihaela Curmei*,

Algorithms in the Sharing Economy

Discrete Optimization & Integer Programming
APPROX - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 22
Organizer: David Shmoys, Cornell University, US

1 - Minimizing Latency in Online Ride and Delivery Services
Speaker: Anthony Kim, Stanford University, US, talk 252
Co-Authors: *Abhimanyu Das*, *Sreenivas Gollapudi*, *Debmalya Panigrahi*, *Chaitanya Swamy*,
2 - Broken Bike Docks and the Prize-Collecting Traveling Salesman Problem
Speaker: Alice Paul, Brown University, US, talk 246
Co-Authors: *Daniel Freund*, *David Shmoys*, *David Williamson*, *Aaron Ferber*,

3 - Allocating capacity in bike-sharing systems
Speaker: David Shmoys, Cornell University, US, talk 242
Co-Authors: *Daniel Freund*, *Shane Henderson*,

Advances in DFO II

Continuous Optimization
DerFree - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 37
Chair: Warren Hare, University of British Columbia, CA

1 - Variable-fidelity derivative-free algorithms for road design
Speaker: Yves Lucet, University of British Columbia, CA, talk 648
Co-Authors: *Warren Hare*, *Mahdi Aziz*, *Majid Jaberipour*,
2 - Derivative-Free Robust Optimization by Outer Approximations
Speaker: Matt Menickelly, Argonne National Laboratory, US, talk 586
Co-Authors: *Stefan Wild*,
3 - The Mesh Adaptive Direct Search algorithm for granular and discrete variables
Speaker: Sébastien Le Digabel, Polytechnique Montreal, CA, talk 130
Co-Authors: *Charles Audet*, *Christop Tribes*,

Bridging NLP and Theoretical Computer Science

Continuous Optimization
NLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Invited Session 51
Organizer: Aleksander Madry, MIT, US

1 - Improved Max Flow and Bipartite Matching Algorithms via Interior Point Method
Speaker: Aleksander Madry, MIT, US, talk 1192
2 - First-order methods: from dynamical systems to discrete optimization
Speaker: Lorenzo Orecchia, Boston University, US, talk 1289
Co-Authors: *Jelena Diakonikolas*,
3 - A homotopy method for lp regression provably beyond self-concordance
Speaker: Yin Tat Lee, University of Washington, US, talk 334
Co-Authors: *Sébastien Bubeck*, *Michael Cohen*, *Yuanzhi Li*,

Interior Point Methods in Engineering Applications II

Continuous Optimization
NLP - Tu 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 61
Organizer: Jacek Gondzio, University of Edinburgh, GB

1 - A multigrid interior point method for large scale topology optimization
Speaker: Michal Kocvara, University of Birmingham, GB, talk 431
Co-Authors: *Alexander Brune*,
2 - Solving large-scale truss layout optimization problems by a primal-dual IPM
Speaker: Jacek Gondzio, University of Edinburgh, GB, talk 654
Co-Authors: *Alemseged Weldeyesus*,

Recent Advances in Conic Programming I

Continuous Optimization
SDP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 82
Organizer: Makoto Yamashita, Tokyo Institute of Technology, JP

1 - Strong and Cheap SDP and SOCP Hierarchies for Polynomial Optimization
Speaker: Bissan Ghaddar, Ivey Business School, CA, talk 180
2 - BP: a Matlab package based on the Bisection and Projection method for POPs
Speaker: Sunyoung Kim, Ewha W. University, KR, talk 444
Co-Authors: *Naoki Ito*, *Masakazu Kojima*, *Akiko Takeda*, *Kim-Chuan Toh*,
3 - Sum-of-squares optimization with and without semidefinite programming
Speaker: David Papp, NC State University, US, talk 471
Co-Authors: *Sercan Yildiz*,

Applications in Mixed-Integer Quadratic Programming

Discrete Optimization & Integer Programming
MINLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 107
Organizer: Boshi Yang, Clemson University, US

1 - Improved Representations of the Quadratic Linear Ordering Problem
Speaker: Boshi Yang, Clemson University, US, talk 669
Co-Authors: *Audrey DeVries*, *Warren Adams*,
2 - Robust QCQPs Under Mixed Integer Uncertainty
Speaker: Areesh Mittal, University of Texas at Austin, US, talk 671
Co-Authors: *Grani Hanasusanto*, *Can Gokalp*,
3 - Machine Learning and Optimization for Neuroscience

Speaker: Chiara Liti, University of Rome Tor Vergata, IT, talk 873
Co-Authors: *Luigi Bianchi*, *Veronica Piccialli*, *Matteo Cosmi*, *Giampaolo Liuzzi*,

Relative Entropy Optimization II

Continuous Optimization
SDP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 112
Organizer: Venkat Chandrasekaran, Caltech, US

1 - Newton Polytopes and Relative Entropy Optimization
Speaker: Venkat Chandrasekaran, Caltech, US, talk 97
2 - Optimization over the Hypercube via Sums of Nonnegative Circuit Polynomials
Speaker: Timo de Wolff, TU Berlin, DE, talk 156
Co-Authors: *Mareike Dressler*, *Adam Kurpisz*,
3 - The REPOP Toolbox: Polynomial Optimization Using Relative Entropy Relaxations
Speaker: Orcun Karaca, ETH Zurich, CH, talk 153
Co-Authors: *Angelos Georghiou*, *John Lygeros*, *Paul Beuchat*, *Georgios Darivianakis*,

Symmetry Handling in Integer Programs

Discrete Optimization & Integer Programming
IPpractice - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 129
Organizer: Christopher Hojny, TU Darmstadt, DE

1 - Breaking full-orbitopal symmetries and subsymmetries
Speaker: Cecile Rottner, EDF, FR, talk 552
Co-Authors: *Pascale Bendotti*, *Pierre Fouilhoux*,
2 - Symmetry Breaking Inequalities from the Schreier-Sims table
Speaker: Domenico Salvagnin, University of Padova, IT, talk 151
3 - Symmetry Breaking Polytopes: A Framework for Symmetry Handling in Binary Program
Speaker: Christopher Hojny, TU Darmstadt, DE, talk 143
Co-Authors: *Marc Pfetsch*,

Nonlinear Optimization and Variational Inequalities III

Continuous Optimization
Variat - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 143
Organizer: Xin Liu, Chinese Academy of Sciences, CN

1 - A primal-dual IPM with rapid detection on infeasibility for nonlinear programs
Speaker: Xinwei Liu, Hebei University of Technology, CN, talk 89
Co-Authors: *Yu-Hong Dai*, *Jie Sun*,
2 - Some discussion on nonsmooth convex regression with cardinality penalty
Speaker: Wei Bian, Harbin Institute of Technology, CN, talk 815
Co-Authors: *Xiaojun Chen*,
3 - Proximal Algorithms with Extrapolation for Nonconvex Nonsmooth Problems
Speaker: Bo Wen, Hebei University of Technology, CN, talk 243

Pricing Methods

Specific Models, Algorithms, and Software
Logistics - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 182
Organizer: Rafael Martinelli, PUC-Rio, BR

1 - A branch-and-price algorithm for the Minimum Latency Problem
Speaker: Teobaldo Bulhões Júnior, UFPB, BR, talk 1273
Co-Authors: *Ruslan Sadykov*, *Eduardo Uchoa*,
2 - Pricing, cycles, and pivots
Speaker: Jacques Desrosiers, HEC Montreal, CA, talk 1066
Co-Authors: *Jean Bertran Gauthier*,
3 - Branch-Cut-and-Price Solver for Vehicle Routing Problems
Speaker: Ruslan Sadykov, Inria Bordeaux - Sud-Ouest, FR, talk 1619
Co-Authors: *Issam Tahiri*, *Francois Vanderbeck*, *Rémi Duclos*, *Artur Pessoa*, *Eduardo Uchoa*,

Nonconvex Optimization: Theory and Methods - Part 2

Continuous Optimization
NonSmooth - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 186
Organizer: Russell Luke, University of Göttingen, DE

1 - Splitting methods for nonconvex feasibility problems
Speaker: Guoyin Li, University of New South Wales, AU, talk 1495
Co-Authors: *Ting Kei Pong*,
2 - Projective Splitting with Forward Steps
Speaker: Patrick Johnstone, Rutgers, US, talk 82
Co-Authors: *Jonathan Eckstein*,
3 - Convergence Analysis for Nonconvex Optimization Made Easy
Speaker: Russell Luke, University of Göttingen, DE, talk 133
Co-Authors: *Nguyen Thao*, *Matthew Tam*,

MIP under Uncertainty 2

Discrete Optimization & Integer Programming
IPtheory - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 232
Organizer: Simge Kucukyavuz, University of Washington, US

1 - Two-stage stochastic p-order conic mixed integer programs
Speaker: Manish Bansal, Virginia Tech, US, talk 154
Co-Authors: *Yingqiu Zhang*,
2 - Inexact cutting plane techniques for two-stage stochastic mixed-integer programs
Speaker: Ward Romeijnders, University of Groningen, NL, talk 228
Co-Authors: *Niels van der Laan*, *Suvrajeet Sen*,
3 - Solving Stochastic and Bilevel Mixed-Integer Programs via a Generalized Value F.
Speaker: Andrew Schaefer, Rice University, US, talk 560
Co-Authors: *Onur Tavaslioglu*, *Oleg Prokopyev*,

Optimal Control and PDE Constrained Optimization

Continuous Optimization
Control - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 233
Organizer: Hasnaa Zidani, ENSTA ParisTech, FR

1 - Control of semi discretized (in space) systems of parabolic equations.
Speaker: Damien Allonsius, Aix-Marseille Université, FR, talk 1340
Co-Authors: *Franck Boyer*, *Morgan Morancey*,
2 - Strong local optimality for generalised L^1 optimal control problems
Speaker: Francesca Chittaro, Université de Toulon, FR, talk 855
Co-Authors: *Laura Poggiolini*,
3 - Shortest Dubins Paths through Three Points
Speaker: Zheng Chen, Technion, IL, talk 823
Co-Authors: *Tal Shima*,

Distributionally Robust and Stochastic Optimization: A Sampling/Scenario Perspective

Optimization under Uncertainty
Stoch - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 249
Organizer: Guzin Bayraksan, Ohio State University, US

1 - Optimizing the Design of a Latin Hypercube Sampling Estimator for SAA
Speaker: Alexander Zolan, University of Texas-Austin, US, talk 1361
Co-Authors: *John Hasenbein*, *David Morton*,
2 - Out-of-sample analysis of distributionally robust optimization
Speaker: Jun-ya Gotoh, Chuo university, JP, talk 926
Co-Authors: *Michael Kim*, *Andrew Lim*,
3 - Effective Scenarios in Multistage Distributionally Robust Stochastic Programs
Speaker: Guzin Bayraksan, Ohio State University, US, talk 1547
Co-Authors: *Hamed Rahimian*, *Tito Homem-de-Mello*,

New developments in prophet inequalities and related settings

Discrete Optimization & Integer Programming
COMB - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 258
Organizer: Ruben Hoeksma, Universität Bremen, DE

1 - Prophet Inequality and Prophet Secretary
Speaker: Ashish Chiplunkar, EPFL, CH, talk 171
Co-Authors: *Yossi Azar*, *Haim Kaplan*,
2 - Prophets, Secretaries, and Prices
Speaker: Brendan Lucier, Microsoft, US, talk 518
3 - Posted Prices and Threshold Strategies for Random Arrivals
Speaker: Tim Oosterwijk, Universidad de Chile, CL, talk 68
Co-Authors: *José Correa*, *Ruben Hoeksma*, *Tjark Vredeveld*, *Patricio Foncea*,

Convex relaxations in MINLP

Discrete Optimization & Integer Programming
MINLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 278
Organizer: Adam Letchford, Lancaster University, GB

1 - A convex reformulation and an outer approximation for a class of BQP
Speaker: Borzou Rostami, Polytechnique Montreal, CA, talk 1185
Co-Authors: *Andrea Lodi*, *Fausto Errico*,
2 - Separating over the convex hull of MINL constraints
Speaker: Felipe Serrano, Zuse Institute Berlin, DE, talk 1219
3 - Bi-Perspective Cuts for Mixed-Integer Fractional Programs
Speaker: Adam Letchford, Lancaster University, GB, talk 94
Co-Authors: *Qiang Ni*, *Zhaoyu Zhong*,

Applications of MINLP

Discrete Optimization & Integer Programming
MINLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 281
Organizer: Dolores Romero Morales, Copenhagen Business School, DK

1 - Packing problem as mixed integer non-linear model using formulation space search
Speaker: Claudia López, National University of Mexico, MX, talk 1472
Co-Authors: *John Beasley*,
2 - Piecewise Linear Function Fitting via Mixed-Integer Linear Programming
Speaker: Steffen Rebennack, KIT, DE, talk 313
Co-Authors: *Vitaliy Krasko*,
3 - Feature Selection for Benchmarking
Speaker: Dolores Romero Morales, Copenhagen Business School, DK, talk 1469
Co-Authors: *Sandra Benítez-Peña*, *Peter Bogetoft*,

Equilibrium Modelling in Energy

Specific Models, Algorithms, and Software
Energy - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 290
Organizer: Thomas Kallabis, University of Duisburg-Essen, DE

1 - Optimal Price Zones and Investment Incentives in Electricity Markets
Speaker: Mirjam Ambrosius, FAU, DE, talk 1482
Co-Authors: *Veronika Grimm*, *Thomas Kleinert*, *Frauke Liers*, *Martin Schmidt*, *Gregor Zöttl*,
2 - Strategic generation investment using a stochastic rollinghorizon MPEC approach
Speaker: Thomas Kallabis, University of Duisburg-Essen, DE, talk 879
Co-Authors: *Steven Gabriel*,
3 - Coordination Problems in the Coupling of Gas and Electricity Markets
Speaker: Christoph Weber, U Duisburg-Essen, DE, talk 1539

Recent Advances in Stochastic and Non-convex Optimization II

Continuous Optimization
RandomM - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 304
Organizer: Mingyi Hong, University of Minnesota, US

1 - First-order Stochastic Algorithms for Escaping From Saddle Points
Speaker: Tianbao Yang, University of Iowa, US, talk 549
Co-Authors: *Yi Xu*, *Rong Jin*,
2 - Markov chain Monte Carlo methods for Dynamic Stochastic Optimization
Speaker: John Birge, University of Chicago, US, talk 1447
3 - Composite Difference-Max Programs for Modern Statistical Estimation Problems
Speaker: Jong-Shi Pang, Univ. Southern California, US, talk 1682
Co-Authors: *Cui Ying*, *Bodhisattva Sen*,

Distributed and Asynchronous Learning

Specific Models, Algorithms, and Software
Learning - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Invited Session 323
Organizer: Ion Necoara, Univ. Politehnica Bucharest, RO

1 - Avoiding communication in first-order methods for convex optimization
Speaker: Aditya Devarakonda, UC Berkeley, US, talk 1211
Co-Authors: *Kimon Fountoulakis*, *James Demmel*, *Michael Mahoney*,
2 - On the Expected Convergence of SGD with Large Stepsizes
Speaker: Marten van Dijk, University of Connecticut, US, talk 513
Co-Authors: *Phuong Nguyen*, *Lam Nguyen*,
3 - Asynchronous primal-dual proximal algorithms for large-scale optimization
Speaker: Puya Latafat, KU Leuven, BE, talk 1008
Co-Authors: *Panos Patrinos*,

Advances in large-scale machine learning

Specific Models, Algorithms, and Software
Learning - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 327
Organizer: Mark Schmidt, UBC, CA

1 - Exponential convergence of testing error for stochastic gradient methods.
Speaker: Francis Bach, INRIA - ENS, FR, talk 964
Co-Authors: *Loucas Pillaud-Vivien*, *Alessandro Rudi*,
2 - Mirrored Langevin Dynamics
Speaker: Volkan Cevher, EPFL, CH, talk 332
Co-Authors: *Ya-Ping Hsieh*,
3 - Catalyst Acceleration for Gradient-based Optimization of Structured Models
Speaker: Zaid Harchaoui, UW, US, talk 1162
Co-Authors: *Krishna Pillutla*, *Sham Kakade*,

Local Search and Facility Location

Discrete Optimization & Integer Programming
APPROX - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Invited Session 342
Organizer: Felix Willamowski, RWTH Aachen University, DE

1 - Local Search based Approximation Algorithms for Capacitated k median problems.
Speaker: Neelima Gupta, University of Delhi, IN, talk 848
Co-Authors: *Aditya Pancholi*,
2 - Proportional Approval Voting, Harmonic k-median, and Negative Association
Speaker: Krzysztof Sornat, University of Wroclaw, PL, talk 851
Co-Authors: *Jaroslaw Byrka*, *Piotr Skowron*,
3 - Hard Instances for Local Search via Mixed Integer Programming
Speaker: Felix Willamowski, RWTH Aachen University, DE, talk 168
Co-Authors: *Marco Lübbecke*,

Game Theory and Energy Markets

Optimization under Uncertainty
Game - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 375
Chair: Didier Aussel, University of Perpignan, FR

1 - Constraint quali cations for parametrized optimization problems and applications
Speaker: Anton Svensson, Universidad de Chile, CL, talk 1111
Co-Authors: *Didier Aussel*,
2 - TrEMa: A Trilevel Energy Market Model
Speaker: Léonard vonNiederhäusern, Inria, FR, talk 1100
Co-Authors: *Didier Aussel*, *Luce Brotcorne*, *Sébastien Lepaul*,
3 - Electricity market model with elastic demand
Speaker: Didier Aussel, University of Perpignan, FR, talk 239
Co-Authors: *Elisabetta Allevi*, *Rossana Riccardi*,

Market places and dynamic programming

Optimization under Uncertainty
Markov - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 380
Chair: Dan Iancu, Stanford University, US

1 - Revenue Management with Repeated Customer Interactions
Speaker: Gonzalo Romero, University of Toronto, CA, talk 1396
Co-Authors: *Andre Calmon*, *Florin Ciocan*,
2 - Dynamic Inventory Control with Stockout Substitution and Demand Learning
Speaker: Boxiao Chen, University of Illinois Chicago, US, talk 1180
Co-Authors: *Xiuli Chao*,
3 - Revenue Losses From Income Guarantees in Centralized Allocation Systems
Speaker: Dan Iancu, Stanford University, US, talk 379
Co-Authors: *Yonatan Gur*, *Xavier Warnes*,

Optimization in Medicine

Specific Models, Algorithms, and Software
Sciences - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 394
Organizer: Sebastian Sager, University Magdeburg, DE

1 - Optimizing the individual treatment of patients with polycythemia vera
Speaker: Manuel Tetschke, OvGU Magdeburg, DE, talk 1307
Co-Authors: *Patrick Lilienthal*, *Sebastian Sager*,
2 - Combinatorial Problems and Models to Help Prevention and Combat Arboviruses
Speaker: Nelson Maculan, UFRJ, BR, talk 1276
Co-Authors: *Marcos Negreiros*, *Bruno Chaves*,
3 - Towards optimized consolidation (chemo)therapy for acute myeloid leukemia
Speaker: Sebastian Sager, University Magdeburg, DE, talk 735
Co-Authors: *Felix Jost*, *Thomas Fischer*, *Enrico Schalk*,

Optimization software and applications

Specific Models, Algorithms, and Software
Algo - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 399
Chair: Bartolomeo Stellato, MIT, US

1 - OSQP: An Operator Splitting Solver for Quadratic Programs
Speaker: Bartolomeo Stellato, MIT, US, talk 1151
Co-Authors: *Goran Banjac*, *Paul Goulart*, *Alberto Bemporad*, *Stephen Boyd*,
2 - High-level abstractions for checkpointing in PDE-constrained optimisation
Speaker: Navjot Kukreja, Imperial College London, GB, talk 880
Co-Authors: *Jan Hueckelheim*, *Simon Funke*, *Mathias Louboutin*, *Michael Lange*, *Andrea Walther*, *Gerard Gorman*,
3 - A quadratic penalty algorithm for linear programming
Speaker: Ivet Galabova, University of Edinburgh, GB, talk 1351

Submodular optimization and beyond

Discrete Optimization & Integer Programming
COMB - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 418
Chair: Satoru Iwata, University of Tokyo, JP

1 - Submodular Minimization Under Congruency Constraints
Speaker: Martin Nägele, ETH Zürich, CH, talk 1588
Co-Authors: *Benny Sudakov*, *Rico Zenklusen*,
2 - The *b*-bibranching Problem: TDI System, Packing, and Discrete Convexity
Speaker: Kenjiro Takazawa, Hosei University, JP, talk 55
3 - Index Reduction via Unimodular Transformations
Speaker: Satoru Iwata, University of Tokyo, JP, talk 1177
Co-Authors: *Mizuyo Takamatsu*,

Linear Optimization III

Continuous Optimization
NLP - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 439
Chair: Rodrigo Mendoza Smith, University of Oxford, GB

1 - Neural constraint selection in Linear Programming
Speaker: Rodrigo Mendoza Smith, University of Oxford, GB, talk 1546
Co-Authors: *Pawan Kumar*,
2 - New station cone algorithm variant for linear programming and computing experiment
Speaker: Chu Nguyen, Viet Power Ltd Company, VN, talk 1665
Co-Authors: *Hue Thanh*,
3 - A predictor-corrector algorithm for lp problems using the mixed penalty approach
Speaker: Khalid El Yassini, Moulay Ismail University, MA, talk 1458
Co-Authors: *Kenza Oufaska*, *Ahmed El Ghali*,

Recent Advances in Robust Optimization I

Optimization under Uncertainty
Robust - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 442
Organizer: Phebe Vayanos, USC, US

1 - Optimization in the Small-Data, Large-Scale Regime
Speaker: Vishal Gupta, USC Marshall, US, talk 1516
Co-Authors: *Paat Rusmevichientong*,
2 - Interpretable Optimal Stopping
Speaker: Velibor Misic, UCLA, US, talk 1358
Co-Authors: *Florin Ciocan*,
3 - Fair, Efficient, and Interpretable Policies for Allocating Scarce Resources
Speaker: Phebe Vayanos, USC, US, talk 899
Co-Authors: *Mohammad Azizi*, *Bryan Wilder*, *Eric Rice*, *Milind Tambe*,

Recent Advances in Robust Optimization II

Optimization under Uncertainty
Robust - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 445
Organizer: Wolfram Wiesemann, Imperial College London, GB

1 - A Robust Optimization Perspective on Bilinear Programming
Speaker: Jianzhe Zhen, EPFL, CH, talk 827
Co-Authors: *Ahmadreza Marandi*, *Dick den Hertog*, *Lieven Vandenberghe*,
2 - Calibrating Optimization under Uncertainty
Speaker: Huajie Qian, Columbia University, US, talk 1600
Co-Authors: *Henry Lam*,
3 - The Distributionally Robust Chance Constrained Vehicle Routing Problem
Speaker: Wolfram Wiesemann, Imperial College London, GB, talk 817
Co-Authors: *Shubhechyya Ghosal*,

Learning for mixed integer optimization

Specific Models, Algorithms, and Software
Learning - Tu 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 482
Chair: Hari Bandi, MIT, US

1 - Learning a Mixture of Gaussians via Mixed Integer Optimization
Speaker: Hari Bandi, MIT, US, talk 1501
Co-Authors: *Dimitris Bertsimas*, *Rahul Mazumder*,
2 - Learning for Tuning Parameters of NUOPT MILP Solver
Speaker: Takanori Maehara, RIKEN AIP, JP, talk 1257
Co-Authors: *Kensuke Otsuki*, *Yasumi Ishibashi*, *Koichi Fujii*, *Tomohiro Takahashi*,

Optimization Models for Renewable Energy Integration 2

Specific Models, Algorithms, and Software

ENERGY - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

CONTRIBUTED SESSION 523
Chair: Michel Denault, HEC Montréal, CA

1 - A MIP formulation of a Hybrid AC-DC offshore wind power plant topology
Speaker: Cristina Corchero, IREC, ES, talk 1244
Co-Authors: *Josep Homs-Moreno*, *F.-Javier Heredia*, *Lucia Igualada*, *Mikel de Prada*,
2 - Optimal Design of a Decentralized Energy Network including Renewable Energies
Speaker: Kristina Janzen, TU Darmstadt, DE, talk 877
Co-Authors: *Stefan Ulbrich*, *Sven Leyffer*,
3 - Approximate dynamic programming for hydropower optimization
Speaker: Michel Denault, HEC Montréal, CA, talk 1473
Co-Authors: *Pascal CôTé*, *Jean-Guy Simonato*, *Nicolas Léveillé*, *Jean-Phil. Olivier-Meunier*, *Maël Veron*,

Supply Chain and Lot Sizing

SPECIFIC MODELS, ALGORITHMS, AND SOFTWARE
SCHEDULING - Tu 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

CONTRIBUTED SESSION 534
Chair: Simon Thevenin, HEC Montréal, CA

1 - Decision Rule-based Method for Flexible Multi-Facility Capacity Planning Problem
Speaker: Sixiang Zhao, ISEM, NUS, SG, talk 1272
Co-Authors: *William Haskell*, *Michel Cardin*,
2 - Two-Period Relaxations for Big-Bucket Lot-Sizing: Polyhedra and Algorithms
Speaker: Kerem Akartunali, University of Strathclyde, GB, talk 1149
Co-Authors: *Mahdi Doostmohammadi*, *Ioannis Fragkos*,
3 - Scenario based stochastic optimization for the multi-echelon lot-sizing problem
Speaker: Simon Thevenin, HEC Montréal, CA, talk 348
Co-Authors: *Yossiri Adulyasak*, *J.-F. Cordeau*,

A.W. Tucker Prize Session

INVITED TALKS
INTERFACE - Tu 3:15pm-4:45pm, Format:
Room: SIGALAS Building: C, 2nd floor, Zone: 2

CONTRIBUTED SESSION 559
Chair: Simge Kucukyavuz, University of Washington, US

Approximation Algorithms for the Traveling Salesman Problem

DISCRETE OPTIMIZATION & INTEGER PROGRAMMING
APPROX - We 8:30am-10:30am, Format: 4x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

INVITED SESSION 23
Organizer: Anke van Zuylen, College of William Mary, US

1 - Vehicle Routing with Subtours
Speaker: Stephan Held, University of Bonn, DE, talk 212
Co-Authors: *Jochen Koenemann*, *Jens Vygen*,
2 - Fast Approximations for Metric TSP
Speaker: Kent Quanrud, UIUC, US, talk 487
Co-Authors: *Chandra Chekuri*,
3 - The *s*-*t*-path TSP: past, present, and future
Speaker: Jens Vygen, University of Bonn, DE, talk 210
Co-Authors: *Vera Traub*,
4 - The Salesman's Paths: Layered Christofides' Trees, Deletion and Matroids
Speaker: Anke van Zuylen, College of William Mary, US, talk 177
Co-Authors: *Andras Sebo*, *Frans Schalekamp*, *Vera Traub*,

Stochastic and Nonlinear Optimization III

CONTINUOUS OPTIMIZATION
NLP - We 8:30am-10:30am, Format: 4x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

INVITED SESSION 31
Organizer: Jorge Nocedal, Northwestern University, US

1 - Efficient Newton-type methods for non-convex machine learning problems
Speaker: Fred Roosta, University of Queensland, AU, talk 486
Co-Authors: *Michael Mahoney*, *Peng Xu*,
2 - Optimization Methods for Training Neural Networks
Speaker: Jorge Nocedal, Northwestern University, US, talk 563
3 - A Newton-CG Method with Complexity Guarantees
Speaker: Stephen Wright, U Wisconsin-Madison, US, talk 422
Co-Authors: *Clément Royer*, *Michael ONeill*,
4 - Smoothed Variable Sample-size Acc. Prox. Methods for Stoch. Convex Optimization
Speaker: Uday Shanbhag, Pennsylvania State University, US, talk 427
Co-Authors: *Afrooz Jalilzadeh*, *Jose Blanchet*, *Peter Glynn*,

New derivative-free algorithms

CONTINUOUS OPTIMIZATION
DERFREE - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

CONTRIBUTED SESSION 34
Chair: Margherita Porcelli, University of Florence, IT

1 - Gray-box optimization of structured problems and other new developments in BFO
Speaker: Margherita Porcelli, University of Florence, IT, talk

609
Co-Authors: *Philippe Toint*,
2 - Model-based derivative-free methods for nonsmooth black-box functions
Speaker: Francesco Rinaldi, University of Padova, IT, talk 825
Co-Authors: *Giampaolo Liuzzi*, *Stefano Lucidi*, *Luis Nunes Vicente*,
3 - A flexible, robust and efficient derivative-free solver for least squares
Speaker: Lindon Roberts, University of Oxford, GB, talk 864
Co-Authors: *Coralia Cartis*, *Benjamin Marteau*, *Jan Fiala*,
4 - MultiGLODS: Clever Multistart in Multiobjective Directional Direct Search
Speaker: Ana Custodio, Universidade Nova de Lisboa, PT, talk 1480
Co-Authors: *Jose Madeira*,

Optimality conditions in NLP and conic problems

Continuous Optimization
NLP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 43
Organizer: Roberto Andreani, UNICAMP, BR

1 - A SEQUENTIAL OPTIMALITY CONDITION RELATED TO THE QUASINORMALITY CQ
Speaker: Roberto Andreani, UNICAMP, BR, talk 522
Co-Authors: *Nadia Fazio*, *Maria Schuverdt*, *Leonardo Secchin*,
2 - An extension of Yuan's Lemma and its applications in optimization
Speaker: Gabriel Haeser, University of Sao Paulo, BR, talk 205
3 - Optimality Conditions for Generalized Nash Equilibrium Problems
Speaker: Luis Felipe Bueno, UNIFESP, BR, talk 194
Co-Authors: *Gabriel Haeser*, *Frank Rojas*,
4 - On Optimality Conditions for Linear Copositive Programming
Speaker: Tatiana Tchemisova, University of AVeiro, PT, talk 526
Co-Authors: *Olga Kostyukova*,

Energy markets

Specific Models, Algorithms, and Software Sciences - We 9:00am-10:30am, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 50
Organizer: Martine Labbé, Université Libre de Bruxelles, BE

1 - Unit Commitment under Market Equilibrium Constraints
Speaker: Bernard Fortz, ULB, BE, talk 575
Co-Authors: *Luce Brotcorne*, *Fabio D Andreagiovanni*, *Jérôme De Boeck*,
2 - The Impact of Physics on Market Equilibria in Energy Networks
Speaker: Martin Schmidt, FAU Erlangen-Nürnberg, DE, talk 470
Co-Authors: *Vanessa Krebs*, *Lars Schewe*, *Veronika Grimm*, *Gregor Zöttl*, *Julia Grübel*,
3 - Dynamic programming approach for bidding problems on day-ahead markets
Speaker: Martine Labbé, Université Libre de Bruxelles, BE, talk 305
Co-Authors: *Jérôme De Boeck*, *Etienne Marcotte*, *Patrice Marcotte*, *Gilles Savard*,

MINLP (I)

Discrete Optimization & Integer Programming
MINLP - We 9:00am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 65
Organizer: Daniel Bienstock, Columbia University, US

1 - Time-Varying Semidefinite Programs
Speaker: Bachir El Khadir, Princeton University, US, talk 1194
Co-Authors: *Amir Ali Ahmadi*,
2 - Strengthened Relaxations for Quadratic Optimization with Switching Variables
Speaker: Kurt Anstreicher, University of Iowa, US, talk 147
3 - A Simple Nearly-Optimal Restart Scheme For Speeding-Up First Order Methods
Speaker: James Renegar, Cornell University, US, talk 117
Co-Authors: *Benjamin Grimmer*,

Approximation Algorithms for Scheduling Problems

Discrete Optimization & Integer Programming
APPROX - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Invited Session 72
Organizer: Nicole Megow, University of Bremen, DE

1 - The general scheduling problem with uniform release dates is not APX-hard
Speaker: Ruben Hoeksma, Universität Bremen, DE, talk 144
Co-Authors: *Antonios Antoniadis*, *Julie Meißner*, *Jose Verschae*, *Andreas Wiese*,
2 - Minimizing Maximum Flow Time on Related Machines via Dynamic Pricing
Speaker: Clifford Stein, Columbia University, US, talk 695
Co-Authors: *Sungjin Im*, *Benjamin Moseley*, *Kirk Pruhs*,
3 - Generalizing the Kawaguchi-Kyan Bound to Stochastic Parallel Machine Scheduling
Speaker: Sven Jäger, TU Berlin, DE, talk 661
Co-Authors: *Martin Skutella*,

4 - Precedence-Constrained Min Sum Set Cover
Speaker: Julian Mestre, Facebook, US, talk 92
Co-Authors: *Anthony Wirth*, *Jessica McClintock*,

Recent Advances in Conic Programming II

Continuous Optimization
SDP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 83
Organizer: Sena Safarina, Tokyo Institute of Technology, JP

1 - Convex Relaxations for Nonconvex Quadratically Constrained Quadratic Program
Speaker: Rujun Jiang, Fudan University, CN, talk 131
Co-Authors: *Duan Li*,
2 - Cone Decomposition Method for Mixed-Integer SOCP arising from tree breeding
Speaker: Sena Safarina, Tokyo Institute of Technology, JP, talk 606
Co-Authors: *Makoto Yamashita*,
3 - Infeasibility detection in ADMM for convex optimization
Speaker: Goran Banjac, University of Oxford, GB, talk 746
Co-Authors: *Paul Goulart*, *Bartolomeo Stellato*, *Stephen Boyd*,
4 - A Simplex-like algorithm for the infimum point w.r.t. the second order cone
Speaker: Marta Cavaleiro, Rutgers University, US, talk 406
Co-Authors: *Farid Alizadeh*,

Theory and algorithms in conic linear programming 2

Continuous Optimization
SDP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 89
Organizer: Gabor Pataki, UNC Chapel Hill, US

1 - An extension of Chubanov's algorithm to symmetric cone programming
Speaker: Masakazu Muramatsu, UEC, JP, talk 530
Co-Authors: *Bruno Lourenco*, *Tomonari Kitahara*, *Takashi Tsuchiya*,
2 - Extending MOSEK with exponential cones
Speaker: Joachim Dahl, MOSEK, DK, talk 327
3 - Primal Facial Reduction in Semidefinite Programming and Matrix Completions
Speaker: Stefan Sremac, University of Waterloo, CA, talk 747
Co-Authors: *Hugo Woerdeman*, *Henry Wolkowicz*,
4 - Amenable cones: bridging error bounds and facial reduction
Speaker: Bruno Lourenco, University of Tokyo, JP, talk 532

Determinantal structures of IPs

Discrete Optimization & Integer Programming
IPtheory - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 131
Organizer: Martin Henk, TU Berlin, DE

1 - Width in congruency-constrained TU-systems.
Speaker: Stephan Artmann, ETH Zurich, CH, talk 723
Co-Authors: *Christoph Glanzer*, *Robert Weismantel*,
2 - Faster algorithms for Integer Programming using the Steinitz Lemma
Speaker: Friedrich Eisenbrand, EPFL, CH, talk 52
Co-Authors: *Robert Weismantel*,
3 - On the number of distinct rows of a matrix with bounded sub-determinants
Speaker: Christoph Glanzer, ETH Zürich, CH, talk 722
Co-Authors: *Robert Weismantel*, *Rico Zenklusen*,
4 - Distances between LPs, IPs and MIPs
Speaker: Robert Weismantel, ETH Zurich, CH, talk 717
Co-Authors: *Stefan Weltge*, *Joseph Paat*,

Decomposition Techniques to Solve Large-Scale Optimization Problems for Electricity and Natural Gas Systems

Specific Models, Algorithms, and Software
Energy - We 8:30am-10:30am, Format: 4x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 136
Organizer: Ramteen Sioshansi, The Ohio State University, US

1 - Toward Scalable Stochastic Economic Dispatch on an Industrial-Scale Model
Speaker: Jean-Paul Watson, Sandia National Laboratories, US, talk 1556
Co-Authors: *Bernard Knueven*,
2 - Distributionally Robust Transmission Expansion Planning
Speaker: David Pozo, Skoltech, RU, talk 950
Co-Authors: *Alexandre Velloso*, *Alexandre Street*,
3 - Structures and algorithms for nomination validation in steady-state gas networks
Speaker: Gerrit Slevogt, Universität Duisburg-Essen, DE, talk 621
Co-Authors: *Sabrina Nitsche*, *Ruediger Schultz*,
4 - A bilevel model for the waste-to-energy supply chain in a circular economy
Speaker: Giorgia Oggioni, University of Brescia, IT, talk 521
Co-Authors: *Elisabetta Allevi*, *Luigi Boffino*, *Maria Elena De Giuli*,

Stochastic Optimization and Varia-

tional Inequalities II

Continuous Optimization
Variat - We 9:30am-10:30am, Format: 2x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 156
Organizer: Alejandro Jofre, Universidad de Chile, CL

1 - How does uncertainty of demand propagate to flows under network equilibrium
Speaker: Yueyue Fan, University of California Davis, US, talk 1115
Co-Authors: *Ning Liu*,
2 - Variance-based stochastic extragradient methods with linear search for Stoch. VI
Speaker: Alejandro Jofre, Universidad de Chile, CL, talk 1116
Co-Authors: *Philip Thompson*, *Alfredo Iusem*,

Benders Decomposition for Combinatorial and Bilevel Optimization

Discrete Optimization & Integer Programming
IPpractice - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 171
Organizer: Fabio Furini, LAMSADE–Paris-Dauphine, FR

1 - A Framework for Benders with Integer Sub-Problem
Speaker: Arthur Mahéo, ANU, AU, talk 1210
Co-Authors: *Yossiri Adulyasak*, *J.-F. Cordeau*,
2 - New ILP formulations for the k-Vertex Cut Problem
Speaker: Paolo Paronuzzi, University of Bologna, IT, talk 1527
Co-Authors: *Fabio Furini*, *Ivana Ljubic*, *Enrico Malaguti*,
3 - Decomposition Approaches to Covering Location Problems
Speaker: Ivana Ljubic, ESSEC Business School, FR, talk 1439
Co-Authors: *JeanFrancois Cordeau*, *Fabio Furini*,
4 - The Maximum Clique Interdiction Game
Speaker: Fabio Furini, LAMSADE–Paris-Dauphine, FR, talk 126
Co-Authors: *Ivana Ljubic*, *Pablo San Segundo*, *Sebastie Martin*,

Energy-aware planning and scheduling 1

Specific Models, Algorithms, and Software
Energy - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 177
Organizer: Sandra U. Ngueveu, Univ de Toulouse, INP, LAAS, FR

1 - Robust optimisation of storage in a power generation expansion planning problem
Speaker: Sophie Demassey, CMA Mines ParisTech, FR, talk 1270
Co-Authors: *Edi Assoumou*, *Welnigton de Oliveira*,
2 - Microgrid Energy Flexibility Optimization – 3 use cases
Speaker: Peter Pflaum, Schneider Electric, FR, talk 1520
Co-Authors: *Claude Le Pape*,
3 - ILP models for the job-shop scheduling problem with energy consideration
Speaker: Paolo Gianessi, Mines Saint-Étienne, FR, talk 1452
Co-Authors: *Oussama Masmoudi*, *Xavier Delorme*,
4 - Decomposition method in a scheduling problem with energy storage and costs
Speaker: Sandra U. Ngueveu, Univ de Toulouse, INP, LAAS, FR, talk 1405
Co-Authors: *Nabil Absi*, *Christian Artigues*, *Safia Kedad-Sidhoum*, *Félix Goupil*,

Recent advances in first-order algorithms for non-smooth optimization

Continuous Optimization
NonSmooth - We 8:30am-10:30am, Format: 4x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

Invited Session 198
Organizer: Thomas Pock, Graz University of Technology, AT

1 - Non-smooth Non-convex Bregman Minimization: Unification and new Algorithms
Speaker: Peter Ochs, Saarland University, DE, talk 134
Co-Authors: *Jalal Fadili*,
2 - Primal-dual algorithm for linearly constrained optimization problem
Speaker: Yura Malitsky, Univeristy of Göttingen, DE, talk 155
3 - Stochastic PDHG with Arbitrary Sampling and Applications to Medical Imaging
Speaker: Matthias Ehrhardt, University of Cambridge, GB, talk 127
Co-Authors: *Carola Schoenlieb*, *Peter Richtarik*, *Antonin Chambolle*,
4 - Acceleration and global convergence of the NL-PDHGM
Speaker: Stanislav Mazurenko, University of Liverpool, GB, talk 1655
Co-Authors: *Tuomo Valkonen*, *C. Clason*,

Advances in Integer Programming

Discrete Optimization & Integer Programming
IPtheory - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 230
Organizer: Santanu Dey, GaTech, US

1 - A generalization of Gomory-Chvatal cuts
Speaker: Sanjeeb Dash, IBM Research, US, talk 940

Co-Authors: *Oktay Gunluk*, *Dabeen Lee*,
2 - Integer Programming Techniques for Optimal Transmission Switching Problems
Speaker: Burak Kocuk, Sabanci University, TR, talk 853
Co-Authors: *Santanu Dey*, *Andy Sun*,
3 - Time-indexed Relaxations for the Online Bipartite Matching Problem
Speaker: Alejandro Toriello, Georgia Tech, US, talk 1101
Co-Authors: *Alfredo Torrico*,
4 - Constant Capacity Flow Cover Inequalities on a Path or a Variant of Lot-Sizing
Speaker: Laurence Wolsey, Univ. cath. de Louvain, BE, talk 1222
Co-Authors: *Hande Yaman*,

Progress in MIP Solvers I

Specific Models, Algorithms, and Software
Algo - We 9:00am-10:30am, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8
Invited Session 235
Organizer: Michael Winkler, Gurobi, DE

1 - New features and improvements in the SAS/OR optimization package
Speaker: Imre Polik, SAS Institute, US, talk 898
2 - MIPLIB 2017+1
Speaker: Thorsten Koch, ZIB and TU Berlin, DE, talk 370
Co-Authors: *The MIPLIB-team*,
3 - Benchmarks of commercial and noncommercial optimization software
Speaker: Hans Mittelmann, Arizona State University, US, talk 41

Discrete Convex Analysis

Discrete Optimization & Integer Programming
COMB - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1
Invited Session 243
Organizer: Akiyoshi Shioura, Tokyo Institute of Technology, JP

1 - M-convex Function Minimization under L1-distance Constraint
Speaker: Akiyoshi Shioura, Tokyo Institute of Technology, JP, talk 495
2 - On the Construction of Substitutes
Speaker: Eric Balkanski, Harvard, US, talk 647
Co-Authors: *Renato Paes Leme*,
3 - Discrete Midpoint Convexity
Speaker: Fabio Tardella, Sapienza University of Rome, IT, talk 538
Co-Authors: *Kazuo Murota*, *Akihisa Tamura*, *Satoko Moriguchi*,
4 - Scaling, proximity, and optimization of integrally convex functions
Speaker: Satoko Moriguchi, Tokyo Metropolitan University, JP, talk 700
Co-Authors: *Akihisa Tamura*, *Fabio Tardella*, *Kazuo Murota*,

Chance Constraint and Its Applications

Optimization under Uncertainty
Stoch - We 8:30am-10:30am, Format: 4x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5
Invited Session 253
Organizer: Jianqiang Cheng, University of Arizona, US

1 - Joint chance constrained general sum games
Speaker: Abdel Lisser, Université Paris Sud, FR, talk 688
Co-Authors: *Shen Peng*, *Vikas Singh*,
2 - Distributionally robust geometric programs with chance constraints
Speaker: Jia Liu, Xi'an Jiaotong university, CN, talk 366
Co-Authors: *Zhiping Chen*, *Abdel Lisser*,
3 - Bounds for probabilistic constrained problems
Speaker: Francesca Maggioni, University of Bergamo, IT, talk 328
Co-Authors: *Abdel Lisser*, *Shen Peng*,
4 - Partial Sample Average Approximation Method for Chance Constrained Problems
Speaker: Jianqiang Cheng, University of Arizona, US, talk 793
Co-Authors: *Celine Gicquel*, *Abdel Lisser*,

Optimization under uncertainty

Discrete Optimization & Integer Programming
COMB - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1
Invited Session 261
Organizer: Marco Molinaro, PUC-Rio, BR

1 - Online Probabilistic Metric Embedding and its Applications
Speaker: William Umboh, University of Sydney, AU, talk 138
Co-Authors: *Yair Bartal*, *Nova Fandina*,
2 - Online and Dynamic Algorithms for Set Cover
Speaker: Ravishankar Krishnaswamy, Microsoft Research, IN, talk 358
3 - Algorithms and Adaptivity Gaps for Stochastic Probing
Speaker: Sahil Singla, Carnegie Mellon University, US, talk 115
Co-Authors: *Anupam Gupta*, *Viswanath Nagarajan*,
4 - Online and Random-order Load Balancing Simultaneously
Speaker: Marco Molinaro, PUC-Rio, BR, talk 116

Numerically Efficient Methods for

Piecewise Algorithmic Differentiation I

Specific Models, Algorithms, and Software
Algo - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 269
Organizer: Torsten Bosse, FSU Jena, DE

1 - Study of the numerical efficiency of structured abs-normal forms
Speaker: Sri Hari Narayanan, Argonne National Laboratory, US, talk 1505
Co-Authors: *Torsten Bosse*,
2 - (Almost) Matrix-free solver for piecewise linear functions in Abs-Normal form
Speaker: Torsten Bosse, FSU Jena, DE, talk 962
3 - An active signature method for piecewise differentiable/linear optimization.
Speaker: Andreas Griewank, Yachay Tech, EC, talk 1545
Co-Authors: *Andrea Walther*, *Lisa Hegerhorst*,
4 - Solving l_1 regularized minimax problems by successive piecewise linearization
Speaker: Angel Rojas, Yachay Tech, EC, talk 1549
Co-Authors: *Andreas Griewank*,

Learning in CP

Discrete Optimization & Integer Programming
CP - We 8:30am-10:30am, Format: 4x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 301
Organizer: Arnaud Lallouet, Huawei Technologies France, FR

1 - Constraint acquisition
Speaker: Nadjib Lazaar, LIRMM - U. of Montpellier, FR, talk 539
2 - Reasoning with Learned Constraints
Speaker: Arnaud Lallouet, Huawei Technologies France, FR, talk 814
3 - Boundary Estimation: Learning Boundaries for Constraint Optimization Problems
Speaker: Arnaud Gotlieb, Simula Research Lab., NO, talk 1663
Co-Authors: *Helge Spieker*,
4 - Empirical Model Learning: boosting optimization through machine learning
Speaker: Michela Milano, Università di Bologna, IT, talk 1664

First Order Methods for Non-Smooth Constrained Optimization

Continuous Optimization
RandomM - We 8:30am-10:30am, Format: 4x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 305
Organizer: Qihang Lin, University of Iowa, US

1 - On the Non-Ergodic Convergence Rate of an Inexact Augmented Lagrangian Framework
Speaker: Shiqian Ma, UC Davis, US, talk 805
Co-Authors: *Ya-Feng Liu*, *Xin Liu*,
2 - A level-set method for stochastic optimization with expectation constraints
Speaker: Selvaprabu Nadarajah, Univ. of Illinois and Chicago, US, talk 743
Co-Authors: *Qihang Lin*, *Negar Soheili*,
3 - Fast method for non-smooth non-convex minimization
Speaker: Peng Zheng, University of Washington, US, talk 416
Co-Authors: *Aleksandr Aravkin*,
4 - Stochastic Primal-Dual Coordinate Method for Nonlinear Convex Cone Programs
Speaker: DaoLi Zhu, Shanghai Jiaotong University, CN, talk 1637
Co-Authors: *Lei Zhao*,

Stochastic optimization

Invited Talks
INTERFACE - We 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 314
Chair: Alexei Gaivoronski, NTNU, NO

1 - Using disjunctive programming to represent Risk Aversion policies
Speaker: Bernardo Costa, UFRJ, BR, talk 790
Co-Authors: *Filipe Cabral*, *Joari Costa*,
2 - SDDP with stagewise-dependent objective coefficient uncertainty
Speaker: Anthony Downward, University of Auckland, NZ, talk 1187
Co-Authors: *Oscar Dowson*, *Regan Baucke*,
3 - Stochastic optimization of simulation models: management of
Speaker: Alexei Gaivoronski, NTNU, NO, talk 1416
Co-Authors: *Giovanni Sechi*, *Paola Zuddas*,
4 - Demand Response To Electricity Prices In Flexible Manufacturing
Speaker: Kazem Abbaszadeh, UoA, NZ, talk 794
Co-Authors: *Golbon Zakeri*, *Geoffrey Pritchard*,

First-Order Methods for Machine Learning

Specific Models, Algorithms, and Software
Learning - We 9:00am-10:30am, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Invited Session 319
Organizer: Fabian Pedregosa, UC Berkeley, US

1 - Stochastic Composite Least-Squares Regression with convergence rate O(1/n)
Speaker: Nicolas Flammarion, UC Berkeley, US, talk 1114
2 - Adaptive Three Operator Splitting
Speaker: Fabian Pedregosa, UC Berkeley, US, talk 527

Co-Authors: *Gautheir Gidel*,
3 - Approximate Composite Minimization: Convergence Rates and Examples
Speaker: Sebastian Stich, EPFL, CH, talk 1016
Co-Authors: *Sai Praneeth Karimireddy*, *Martin Jaggi*,

Structured Optimization for Machine Learning and Signal Processing

Specific Models, Algorithms, and Software
Learning - We 8:30am-10:30am, Format: 4x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 330
Organizer: Lin Xiao, Microsoft Research, US

1 - Training neural networks using ADMM for multi-affine constrai
Speaker: Donald Goldfarb, Columbia University, US, talk 665
Co-Authors: *Wenbo Gao*, *Frank Curtis*,
2 - Generalized Conditional Gradient for Structured Sparsity and Convex Deep Network
Speaker: Xinhua Zhang, University of Illinois Chicago, US, talk 807
Co-Authors: *Yaoliang Yu*,
3 - Proximal methods for optimization over nonnegative trigonometric polynomials
Speaker: Lieven Vandenberghe, UCLA, US, talk 1092
Co-Authors: *Hsiao-Han Chao*,
4 - Fast convex optimization for eigenproblems and beyond
Speaker: Mikael Johansson, KTH, SE, talk 1645
Co-Authors: *Vien Van Mai*,

Primal Algorithms for Integer Programming Problems

Discrete Optimization & Integer Programming
IPtheory - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 42 Building: C, 3rd floor, Zone: 1

Invited Session 338
Organizer: Daniel Aloise, Polytechnique Montreal, CA

1 - Integral Column Generation Algorithm for Set Partitioning Type Problems
Speaker: Adil Tahir, Polytechnique Montréal and Gerad, CA, talk 1346
Co-Authors: *Issmail El Hallaoui*, *Guy Desaulniers*,
2 - Distributed Integral Simplex Using Decomposition for Set Partitioning Problems
Speaker: Omar Foutlane, GERAD Montréal, CA, talk 916
Co-Authors: *Issmail El Hallaoui*, *Pierre Hansen*,
3 - A Polyhedral Study of the Shortest Path Problem with Resource Constraints
Speaker: Ilyas Himmich, Polytechnique Montréal, CA, talk 524
Co-Authors: *Issmail El Hallaoui*, *Francois Soumis*, *Hatem Ben Amor*,
4 - A scalable algorithm for the solution of large clustering problems
Speaker: Daniel Aloise, Polytechnique Montreal, CA, talk 559
Co-Authors: *Claudio Contardo*,

Dynamical Systems and Optimization

Continuous Optimization
NonSmooth - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 351
Organizer: Hedy Attouch, Université Montpellier, FR

1 - The continuous proximal-gradient approach in the nonconvex setting
Speaker: Radu Ioan Bot, University of Vienna, AT, talk 1279
2 - Accelerated Forward-Backward Algorithms
Speaker: Alexandre Cabot, Universite de Bourgogne, FR, talk 1565
Co-Authors: *Hedy Attouch*,
3 - Inertial proximal algorithms for maximally monotone operators
Speaker: Juan Peypouquet, Universidad de Chile, CL, talk 1571
Co-Authors: *Hedy Attouch*,
4 - A dual diagonal iterative regularization method
Speaker: Silvia Villa, Politecnico di Milano, IT, talk 1572
Co-Authors: *Guillaume Garrigos*, *Lorenzo Rosasco*,

Robust network optimization

Specific Models, Algorithms, and Software
Network - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Invited Session 357
Organizer: Dimitri Papadimitriou, Nokia Bell Labs, BE

1 - Decomposition Approach for Robust Network Interdiction
Speaker: Joe Naoum-Sawaya, Ivey Business School, CA, talk 429
2 - Robust network slice design under correlated demand uncertainties
Speaker: Varun Reddy, TU Chemnitz, DE, talk 1263
Co-Authors: *Fabio D Andreagiovanni*, *Andreas Baumgartner*, *Thomas Bauschert*,
3 - Equilibria for Robust Routing of Atomic Players
Speaker: Xudong Hu, Chinese Academy of Sciences, CN, talk 396
Co-Authors: *Xujin Chen*, *Chenhao Wang*,
4 - Reliable Multi-level Facility Location Problem (MFLP)
Speaker: Dimitri Papadimitriou, Nokia Bell Labs, BE, talk 1526

Variational Analysis 1

Continuous Optimization
Variat - We 8:30am-10:30am, Format: 4x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 364
Organizer: Samir Adly, Laboratoire XLIM, FR

1 - Second Order Optimality Conditions for Cardinality Constrained Problems
Speaker: Alexandra Schwartz, TU Darmstadt, DE, talk 292
Co-Authors: *Max Bucher*,
2 - Stability Analysis for Parameterized Equilibria with Conic Constraints
Speaker: Helmut Gfrerer, Johannes Kepler University, AT, talk 719
Co-Authors: *Matus Benko*, *Boris Mordukhovich*,
3 - Stability and Sensitivity Analysis of Parametrized Optimization Problems
Speaker: Michel Thera, University of Limoges, FR, talk 483
Co-Authors: *Van Huynh*, *Huu Nguyen*,
4 - Sensitivity analysis of parameterized nonlinear variational inequalities.
Speaker: Samir Adly, Laboratoire XLIM, FR, talk 832

Risk and Financial Markets

Optimization under Uncertainty
Game - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 377
Chair: Markku Kallio, Aalto Univ. School of Business, FI

1 - Bilevel programming approach for investment strategies under intermediation
Speaker: Stefano Nasini, IESEG School of Management, FR, talk 45
Co-Authors: *F. López-Ramos*, *Stefano Nasini*,
2 - A smooth path-following method for computing equilibria in incomplete markets
Speaker: Yang Zhan, City University of Hong Kong, HK, talk 674
Co-Authors: *Chuangyin Dang*,
3 - Cooperative Mitigation of Contagion in Financial Networks
Speaker: Markku Kallio, Aalto Univ. School of Business, FI, talk 326
Co-Authors: *Aein Khabazian*,
4 - Stable Risk Sharing and Its Monotonicity
Speaker: Zhenyu Hu, NUS Business School, SG, talk 395
Co-Authors: *Xin Chen*, *Shuanglong Wang*,

Interfaces of Applied Probability and Optimization

Optimization under Uncertainty
Robust - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 409
Organizer: Omar El Housni, Columbia University, US

1 - Robust Markov Decision Process: Beyond (and back to) Rectangularity
Speaker: Julien Grand Clement, Columbia University, US, talk 749
Co-Authors: *Vineet Goyal*,
2 - Beyond Worst-case: A Probabilistic Analysis of Affine Policies
Speaker: Omar El Housni, Columbia University, US, talk 875
Co-Authors: *Vineet Goyal*,
3 - Sustainable Inventory With Robust Periodic-affine Policies and Med. Supply Chains
Speaker: Omid Nohadani, Northwestern University, US, talk 896
Co-Authors: *Eojin Han*, *Chaithanya Bandi*,
4 - Distributionally Robust Markovian Traffic Equilibrium
Speaker: Karthik Natarajan, SUTD, SG, talk 693
Co-Authors: *Selin Ahipasaoglu*, *Ugur Arikan*,

Computational advances in NLP

Continuous Optimization
NLP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Contributed Session 434
Chair: Jeffrey Pang, NUS, SG

1 - Optimal Bidding, Allocation, and Budget Spending for a Demand-Side Platform.
Speaker: Alfonso Lobos Ruiz, UC, Berkeley, US, talk 1594
Co-Authors: *Paul Grigas*, *Zheng Wen*, *Kuang-chih Lee*,
2 - Distributed deterministic asynchronous optimization using Dykstra's splitting
Speaker: Jeffrey Pang, NUS, SG, talk 932
3 - Decompositions and optimizations of symmetric conjugate complex forms
Speaker: Zhening Li, University of Portsmouth, GB, talk 1316
Co-Authors: *Taoran Fu*, *Bo Jiang*,
4 - An inexact Newton-like conditional gradient method for constrained systems
Speaker: Max Goncalves, Federal University of Goias, BR, talk 237
Co-Authors: *Fabricia Oliveira*,

Fixed Point Approaches

Continuous Optimization
NLP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 435
Chair: Poom Kumam, KMUTT, TH

1 - Convergence analysis of S-iteration process for discontinuous operators
Speaker: Konrawut Khammahawong, KMUTT, TH, talk 724

Co-Authors: *Poom Kumam*,
2 - A new lgorithms for split feasibility problems involving paramonotone equilibria
Speaker: Poom Kumam, KMUTT, TH, talk 577
Co-Authors: *Wiyada Kumam*,
3 - Fixed point and convergence theorems for monotone (α,β)-nonexpansive
Speaker: Khanitin Muangchoo-in, KMUTT, TH, talk 1068
Co-Authors: *Poom Kumam*,
4 - Monotone generalized almost contraction on weighted graph
Speaker: Wudthichai Onsod, KMUTT, TH, talk 946
Co-Authors: *Poom Kumam*,

Robust combinatorial optimization IV

Optimization under Uncertainty
Robust - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Contributed Session 449
Chair: Arie Koster, RWTH Aachen University, DE

1 - The vehicle routing problem under uncertainty via robust optimization
Speaker: Pedro Munari, UFSCar, BR, talk 1471
Co-Authors: *Alfredo Moreno*, *Jonathan De La Vega*, *Douglas Alem*, *Jacek Gondzio*, *Reinaldo Morabito*,
2 - A time-dependent version of the robust TSP and SPP.
Speaker: Marina Leal, University of Seville, ES, talk 982
Co-Authors: *Eduardo Conde*, *Justo Puerto*,
3 - Scheduling Jobs under Uncertainty: A Customer-oriented Approach
Speaker: Arie Koster, RWTH Aachen University, DE, talk 1380
Co-Authors: *Cole Smith*,
4 - Optimizing the electricity production planning with stochastic outage durations
Speaker: Roberto Wolfler Calvo, Université Paris13, FR, talk 1581
Co-Authors: *Antoine Rozenknop*, *Marc Porcheron*, *Pascale Bendotti*, *Clement Pira*,

Sampling and stability in stochastic optimization

Optimization under Uncertainty
Stoch - We 9:00am-10:30am, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Contributed Session 488
Chair: Harsha Honnappa, Purdue University, US

1 - Distributional Robustness and Sample Average Approximation
Speaker: Edward Anderson, University of Sydney, AU, talk 367
Co-Authors: *Andy Philpott*,
2 - On stability of stochastic bilevel programs with risk aversion
Speaker: Matthias Claus, University Duisburg-Essen, DE, talk 268
Co-Authors: *Johanna Burtscheidt*, *Stephan Dempe*,
3 - From Estimation to Optimization via Shrinkage
Speaker: Gerard Cornuejols, Carnegie Mellon University, US, talk 1649
Co-Authors: *Danial Davarnia*,

New trends II

Continuous Optimization
SDP - We 8:30am-10:30am, Format: 4x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 500
Chair: Frank Permenter, Toyota Research Institute, US

1 - An L^2-approach to Copositivity
Speaker: Claudia Adams, Trier University, DE, talk 331
Co-Authors: *Mirjam Duer*, *Leonhard Frerick*,
2 - On algorithms to optimize homogeneous polynomial over the simplex and the sphere
Speaker: Faizan Ahmed, Institute of Space Technology, PK, talk 1363
Co-Authors: *Georg Still*,
3 - Complementarity formulations of rank minimization problems
Speaker: John Mitchell, RPI, US, talk 904
Co-Authors: *April Sagan*, *Xin Shen*,
4 - Interior-point methods via the exponential map
Speaker: Frank Permenter, Toyota Research Institute, US, talk 1483

Distribution and Demand Flexibility

Specific Models, Algorithms, and Software
Energy - We 8:30am-10:30am, Format: 4x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 510
Chair: Golbon Zakeri, University of Auckland, NZ

1 - A Data–Driven Robust Power Management in Active Distribution Systems
Speaker: Alejandro Angulo, UTFSM, CL, talk 1491
Co-Authors: *Fernando Mancilla-David*, *Alexandre Street*,
2 - Exploiting Flexibility in Loads for Balancing Power in Electrical Grids
Speaker: Anja Hähle, TU Chemnitz, DE, talk 572
Co-Authors: *Christoph Helmberg*,
3 - Analysis of a Routing Game Model for Demand Side Management
Speaker: Paulin Jacquot, EDF Lab - Inria Saclay, FR, talk 993
Co-Authors: *Olivier Beaude*, *Stephane Gaubert*, *Nadia Oudjane*,
4 - Demand response in electricity markets
Speaker: Golbon Zakeri, University of Auckland, NZ, talk 914

Co-Authors: *Mahbubeh Habibian*, *Anthony Downward*,

Monotone Operator Theory in Convex Optimization

Invited Talks
KEYNOTE - We 11:00am-12:00am, Format: 1x60 min
Room: BROCA Building: W, 3rd floor, Zone: 0

Invited Session 537
Organizer: Samir Adly, Laboratoire XLIM, FR

1 - Monotone Operator Theory in Convex Optimization
Speaker: Patrick Combettes, North Carolina State Univ., US, talk 1552

Online Competitive Algorithms for Resource Allocation

Invited Talks
KEYNOTE - We 11:00am-12:00am, Format: 1x60 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 539
Organizer: Frank Curtis, Lehigh University, US

1 - Online Competitive Algorithms for Resource Allocation
Speaker: Maryam Fazel, Univ. of Washington, US, talk 1684

Model-Based Methods, Sampling Models, and A New Second-Order Model-Based Method

Invited Talks
KEYNOTE - We 11:00am-12:00am, Format: 1x60 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 546
Organizer: Stefan Wild, Argonne National Laboratory, US

1 - Model-Based Methods, Sampling Models, and A New Second-Order Model-Based Method
Speaker: Luis Nunes Vicente, University of Coimbra, PT, talk 1582

Insights via volumetric comparison of polyhedral relaxations

Invited Talks
SEMI - We 11:00am-12:00am, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 548
Organizer: Andrea Lodi, Polytechnique Montreal, CA

1 - Insights via volumetric comparison of polyhedral relaxations
Speaker: Jon Lee, University of Michigan, US, talk 1548

Relaxations and Approximations of Chance Constraints

Invited Talks
PLENARY - We 1:30pm-2:30pm, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 525
Organizer: Simge Kucukyavuz, University of Washington, US

1 - Relaxations and Approximations of Chance Constraints
Speaker: Shabbir Ahmed, Georgia Tech, US, talk 912

The power and limits of the Lasserre hierarchy

Continuous Optimization
NLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 9
Organizer: Markus Schweighofer, Universität Konstanz, DE

1 - The power and limits of convex relaxations for general-valued CSPs
Speaker: Standa Zivny, University of Oxford, GB, talk 37
Co-Authors: *Johan Thapper*,
2 - On the convergence of the Lasserre/SoS hierarchy for 0/1 optimization problems.
Speaker: Adam Kurpisz, ETH Zurich, CH, talk 175
Co-Authors: *Samuli Leppänen*, *Monaldo Mastrolilli*,
3 - High Degree SOS Proofs, Bienstock-Zuckerberg hierarchy and Chvatal-Gomory cuts
Speaker: Monaldo Mastrolilli, IDSIA, CH, talk 39

SDP approaches to combinatorial and global optimization problems

Continuous Optimization
SDP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 15
Organizer: Etienne De Klerk, Tilburg University, NL

1 - Semidefinite Programming Relaxations of the Traveling Salesman Problem
Speaker: Samuel Gutekunst, Cornell University, US, talk 80
Co-Authors: *David Williamson*,
2 - On Solving the Quadratic Shortest Path Problem.

Speaker: Hao Hu, Tilburg University, NL, talk 121
Co-Authors: *Renata Sotirov*,
3 - SDP relaxations of polynomial optimization problems with chordal structure
Speaker: Ahmadreza Marandi, Eindhoven University, NL, talk 16
Co-Authors: *Etienne De Klerk*, *Joachim Dahl*,

Clustering

Discrete Optimization & Integer Programming
APPROX - We 3:15pm-4:45pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1
Invited Session 30
Organizer: Mohammad Salavatipour, University of Alberta, CA

1 - Clustering Mixtures of Well-Separated Gaussians
Speaker: Aravindan Vijayaraghavan, Northwestern University, US, talk 150
Co-Authors: *Oded Regev*,
2 - Correlation Clustering
Speaker: Konstantin Makarychev, Northwestern University, US, talk 223
Co-Authors: *Shuchi Chawla*, *Yury Makarychev*, *Tselil Schramm*, *Aravindan Vijayaraghavan*, *Grigory Yaroslavtsev*,
3 - Analysis of Ward's method
Speaker: Melanie Schmidt, University of Bonn, DE, talk 640
Co-Authors: *Anna Großwendt*, *Heiko Röglin*,

Subspace methods in NLP I

Continuous Optimization
NLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11
Invited Session 45
Organizer: Michal Kocvara, University of Birmingham, GB

1 - A Space Transformation Framework for Nonlinear Optimization: Part I
Speaker: Zaikun Zhang, Hong Kong Polytechnic Univ., HK, talk 417
Co-Authors: *Serge Gratton*, *Luis Nunes Vicente*,
2 - A Space Transformation Framework for Nonlinear Optimization: Part II
Speaker: Serge Gratton, ENSEEIHT, FR, talk 447
Co-Authors: *Luis Nunes Vicente*, *Zaikun Zhang*,
3 - Quasi-Newton and the Unreduced Matrix in Interior Point Methods
Speaker: Francisco Sobral, State University of Maringa, BR, talk 425
Co-Authors: *Jacek Gondzio*,

Decomposition methods for MINLP

Discrete Optimization & Integer Programming
MINLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1
Invited Session 55
Organizer: Ivo Nowak, HAW Hamburg, DE

1 - Decomposition-based Successive Approximation Methods for MINLP
Speaker: Ivo Nowak, HAW Hamburg, DE, talk 690
Co-Authors: *Pavlo Muts*, *Eligius Hendrix*,
2 - Decogo - A new decomposition-based MINLP solver
Speaker: Pavlo Muts, HAW Hamburg, DE, talk 865
Co-Authors: *Ivo Nowak*, *Eligius Hendrix*,
3 - On simplicial monotonicity and dimension reduction in MINLP
Speaker: Eligius Hendrix, Universidad de Málaga, ES, talk 426
Co-Authors: *Leocadio Casado*, *Jose Manuel Salmerón*,

MINLP (II)

Discrete Optimization & Integer Programming
MINLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3
Invited Session 66
Organizer: Daniel Bienstock, Columbia University, US

1 - Polyhedral relaxations for nonconvex quadratic functions
Speaker: Akshay Gupte, Clemson University, US, talk 1144
2 - Product convexification: A new relaxation framework for nonconvex programs
Speaker: Mohit Tawarmalani, Purdue University, US, talk 93
Co-Authors: *Taotao He*,
3 - Sparse conic optimization: low-rank solutions and near-linear time algorithms
Speaker: Javad Lavaei, UC Berkeley, US, talk 110
Co-Authors: *Richard Zhang*,

Conic Optimization and Power Systems

Specific Models, Algorithms, and Software
Energy - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6
Invited Session 68
Organizer: Jakub Marecek, IBM Research, IE

1 - Degeneracy in Chordal Decomposition of Semidefinite Programs
Speaker: Arvind Raghunathan, Mitsubishi Electric Res. Labs, US, talk 238
Co-Authors: *Lorez Biegler*,
2 - When to switch from a convex relaxation to Newton's method on the non-convex POP
Speaker: Jakub Marecek, IBM Research, IE, talk 4
Co-Authors: *Martin Takac*,
3 - Convex restrictions of power flow feasibility sets

Speaker: Konstantin Turitsyn, MIT, US, talk 403
Co-Authors: *Dongchan Lee*, *Hung Nguyen*, *Dvijotham Krishnamurthy*,

Dynamic Optimization: Theory and Algorithms

Optimization under Uncertainty
Robust - We 3:15pm-4:45pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 100
Organizer: Vineet Goyal, Columbia University, US

1 - A Scalable Algorithm for Two-Stage Adaptive Linear Optimization
Speaker: Shimrit Shtern, Technion, IL, talk 66
Co-Authors: *Dimitris Bertsimas*,
2 - Data-Driven Multi-Stage Adaptive Optimization
Speaker: Bradley Sturt, MIT, US, talk 1120
Co-Authors: *Dimitris Bertsimas*, *Shimrit Shtern*,
3 - Optimal Approximation via Affine Policies for Two-stage Robust Optimization
Speaker: Vineet Goyal, Columbia University, US, talk 801
Co-Authors: *Omar El Housni*,

MINLP for Data Science

Discrete Optimization & Integer Programming
MINLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 108
Organizer: Vanesa Guerrero, University Carlos III, ES

1 - Cost-sensitive SVM
Speaker: Sandra Benítez-Peña, University of Seville, ES, talk 826
Co-Authors: *Rafael Blanquero*, *Emilio Carrizosa*, *Pepa Ramírez-Cobo*,
2 - Optimizing classification trees via non-linear continuous programming
Speaker: Cristina Molero-Río, IMUS, ES, talk 469
Co-Authors: *Rafael Blanquero*, *Emilio Carrizosa*, *Dolores Romero Morales*,
3 - MINLP to visualize dynamic proximities and frequencies
Speaker: Vanesa Guerrero, University Carlos III, ES, talk 759
Co-Authors: *Emilio Carrizosa*, *Dolores Romero Morales*,

Surrogate-based algorithms for constrained derivative-free problems

Continuous Optimization
DerFree - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 126
Chair: Phillipe Sampaio, Veolia, FR

1 - Optimal agricultural scheduling through MINLP surrogate-based optimization
Speaker: Manuel Ramos-Castillo, Veolia Research and Innovation, FR, talk 624
Co-Authors: *Gabriela Maschietto*, *Marie Orvain*, *Damien Chenu*, *Agathe Revallier*, *Maria Albuquerque*,
2 - A global optimization algorithm for derivative-free constrained problems
Speaker: Phillipe Sampaio, Veolia, FR, talk 765
3 - Derivative-Free Trust-Region Algorithms for L1, Minimax and Bi-Objective Optimiz
Speaker: Geovani Grapiglia, Universidade Federal do Paraná, BR, talk 1456

Optimization Algorithms and Variational Inequalities II

Continuous Optimization
Variat - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 150
Organizer: Xiaoqi Yang, Hong Kong Polytechnic Uni., HK

1 - On Error Bound Moduli for Locally Lipschitz and Regular Functions
Speaker: Xiaoqi Yang, Hong Kong Polytechnic Uni., HK, talk 650
Co-Authors: *Minghua Li*, *Kaiwen Meng*,
2 - Inexact primal-dual hybrid gradient methods for saddle-point problems
Speaker: Min Li, Nanjing University, CN, talk 604
Co-Authors: *Xiaoming Yuan*,
3 - On directional pseudo/quasi-normality and directional enhanced KKT conditions
Speaker: Kuang Bai, University of Victoria, CA, talk 195
Co-Authors: *Jane Ye*,

Knapsack Problems

Discrete Optimization & Integer Programming
IPpractice - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 185
Organizer: Enrico Malaguti, DEI - University of Bologna, IT

1 - Algorithms for bilevel knapsack problem
Speaker: Ashwin Arulselvan, University of Strathclyde, GB, talk 1541
2 - Cutting Planes for the Multi-Modal Precedence Constrained Problem
Speaker: Orlando Rivera-Letelier, Universidad Adolfo Ibáñez, CL, talk 1250
Co-Authors: *Marcos Goycoolea*,
3 - The Fractional Knapsack Problem with Penalties
Speaker: Enrico Malaguti, DEI - University of Bologna, IT,

talk 1513
Co-Authors: *Michele Monaci*, *Ulrich Pferschy*, *Paolo Paronuzzi*,

Adaptivity in non-smooth optimization

Continuous Optimization
NonSmooth - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 187
Organizer: Volkan Cevher, EPFL, CH

1 - Adaptive Double Loop Smoothing Algorithms
Speaker: Olivier Fercoq, Télécom ParisTech, FR, talk 235
Co-Authors: *Quoc Tran-Dinh*, *Ahmet Alacaoglu*, *Volkan Cevher*,
2 - Universal Acceleration through Learning Rate Adaptation
Speaker: Kfir Levy, ETH, CH, talk 233
Co-Authors: *Alp Yurtsever*, *Volkan Cevher*,
3 - ADMM vs gradient methods for ill-conditioned imaging problems
Speaker: Stephen Becker, University of Colorado Boulder, US, talk 251
Co-Authors: *James Folberth*,

Fast Converging Stochastic Optimization Algorithms

Continuous Optimization
RandomM - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 213
Organizer: Francis Bach, INRIA - ENS, FR

1 - Bridging the Gap between Constant Step Size SGD and Markov Chains
Speaker: Aymeric Dieuleveut, EPFL, CH, talk 1102
Co-Authors: *Alain Durmus*, *Francis Bach*,
2 - Stochastic Optimization for Large Scale Optimal Transport
Speaker: Aude Genevay, ENS, FR, talk 888
3 - Variance Reduced Methods via Sketching
Speaker: Robert Gower, Telecom Paristech, FR, talk 859
Co-Authors: *Peter Richtarik*, *Francis Bach*,

Reformulation-based solution methods for quadratic programming

Continuous Optimization
SDP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 215
Organizer: Dominique Quadri, Université Paris Sud - LRI, FR

1 - Non-convex Quadratic Integer Programming : a piecewise linearization
Speaker: Eric Soutil, CEDRIC-Cnam, FR, talk 1299
Co-Authors: *Dominique Quadri*, *David Nizard*,
2 - Solving Alternative Current Optimal Power Flow to global optimality
Speaker: Hadrien Godard, RTE, FR, talk 1117
Co-Authors: *Jean Maeght*, *Sourour Elloumi*, *Amélie Lambert*, *Manuel Ruiz*,
3 - Preprocessing and reformulation for the Quadratic Assignment Problem
Speaker: Sourour Elloumi, ENSTA-UMA and CNAM-CEDRIC, FR, talk 1522
Co-Authors: *Amélie Lambert*,

Risk-Averse PDE-Constrained Optimization–Methods and Applications

Continuous Optimization
Control - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 222
Organizer: Harbir Antil, George Mason University, US

1 - Stochastic Dominance in Elastic Shape Optimization
Speaker: Ruediger Schultz, Univ. of Duisburg - Essen, DE, talk 266
Co-Authors: *Sergio Conti*, *Martin Rumpf*,
2 - Weighted Sobolev Spaces with Application to Image Processing
Speaker: Harbir Antil, George Mason University, US, talk 1004
Co-Authors: *Carlos Rautenberg*,
3 - Smoothing Techniques for Risk-Averse PDE-Constrained Optimization
Speaker: Drew Kouri, Sandia, US, talk 1394

Progress in Conic and MIP Solvers

Specific Models, Algorithms, and Software
Algo - We 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 237
Organizer: Imre Polik, SAS Institute, US

1 - Artelys Knitro 11.0, a new conic solver and other novelties
Speaker: Jean-Hubert Hours, Artelys, FR, talk 556
Co-Authors: *Richard Waltz*, *Figen Oztoprak Topkaya*, *Michaël Gabay*, *Sylvain Mouret*,
2 - MOSEK version 9
Speaker: Erling Andersen, MOSEK, DK, talk 346
3 - Recent enhancements in MATLAB Optimization Toolbox solvers for LP and MILP
Speaker: Franz Wesselmann, The MathWorks GmbH, DE, talk 737

Learning and Stochastic Programming

Optimization under Uncertainty
Stoch - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 254
Organizer: Matthias Poloczek, University of Arizona, US

1 - Asymptotic Results For Two-stage Stochastic Quadratic Programming
Speaker: Junyi Liu, Univ. of Southern California, US, talk 642
Co-Authors: *Suvrajeet Sen*,
2 - Optimizing Crashing Decisions in a Project Management Problem with Disruptions
Speaker: Haoxiang Yang, Northwestern University, US, talk 1064
Co-Authors: *David Morton*,
3 - Bayesian Optimization of Combinatorial Structures
Speaker: Matthias Poloczek, University of Arizona, US, talk 639
Co-Authors: *Ricardo Baptista*,

Variants of the Assignment problem

Discrete Optimization & Integer Programming
COMB - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 266
Organizer: Kavitha Telikepalli, TIFR Mumbai, IN

1 - Approximating Airports and Railways
Speaker: Tobias Mömke, University of Bremen, DE, talk 186
Co-Authors: *Anna Adamaszek*, *Amit Kumar*, *Antonios Antoniadis*,
2 - A (2+eps)-Approximation for Maximum Weight Matching in the Semi-Streaming Model
Speaker: Ami Paz, IRIF - CNRS and U. Paris Diderot, FR, talk 655
Co-Authors: *Ami Paz*,
3 - Popularity, Mixed Matchings, and Self-duality
Speaker: Kavitha Telikepalli, TIFR Mumbai, IN, talk 511
Co-Authors: *Chien-Chung Huang*,

Nonconvex and Complex Problems in Multiobjective Optimization

Optimization under Uncertainty
Game - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 268
Chair: Gabriele Eichfelder, Technische Universität Ilmenau, DE

1 - A Trust Region Method for Heterogeneous Multiobjective Optimization
Speaker: Gabriele Eichfelder, Technische Universität Ilmenau, DE, talk 114
Co-Authors: *Jana Thomann*,
2 - Multiobjective programming via bundle methods
Speaker: Elizabeth Karas, UFPR, BR, talk 994
Co-Authors: *Claudia Sagastizabal*, *Hasnaa Zidani*,
3 - Sparse multiobjective optimization via concave approximations
Speaker: Tommaso Levato, Università di Firenze, IT, talk 836
Co-Authors: *Guido Cocchi*, *Giampaolo Liuzzi*, *Marco Sciandrone*,

Structure Detection in Integer Programming

Specific Models, Algorithms, and Software
Algo - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 272
Organizer: Taghi Khaniyev, University of Waterloo, CA

1 - Automatic structure detection in mixed integer programs
Speaker: Taghi Khaniyev, University of Waterloo, CA, talk 478
Co-Authors: *Matthew Galati*, *Samir Elhedhli*,
2 - Modular Detection of Model Structure in Integer Programming
Speaker: Michael Bastubbe, RWTH Aachen University, DE, talk 686
Co-Authors: *Marco Lübbecke*,
3 - A Computational Investigation on Generic Cutting Planes in Branch-Price-and-Cut
Speaker: Jonas Witt, RWTH Aachen University, DE, talk 955
Co-Authors: *Matthias Walter*, *Marco Lübbecke*,

Emerging Energy Markets

Specific Models, Algorithms, and Software
Energy - We 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Invited Session 291
Organizer: Dennice Gayme, Johns Hopkins University, US

1 - Designing coalition-proof mechanisms - the case of electricity markets
Speaker: Maryam Kamgarpour, ETH Zurich, CH, talk 651
Co-Authors: *Orcun Karaca*, *Neil Walton*, *Pier Giusepp Sessa*,
2 - Irrational Agents and the Power Grid
Speaker: Sean Meyn, University of Florida, US, talk 1370

Air Transportation and Air Traffic

Management

Specific Models, Algorithms, and Software Sciences - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 315
Organizer: Sonia Cafieri, ENAC, FR

1 - A two-stage stochastic model for scheduling aircraft arrivals under uncertainty
Speaker: Ahmed Khassiba, ENAC Université de Montréal, FR, talk 755
Co-Authors: *Fabian Bastin*, *Sonia Cafieri*, *Bernard Gendron*, *Marcel Mongeau*,
2 - Aircraft conflict resolution and heading recovery with mixed-integer programming
Speaker: Fernando Dias, University of New South Wales, AU, talk 787
Co-Authors: *David Rey*,
3 - MINLP for aircraft conflict avoidance via speed and heading angle deviations
Speaker: Sonia Cafieri, ENAC, FR, talk 1098
Co-Authors: *Andrew Conn*, *Marcel Mongeau*,

Network Design and Routing

Discrete Optimization & Integer Programming
APPROX - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Contributed Session 346
Chair: Yuko Kuroki, University of Tokyo, JP

1 - A 4-approximation algorithm for k-prize collecting Steiner tree problems
Speaker: Yusa Matsuda, Univ. Electro-Communications, JP, talk 533
Co-Authors: *Satoshi Takahashi*,
2 - Approximation algorithm for star-star hub-and-spoke network design problems
Speaker: Yuko Kuroki, University of Tokyo, JP, talk 1246
Co-Authors: *Tomomi Matsui*,
3 - Time-dependent shortest path with discounted waiting
Speaker: Jeremy Omer, IRMAR-INSA, FR, talk 588
Co-Authors: *Michael Poss*,

Nash equilibrium and games 1

Continuous Optimization
Variat - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 365
Organizer: Lorenzo Lampariello, Roma Tre University, IT

1 - Solving Multi-Leader-Follower Games
Speaker: Anna Thünen, RWTH Aachen University, DE, talk 843
Co-Authors: *Sonja Steffensen*, *Michael Herty*,
2 - Nash equilibrium: uniqueness and approximation via continuous optimization
Speaker: Jacqueline Morgan, Univ. of Naples Federico II, IT, talk 1056
Co-Authors: *Francesco Caruso*, *Maria Ceparano*,
3 - Fixed point and extragradient algorithms for quasi-equilibria
Speaker: Mauro Passacantando, University of Pisa, IT, talk 963
Co-Authors: *Giancarlo Bigi*,

Dynamic programming applications

Optimization under Uncertainty
Markov - We 3:15pm-4:15pm, Format: 2x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 379
Chair: Susanne Hoffmeister, University of Bayreuth, DE

1 - Markov Decision Processes for Sport Strategy Optimization
Speaker: Susanne Hoffmeister, University of Bayreuth, DE, talk 1528
Co-Authors: *Jörg Rambau*,
2 - A Model to evaluate the cost-effectiveness trade-off for urologic treatments
Speaker: Paolo Serafini, CISM, IT, talk 619
Co-Authors: *Simone Crivellaro*, *Laurel Sofer*,

Logistics

Invited Talks
INTERFACE - We 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 388
Chair: Frieder Smolny, Technical University Berlin, DE

1 - Using OpenStreetMap data for route optimization: extraction and reduction
Speaker: Kaj Holmberg, Linkoping University, SE, talk 842
2 - Modeling the Periodic Vehicle Routing Problem in an industrial context
Speaker: Gwénaël Rault, Mapotempo, FR, talk 1625
Co-Authors: *Adeline Fonseca*, *Frédéric Rodrigo*,
3 - Multiscale optimization of logistics networks
Speaker: Frieder Smolny, Technical University Berlin, DE, talk 1268
Co-Authors: *Karl Däubel*, *Martin Skutella*, *Torsten Mütze*, *Guillaume Sagnol*,

Polyhedral aspects of combinatorial optimization problems

Discrete Optimization & Integer Programming
COMB - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 404

Chair: Guillerme Duvillié, Université libre de Bruxelles, BE

1 - A polyhedral insight into covering a 2/3 supermodular function by a graph
Speaker: Shungo Koichi, Nanzan University, JP, talk 1216
2 - Alternating contractions and their combinatorial applications
Speaker: Sergei Chubanov, University of Siegen, DE, talk 1386
3 - Comparison of some symmetry breaking techniques for graph coloring problem
Speaker: Guillerme Duvillié, Université libre de Bruxelles, BE, talk 1167
Co-Authors: *Bernard Fortz*,

Quadratic Optimization

Continuous Optimization
NLP - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 417
Chair: Anders Forsgren, KTH Royal Inst. of Technology, SE

1 - On limited-memory quasi-Newton methods for minimizing a quadratic function
Speaker: David Ek, KTH, Royal Institute of Tech., SE, talk 884
Co-Authors: *Anders Forsgren*,
2 - On degeneracy in active-set methods for linear and convex quadratic programming
Speaker: Anders Forsgren, KTH Royal Inst. of Technology, SE, talk 645
Co-Authors: *Philip Gill*, *Elizabeth Wong*,
3 - An algorithm for projecting a point onto a level set of a quadratic function
Speaker: Fernanda Raupp, LNCC, BR, talk 1532
Co-Authors: *Wilfredo Sosa*,

Cursing the Dimensionality: Two-Stage and Multi-Stage Robust Optimization

Optimization under Uncertainty
Robust - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 443
Organizer: Angelos Tsoukalas, American University of Beirut, LB

1 - Efficient Algorithms for Robust MDPs with State Rectangularity
Speaker: Chin Pang Ho, Imperial College London, GB, talk 1054
Co-Authors: *Marek Petrik*, *Wolfram Wiesemann*,
2 - Dual approach for two-stage robust nonlinear optimization models
Speaker: Frans de Ruiter, CQM, NL, talk 1337
Co-Authors: *Jianzhe Zhen*, *Dick den Hertog*,
3 - Robust Dual Dynamic Programming
Speaker: Angelos Tsoukalas, American University of Beirut, LB, talk 1233
Co-Authors: *Angelos Georghiou*, *Wolfram Wiesemann*,

Rail and Maritime Transportation

Specific Models, Algorithms, and Software
Logistics - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 454
Chair: Kazuhiro Kobayashi, Tokyo University of Science, JP

1 - Accelerated column generation for a ship routing problem with speed optimization
Speaker: Kazuhiro Kobayashi, Tokyo University of Science, JP, talk 802
Co-Authors: *Mirai Tanaka*,
2 - Column Generation in Railway Optimization
Speaker: Stanley Schade, Zuse Institute Berlin, DE, talk 1367
Co-Authors: *Markus Reuther*, *Ralf Borndörfer*, *Boris Grimm*, *Thomas Schlechte*,
3 - Optimizing Train Stopping Patterns for Congestion Management
Speaker: Tatsuki Yamauchi, Chuo University, JP, talk 226
Co-Authors: *Mizuyo Takamatsu*, *Shinji Imahori*,

Second order methods for training ML models

Specific Models, Algorithms, and Software
Learning - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Contributed Session 474
Chair: Julien Mairal, Inria, FR

1 - Newton method with an adjusted generalized Hessian matrix for SVMs
Speaker: Amir Abdessamad, University of Mostaganem, DZ, talk 248
Co-Authors: *Yassine Adnan*,
2 - A Variable Metric Inexact Proximal Point Algorithm for Quasi-Newton Acceleration
Speaker: Julien Mairal, Inria, FR, talk 1607
Co-Authors: *Hongzhou Lin*, *Zaid Harchaoui*,
3 - An Adaptive Sample Size Trust-Region Method for Empirical Risk Minimization
Speaker: Robert Mohr, KIT, DE, talk 668
Co-Authors: *Oliver Stein*,

Convex optimization, distances and constraints

Specific Models, Algorithms, and Software
Learning - We 3:15pm-4:45pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Contributed Session 476
Chair: Pablo Parrilo, MIT, US

1 - Computational Optimal Transport: Accelerated Gradient Descent vs Sinkhorn
Speaker: Pavel Dvurechensky, WIAS, DE, talk 626
Co-Authors: *Alexander Gasnikov*, *Alexey Kroshnin*,
2 - Geodesic distance maximization
Speaker: Pablo Parrilo, MIT, US, talk 1406
Co-Authors: *De Meng*, *Stephen Boyd*, *Maryam Fazel*,
3 - A Splitting Algorithm for Minimization under Stochastic Linear Constraints
Speaker: Adil Salim, Telecom ParisTech, FR, talk 1404
Co-Authors: *Pascal Bianchi*, *Walid Hachem*,

Decomposition I

Discrete Optimization & Integer Programming
IPpractice - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Contributed Session 486
Chair: Dieter Weninger, FAU Erlangen-Nürnberg, DE

1 - Benders Decomposition and Column-and-Row Generation for LPs w/Column-Dependent Rows
Speaker: Kerem Bulbul, Sabanci University, TR, talk 1445
Co-Authors: *Ibrahim Muter*, *Ilker Birbil*,
2 - Improved Cut Selection for Benders Decomposition
Speaker: Paul Stursberg, Technische Universität München, DE, talk 1087
3 - A Penalty Alternating Direction Decomposition Framework for MIPs
Speaker: Dieter Weninger, FAU Erlangen-Nürnberg, DE, talk 1065
Co-Authors: *Lars Schewe*, *Martin Schmidt*,

Scheduling in Networks

Specific Models, Algorithms, and Software
Scheduling - We 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 532
Chair: Hamish Waterer, University of Newcastle, AU

1 - Global optimization for the pump scheduling problem in drinking water networks
Speaker: Gratien Bonvin, MINES ParisTech, FR, talk 1321
Co-Authors: *Andrea Lodi*, *Sophie Demassey*,
2 - Addressing a scheduling problem for planned disruptions on urban road networks
Speaker: Amadeu Coco, UTT, FR, talk 1360
Co-Authors: *Christophe Duhamel*, *Andrea Santos*,
3 - Scheduling of maintenance windows in a mining supply chain railway network
Speaker: Hamish Waterer, University of Newcastle, AU, talk 1476
Co-Authors: *Thomas Kalinowski*, *Jason Matthews*,

Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information I

Continuous Optimization
SDP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 20
Organizer: Monique Laurent, CWI and Tilburg University, NL

1 - Inclusion of spectrahedra, free spectrahedra and coin tossing
Speaker: Markus Schweighofer, Universität Konstanz, DE, talk 453
Co-Authors: *Bill Helton*, *Igor Klep*, *Scott McCullough*,
2 - Matrix convex sets and matrix extreme points
Speaker: Tom-Lukas Kriel, Univeristy of Konstanz, DE, talk 74
3 - Extracting optimisers by non-commutative GNS construction is robust
Speaker: Janez Povh, University of Ljubljana, SI, talk 53
Co-Authors: *Jurij Volcic*, *Igor Klep*,

Approximation Algorithms for Geometric Packing Problems

Discrete Optimization & Integer Programming
APPROX - We 5:00pm-6:30pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 28
Organizer: Fabrizio Grandoni, IDSIA, CH

1 - Approximating Geometric Knapsack via L-Packings
Speaker: Fabrizio Grandoni, IDSIA, CH, talk 371
Co-Authors: *Waldo Galvez*, *Sandy Heydrich*, *Salvatore Ingala*, *Arindam Khan*, *Andreas Wiese*,
2 - Parameterized (1+eps)-approximation algorithms for packing problems
Speaker: Andreas Wiese, Universidad de Chile, CL, talk 354
Co-Authors: *Fabrizio Grandoni*, *Stefan Kratsch*,
3 - Closing the gap for pseudo-polynomial strip packing
Speaker: Klaus Jansen, University of Kiel, DE, talk 265
Co-Authors: *Malin Rau*,

Non-Convex and Second-order Methods in Machine Learning

Continuous Optimization
RandomM - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 33

Organizer: Martin Takac, Lehigh University, US

1 - Escaping Saddles with Stochastic Algorithms
Speaker: Aurelien Lucchi, ETH Zurich, CH, talk 531
2 - Convergence Rate of Expectation-Maximization
Speaker: Reza Babanezhad, UBC, CA, talk 1135
Co-Authors: *Raunak Kumar*, *Mark Schmidt*,
3 - Parameter-free nonsmooth convex stochastic optimization through coin betting
Speaker: Francesco Orabona, Stony Brook University, US, talk 1108
4 - SGD and Hogwild! Convergence Without the Bounded Gradients Assumption
Speaker: Martin Takac, Lehigh University, US, talk 1342
Co-Authors: *Lam Nguyen*, *Phuong Nguyen*, *Marten van Dijk*, *Peter Richtarik*, *Katya Scheinberg*,

Online Optimization

Discrete Optimization & Integer Programming
APPROX - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Invited Session 35
Organizer: Kevin Schewior, École Normale Supérieure, FR

1 - How large is your graph?
Speaker: Victor Verdugo, Universidad de Chile, CL, talk 437
Co-Authors: *Varun Kanade*, *Frederik Mallmann-Trenn*,
2 - Submodular Secretary Problems: Cardinality, Matching, and Linear Constraints
Speaker: Andreas Tönnis, University of Bonn, DE, talk 360
Co-Authors: *Thomas Kesselheim*,
3 - Tight Competitive Analysis for Online TSP on the Line
Speaker: Kevin Schewior, École Normale Supérieure, FR, talk 321

Progress in methods and theory of derivative-free optimization

Continuous Optimization
DerFree - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 42
Chair: Serge Gratton, ENSEEIHT, FR

1 - Mesh-based Nelder-Mead algorithm for inequality constrained optimization
Speaker: Charles Audet, Polytechnique Montréal, CA, talk 191
Co-Authors: *Christop Tribes*,
2 - Manifold Sampling for Nonconvex Optimization of Piecewise Linear Compositions
Speaker: Jeffrey Larson, Argonne National Laboratory, US, talk 466
Co-Authors: *Stefan Wild*, *Kamil Khan*,
3 - Competitive derivative-free optimization with optimal complexity
Speaker: Morteza Kimiaei, Vienna University, AT, talk 467
Co-Authors: *Arnold Neumaier*,

MINLP (III)

Discrete Optimization & Integer Programming
MINLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 67
Organizer: Daniel Bienstock, Columbia University, US

1 - Cardinality-constrained linear regression with sparse matrices
Speaker: Alberto Del Pia, UW-Madison, US, talk 167
Co-Authors: *Robert Weismantel*, *Santanu Dey*,
2 - Computational evaluation of new dual bounding techniques for sparse PCA
Speaker: Guanyi Wang, Georgia Tech, US, talk 935
Co-Authors: *Santanu Dey*, *Rahul Mazumder*,
3 - Cutting Planes for Linear Programs with Complementarity Constraints
Speaker: Jeff Linderoth, Univ. of Wisconsin-Madison, US, talk 1327
Co-Authors: *Alberto Del Pia*, *Haoran Zhu*,

Optimization and modeling of integrated energy systems

Specific Models, Algorithms, and Software
Energy - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 71
Organizer: Jalal Kazempour, DTU, DK

1 - Market-based valuation of natural gas network flexibility
Speaker: Stefanos Delikaraoglou, ETH Zurich, CH, talk 718
Co-Authors: *Gabriela Hug*,
2 - Unintended consequences: The snowball effect of energy communities
Speaker: Ibrahim Abada, ENGIE SA, FR, talk 300
Co-Authors: *Xavier Lambin*, *Andreas Ehrenmann*,
3 - Coordination of Heat and Electricity Systems via Market-Based Mechanisms
Speaker: Lesia Mitridati, DTU, DK, talk 728
Co-Authors: *Jalal Kazempour*, *Pierre Pinson*,
4 - Virtual bidders and self-schedulers in electricity and natural gas markets
Speaker: Anna Schwele, DTU, DK, talk 725
Co-Authors: *Christos Ordoudis*, *Jalal Kazempour*, *Pierre Pinson*,

Methods and Analysis for Nonsmooth Optimization

Continuous Optimization

NonSmooth - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 86
Organizer: Michael Overton, New York University, US

1 - Partial Smoothness of the Numerical Radius
Speaker: Michael Overton, New York University, US, talk 789
Co-Authors: *Adrian Lewis*,
2 - Partial smoothness and active sets: a fresh approach
Speaker: Adrian Lewis, Cornell ORIE, US, talk 862
Co-Authors: *Jingwei Liang*,
3 - Subgradient methods for sharp weakly convex problems
Speaker: Dmitriy Drusvyatskiy, University of Washington, US, talk 885
Co-Authors: *Damek Davis*, *Kellie MacPhee*, *Courtney Paquette*,

Aspects of Multiobjective Combinatorial Optimization

Optimization under Uncertainty
Game - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Invited Session 87
Organizer: Matthias Ehrgott, Lancaster University, GB

1 - Generating Representative Sets for Multiobjective Discrete Optimization Problems
Speaker: Serpil Sayin, Koç University, TR, talk 329
Co-Authors: *Gokhan Kirlik*,
2 - A multi-objective approach to sensitivity analysis of MILP
Speaker: Kim Andersen, Aarhus University, DK, talk 986
Co-Authors: *Lars Nielsen*, *Trine Boomsma*,
3 - Approximating the Multiobjective Shortest Path Problem in Practice
Speaker: Fritz Bökler, Osnabrück University, DE, talk 1422

Robust Adaptive Control and Learning

Optimization under Uncertainty
Robust - We 5:00pm-6:00pm, Format: 2x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 97
Organizer: Siqian Shen, University of Michigan, US

1 - Distributionally Robust Adaptive Control under Nonstationary Uncertainty
Speaker: Siqian Shen, University of Michigan, US, talk 415
Co-Authors: *Hideaki Nakao*, *Ruiwei Jiang*,
2 - Leveraging stochastic programming to design robust policies for Markov decision
Speaker: Lauren Steimle, University of Michigan, US, talk 159
Co-Authors: *Brian Denton*,

Robust Approaches for Challenging Uncertain Optimization Problems

Discrete Optimization & Integer Programming
MINLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 124
Organizer: Frauke Liers, Friedrich-Alexander University, DE

1 - A New Approach for Extending Cover Inequalities for the Robust Knapsack Polytope
Speaker: Timo Gersing, RWTH Aachen University, DE, talk 876
Co-Authors: *Christina Büsing*, *Arie Koster*,
2 - An Interdiction Approach for the Design of High-Rise Water Supply Systems
Speaker: Andreas Schmitt, TU Darmstadt, DE, talk 448
Co-Authors: *Marc Pfetsch*,
3 - Robust optimization with selected scenarios
Speaker: Sebastian Tschuppik, Universität Erlangen-Nürnberg, DE, talk 547
Co-Authors: *Andreas Bärmann*, *Frauke Liers*, *Alexander Martin*, *Oskar Schneider*,

Software for Nonlinear Optimization

Continuous Optimization
NLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 133
Organizer: Sven Leyffer, Argonne National Laboratory, US

1 - Argonot: An Open-Source Software Framework for Nonlinear Optimization
Speaker: Charlie Vanaret, Argonne National Laboratory, US, talk 1086
Co-Authors: *Sven Leyffer*,
2 - A Primal-Dual Shifted Barrier Method for Nonlinear Optimization
Speaker: Philip Gill, UC San Diego, US, talk 942
Co-Authors: *Vyacheslav Kungurtsev*, *Daniel Robinson*,
3 - L-RH-B: Software for Large-Scale Bound-Constrained Optimization
Speaker: Elizabeth Wong, UC San Diego, US, talk 1112
Co-Authors: *Philip Gill*, *Michael Ferry*,

Advances in MINLP

Discrete Optimization & Integer Programming
MINLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 165
Organizer: Laura Palagi, Sapienza University of Rome, IT

1 - An Active Set Algorithm for Robust Combinatorial Optimization
Speaker: Marianna De Santis, Sapienza University of Rome, IT, talk 336
Co-Authors: *Christoph Buchheim*,
2 - Membrane System Design Optimization
Speaker: Veronica Piccialli, University of Rome Tor Vergata, IT, talk 872
Co-Authors: *Bernardetta Addis*, *Marjan Bozorg*, *Alvaro Ramirez Santos*, *Christoph Castel*, *Eric Favre*,
3 - Dantzig Wolfe Decomposition for Binary Quadratic Programming
Speaker: Emiliano Traversi, University of Paris XIII, FR, talk 1348
Co-Authors: *Alberto Ceselli*, *Lucas Letocart*,

Complementarity Problems

Continuous Optimization
Variat - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 173
Organizer: Samir Neogy, Indian Statistical Institute, IN

1 - Weakly homogeneous variational inequalities
Speaker: Muddappa Gowda, UMBC, US, talk 193
Co-Authors: *David Sossa*,
2 - On testing matrices with nonnegative principal minors
Speaker: Samir Neogy, Indian Statistical Institute, IN, talk 1314
Co-Authors: *Dipti Dubey*,
3 - Total Dual Integrality and Integral Solutions of Linear Complementarity Problem
Speaker: Dipti Dubey, Indian Statistical Institute, IN, talk 1235
Co-Authors: *Samir Neogy*,

Advances in optimization methods for time dependent problems II

Continuous Optimization
Control - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 225
Organizer: Denis Ridzal, Sandia National Labs, US

1 - Preconditioners for unsteady PDE-constrained optimization and parallel variants
Speaker: Stefan Ulbrich, TU Darmstadt, DE, talk 887
2 - Parallel-in-time PDE-constrained optimization using PFASST
Speaker: Sebastian Goetschel, Zuse Institute Berlin, DE, talk 573
Co-Authors: *Michael Minion*,
3 - Direct Multiple Shooting for parabolic PDE constrained optimization
Speaker: Andreas Potschka, IWR, Heidelberg University, DE, talk 966
4 - Multigrid-in-time methods for optimization with nonlinear PDE/DAE constraints
Speaker: Denis Ridzal, Sandia National Labs, US, talk 602
Co-Authors: *Eric Cyr*,

Progress in MIP Solvers II

Specific Models, Algorithms, and Software
Algo - We 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 234
Organizer: Hans Mittelmann, Arizona State University, US

1 - Benders Decomposition in IBM CPLEX
Speaker: Andrea Tramontani, IBM, IT, talk 895
2 - Gurobi 8.0 - What's new
Speaker: Michael Winkler, Gurobi, DE, talk 1393
3 - Recent Progress in the Xpress Solvers
Speaker: Michael Perregaard, FICO, GB, talk 658

Stochastic Programming and Distributionally Robust Optimization Models with Endogenous Uncertainty

Optimization under Uncertainty
Stoch - We 5:00pm-6:30pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 248
Organizer: Miguel Lejeune, George Washington University, US

1 - Distributionally Robust Optimization with Decision-Dependent Ambiguity Set
Speaker: Nilay Noyan, Sabanci University, TR, talk 1440
Co-Authors: *Miguel Lejeune*, *Gabor Rudolf*,
2 - Optimization Under Decision-dependent Uncertainty
Speaker: Kartikey Sharma, Northwestern University, US, talk 897
Co-Authors: *Omid Nohadani*,
3 - Chance-Constrained Optimization Models with Endogenous and Exogenous Uncertainty
Speaker: Miguel Lejeune, George Washington University, US, talk 105
Co-Authors: *Francois Margot*, *Alan Del de Oliveira*,

Robust combinatorial optimization III

Optimization under Uncertainty
Robust - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 255
Organizer: Moritz Mühlenthaler, TU Dortmund University, DE

1 - Robust Matching Augmentation
Speaker: Moritz Mühlenthaler, TU Dortmund University, DE, talk 1236
Co-Authors: *Felix Hommelsheim*, *Oliver Schaudt*, *Viktor Bindewald*,
2 - Solving Bulk-Robust Assignment Problems to Optimality
Speaker: Viktor Bindewald, KIT, DE, talk 1148
Co-Authors: *David Adjiashvili*, *Matthias Walter*, *Dennis Michaels*,
3 - Assignment Problems with few Failure Resources
Speaker: Felix Hommelsheim, TU Dortmund University, DE, talk 1344
Co-Authors: *David Adjiashvili*, *Viktor Bindewald*,
4 - Distributionally Robust Chance-Constrained Binary Knapsack Problem
Speaker: Jaehyeon Ryu, KAIST, KR, talk 1215
Co-Authors: *Sungsoo Park*,

Exact Approaches for Vehicle Routing and Variants

Discrete Optimization & Integer Programming
IPpractice - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 288
Organizer: Ricardo Fukasawa, Ricardo, CA

1 - The Capacitated Vehicle Routing Problem with Stochastic Demands
Speaker: Ricardo Fukasawa, Ricardo, CA, talk 1365
Co-Authors: *Jim Luedtke*, *Fernando Santos*,
2 - Efficient metaheuristic pricing in vehicle routing
Speaker: Claudio Contardo, ESG UQAM, CA, talk 925
Co-Authors: *Thibaut Vidal*, *Rafael Martinelli*,
3 - Exact Solution of a Class of Vehicle Scheduling Problems
Speaker: Rafael Martinelli, PUC-Rio, BR, talk 1459
Co-Authors: *Luciano Costa*, *Anand Subramanian*,

Problems in the intersection of machine learning and optimization

Specific Models, Algorithms, and Software
Learning - We 5:00pm-6:30pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Contributed Session 328
Chair: Ross Anderson, Google, US

1 - OptNet: End-to-End Differentiable Constrained Optimization
Speaker: Brandon Amos, Carnegie Mellon University, US, talk 50
Co-Authors: *J. Zico Kolter*,
2 - Solving argmax for a neural network with MIP, and related optimization problems
Speaker: Ross Anderson, Google, US, talk 1381
Co-Authors: *Ondrej Sykora*,
3 - Learning Fast Optimizers for Contextual Stochastic Integer Programs
Speaker: Vinod Nair, DeepMind, GB, talk 1262
Co-Authors: *Dvijotham Krishnamurthy*, *Iain Dunning*, *Oriol Vinyals*,

Conjugate Gradient Methods

Continuous Optimization
NLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Contributed Session 362
Chair: Giovanni Fasano, University Ca' Foscari, Venice, IT

1 - A New Diagonalizable Conjugate Gradient Method for Unconstrained Optimization
Speaker: Mehiddin Al-Baali, Sultan Qaboos University, OM, talk 653
Co-Authors: *Giovanni Fasano*, *Massimo Roma*, *Andrea Caliciott*,
2 - Conjugate Direction Methods and Polarity for Quadratic Hypersurfaces
Speaker: Giovanni Fasano, University Ca' Foscari, Venice, IT, talk 1254
Co-Authors: *Raffaele Pesenti*,
3 - Non-linear conjugate gradient for vector optimization on Riemannian manifolds
Speaker: Luis Lucambio Perez, Univ. Federal Goiás, BR, talk 1278
Co-Authors: *Leandro Prudente*,

Solvers and softwares

Invited Talks
INTERFACE - We 5:00pm-6:30pm, Format: 4x20 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 390
Chair: François Clautiaux, Université de Bordeaux, FR

1 - Solving packing, routing and scheduling problems using LocalSolver
Speaker: Julien Darlay, LocalSolver, FR, talk 578
2 - Applied mixed integer programming: The why and how
Speaker: Pawel Lichocki, Google, PL, talk 1443
3 - Solving MIPs with Gurobi Instant Cloud
Speaker: Robert Luce, Gurobi, DE, talk 714
Co-Authors: *Michel Jaczynski*, *Edward Rothberg*,
4 - Creating an optimization web app with FICO Xpress
Speaker: Johannes Müller, FICO Xpress Optimization, DE, talk 977
Co-Authors: *Susanne Heipcke*, *Yves Colombani*,

Resource-constrained assignment and scheduling

Specific Models, Algorithms, and Software Sciences - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 398
Organizer: Fabian Bastin, Université de Montréal, CA

1 - A novel formulation for job-shop scheduling in traffic management
Speaker: Giorgio Sartor, SINTEF, NO, talk 213
Co-Authors: *Carlo Mannino*,
2 - Improving local search for distributed resource allocation and equilibrium.
Speaker: Vipin Vijayalakshmi, RWTH Aachen University, DE, talk 1044
Co-Authors: *Alexander Skopalik*,
3 - A learning-based approach for multi-skill staffing optimization in call centers
Speaker: Fabian Bastin, Université de Montréal, CA, talk 1204
Co-Authors: *Tien Mai*, *Thuy Anh Ta*, *Pierre L'Ecuyer*,

Linear Optimization II

Continuous Optimization
NLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 416
Chair: Julian Hall, University of Edinburgh, GB

1 - Starting the dual revised simplex method from an advanced basis
Speaker: Julian Hall, University of Edinburgh, GB, talk 1478
Co-Authors: *Ivet Galabova*,
2 - On the number of simplex iterations of the steepest-edge for a nondegenerate LP
Speaker: Masaya Tano, Tokyo Univ. of Agri. and Tech., JP, talk 975
Co-Authors: *Ryuhei Miyashiro*, *Tomonari Kitahara*,
3 - New Results on the Simplex Method for Minimum Cost Flows in Infinite Networks
Speaker: Marina Epelman, University of Michigan, US, talk 1429
Co-Authors: *Chris Ryan*, *Robert Smith*,

Connectivity problems and Steiner trees

Discrete Optimization & Integer Programming
COMB - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Contributed Session 421
Chair: Andreas Feldmann, Charles University, CZ

1 - Computing minimum 2-connected Steiner networks in the Euclidean plane
Speaker: Marcus Brazil, University of Melbourne, AU, talk 806
Co-Authors: *Martin Zachariasen*, *Marcus Volz*,
2 - Enumerating All Spanning Subgraphs with Edge-Connectivity at Least k
Speaker: Yasuko Matsui, Tokai University, JP, talk 1009
Co-Authors: *Katsuhisa Yamanaka*, *Shin-ichi Nakano*,
3 - The variable-cost node-weighted Steiner tree problem in the Euclidean plane.
Speaker: Mark Turner, Zuse Institute Berlin, DE, talk 498
Co-Authors: *Charl Ras*,
4 - Parameterized Approximation Algorithms for Bidirected Steiner Network Problems
Speaker: Andreas Feldmann, Charles University, CZ, talk 420
Co-Authors: *Rajesh Chtinis*, *Pasin Manurangsi*,

Shortest paths and cutting stock

Discrete Optimization & Integer Programming
COMB - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 426
Chair: Arnaud Vandaele, University of Mons, BE

1 - Cost Projection Methods for the Shortest Path Problem with Crossing Costs
Speaker: Pedro de las Casas, ZIB, DE, talk 1310
Co-Authors: *Ralf Borndörfer*, *Marco Blanco*, *Nam Dung Hoang*,
2 - Solving the Time-Dependent Shortest Path Problem using Super-Optimal Wind
Speaker: Adam Schienle, Zuse Institute Berlin, DE, talk 1277
Co-Authors: *Ralf Borndörfer*, *Marco Blanco*, *Nam Dung Hoang*,
3 - Earliest Arrival Transshipments in Networks With Multiple Sinks
Speaker: Miriam Schlöter, TU Berlin, DE, talk 678
4 - One-dimensional cutting stock instances for which few patterns are needed
Speaker: Arnaud Vandaele, University of Mons, BE, talk 1242

Interior Point Methods in LP and NLP

Continuous Optimization
NLP - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Contributed Session 430
Chair: Andre Tits, Univ of Maryland College Park, US

1 - Constraint-Reduced MPC for CQP, with a Modified Active Set Identification Scheme
Speaker: Andre Tits, Univ of Maryland College Park, US, talk 33
Co-Authors: *Paul Laiu*,
2 - An IPM approach for a time dependent large-scale assortment allocation problem
Speaker: Thiane Coliboro, State University of Campinas, BR, talk 1366

Co-Authors: *Aurelio Oliveira*, *Felipe Silva*, *Márcio Oshiro*,
3 - Local analysis of a primal-dual method for NLP without constraint qualification
Speaker: Ngoc Nguyen Tran, University of Limoges, FR, talk 569
Co-Authors: *Paul Armand*,

Location and Routing

Specific Models, Algorithms, and Software
Logistics - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 451
Chair: Mustapha Oudani, UIR, MA

1 - Stochastic Two-echelon Location-Routing
Speaker: Imen Ben Mohamed, IMB, FR, talk 1603
Co-Authors: *Francois Vanderbeck*, *Walid Klibi*,
2 - Benders decomposition for a hierarchical facility location problem
Speaker: Rasul Esmaeilbeigi, The University of Newcastle, AU, talk 1000
Co-Authors: *Richard Middleton*, *Rodolfo Garcia-Flores*,
3 - Benders Decomposition for Uncertain Hub Location with Variable Allocation
Speaker: Nicolas Kämmerling, TU Dortmund University, DE, talk 1224
Co-Authors: *Borzou Rostami*,
4 - The Incomplete Hub Location and Routing Problem
Speaker: Mustapha Oudani, UIR, MA, talk 1143
Co-Authors: *Kenza Oufaska*,

Production-Routing

Specific Models, Algorithms, and Software
Logistics - We 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 456
Chair: Feng Gao, Nanjing University of F and E, CN

1 - Models and Algorithms for Robust Production Routing Under Demand Uncertainty
Speaker: Feng Gao, Nanjing University of F and E, CN, talk 978
Co-Authors: *Panos Pardalos*,
2 - Meta-Heuristics for Multi-Period Sales Districting Problem
Speaker: Saranthorn Phusingha, University of Edinburgh, GB, talk 1088
Co-Authors: *Joerg Kalcsics*,
3 - Models and Algorithms for Stochastic and Robust Production Routing with Time Win
Speaker: Yuzhuo Qiu, Nanjing University of F and E, CN, talk 979
Co-Authors: *Panos Pardalos*,

Completely Positive Cones and Applications

Continuous Optimization
SDP - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 464
Chair: Patrick Groetzner, University of Trier, DE

1 - Approximation Hierarchies for Copositive and Completely Positive Tensor Cones
Speaker: Muhammad Iqbal, Faisal, PK, talk 1418
Co-Authors: *Faizan Ahmed*,
2 - Inner approximating the completely positive cone via the cone of SDD matrices
Speaker: Mina Saee Bostanabad, University of Coimbra, PT, talk 756
Co-Authors: *João Gouveia*, *Ting Kei Pong*,
3 - Solving nonlinear conic programming problems with a new DC approach
Speaker: Ellen Fukuda, Kyoto University, JP, talk 1060
Co-Authors: *Ichiro Isonishi*, *Nobuo Yamashita*,
4 - A method to compute factorizations for completely positive matrices
Speaker: Patrick Groetzner, University of Trier, DE, talk 141
Co-Authors: *Mirjam Duer*,

Large-scale convex optimization

Specific Models, Algorithms, and Software
Learning - We 5:00pm-6:00pm, Format: 2x20 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 479
Chair: Alexander Rogozin, MIPT, RU

1 - Optimal distributed convex optimization on slowly time-varying graphs
Speaker: Alexander Rogozin, MIPT, RU, talk 844
Co-Authors: *Alexander Gasnikov*, *Cesar Uribe*, *Nikolay Malkovsky*, *Angelia Nedich*,
2 - Leverage data structure to improve Stochastic Gradient Descent algorithm
Speaker: Tommaso Colombo, Sapienza University of Rome, IT, talk 1110
Co-Authors: *Alberto De Santis*, *Stefano Lucidi*,

Stochastic optimization models and applications

Optimization under Uncertainty
Stoch - We 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Contributed Session 495
Chair: F.-Javier Heredia, UPC, ES

1 - Design optimization under uncertainty
Speaker: Geoffrey Oxberry, Lawrence Livermore Laboratory,

US, talk 1500
2 - Optimal non-anticipative scenarios for nonlinear hydrothermal power systems
Speaker: Gislaine Pericaro, UNESPAR, BR, talk 734
Co-Authors: *Elizabeth Karas*, *Clovis Gonzaga*,
3 - A Generalized Risk Parity Model with Application for Hazmat Transportation
Speaker: Alexander Vinel, Auburn University, US, talk 1055
Co-Authors: *Nasrin Mohabbati*,
4 - A multistage stochastic programming model for the optimal bid of a wind producer
Speaker: F.-Javier Heredia, UPC, ES, talk 1231
Co-Authors: *Marlyn Cuadrado*, *J.-Anton Sánchez*,

IP-Formulations

Discrete Optimization & Integer Programming
IPtheory - We 5:00pm-6:00pm, Format: 2x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Contributed Session 516
Chair: Temitayo Ajayi, Rice University, US

1 - The quadratic assignment problem: a comparison of two linearizations
Speaker: Wolfgang Riedl, Universität der Bundeswehr, DE, talk 1566
Co-Authors: *Christine Huber*,
2 - Assessing Parametrized Linear Programming Relaxations With Superadditive Duality
Speaker: Temitayo Ajayi, Rice University, US, talk 694
Co-Authors: *Christopher Thomas*, *Andrew Schaefer*,

Energy Market Models

Specific Models, Algorithms, and Software
Energy - We 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Contributed Session 522
Chair: Sauleh Siddiqui, Johns Hopkins University, US

1 - Global Optimization of Multilevel Electricity Market Models
Speaker: Thomas Kleinert, Universität Erlangen-Nürnberg, DE, talk 548
Co-Authors: *Martin Schmidt*,
2 - Co-optimization Models with Market-Clearing Equilibrium: A Robust Approach
Speaker: Emre Celebi, Kadir Has University, TR, talk 1313
3 - Solving Problems with Equilibrium Constraints Applied to Energy Markets
Speaker: Sauleh Siddiqui, Johns Hopkins University, US, talk 442

Machine Scheduling 2

Specific Models, Algorithms, and Software
Scheduling - We 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 529
Chair: Guopeng Song, KU Leuven, BE

1 - Human-Robot Scheduling in Collaborative Environments
Speaker: Cristiane Ferreira, FEUP, PT, talk 459
Co-Authors: *Pedro Amorim*, *Gonçalo Figueira*, *Francisco Machado*,
2 - Parallel machine scheduling with time constraints on machine qualifications
Speaker: Margaux Nattaf, Mines de Saint-Etienne, FR, talk 460
Co-Authors: *Stéphane Dauzère-Pérès*, *Claude Yugma*,
3 - The robust machine availability problem
Speaker: Guopeng Song, KU Leuven, BE, talk 863
Co-Authors: *Daniel Kowalczyk*, *Roel Leus*,

K-adaptability

Optimization under Uncertainty
Robust - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 1
Organizer: Anirudh Subramanyam, Carnegie Mellon University, US

1 - Min-max-min Robust Optimization for the Capacitated Vehicle Routing Problem
Speaker: Jannis Kurtz, RWTH Aachen University, DE, talk 355
Co-Authors: *Lars Eufinger*, *Christoph Buchheim*, *Uwe Clausen*,
2 - Min-Max-Min Robustness for Combinatorial Problems with Budgeted Uncertainty
Speaker: Michael Poss, LIRMM-CNRS, FR, talk 245
Co-Authors: *Andre Chassein*, *Marc Goerigk*, *Jannis Kurtz*,
3 - K-Adaptibility in Stochastic Programming
Speaker: Jonas Pruente, TU Dortmund, DE, talk 1553
Co-Authors: *Christoph Buchheim*,
4 - K-Adaptability in Two-Stage Mixed-Integer Robust Optimization
Speaker: Anirudh Subramanyam, Carnegie Mellon University, US, talk 353
Co-Authors: *Wolfram Wiesemann*, *Chrysanthos Gounaris*,

First-order methods: advances and applications

Continuous Optimization
NLP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 3
Organizer: Immanuel Bomze, Universitaet Wien, AT

1 - Incremental mirror descent with random sweeping

and a proximal step
Speaker: Axel Boehm, University of Vienna, AT, talk 216
Co-Authors: *Radu Ioan Bot*,
2 - Active-set identification in Frank-Wolfe variants on the standard simplex
Speaker: Immanuel Bomze, Universitaet Wien, AT, talk 253
Co-Authors: *Francesco Rinaldi*, *Samuel Rota Bulo*,
3 - Robust StQP, first-order methods, and applications in social network analysis
Speaker: Michael Kahr, University of Vienna, AT, talk 301
Co-Authors: *Immanuel Bomze*, *Markus Leitner*,
4 - On the convergence of projection free Hessian Barrier-Gradient Algorithms
Speaker: Mathias Staudigl, Maastricht University, NL, talk 768
Co-Authors: *Panayotis Mertikopoulos*, *Immanuel Bomze*, *Werner Schachinger*,

Computer-assisted analyses of optimization algorithms I

Continuous Optimization
SDP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 19
Organizer: Adrien Taylor, INRIA, FR

1 - Efficient First-order Methods for Convex Minimization: A Constructive Approach
Speaker: Yoel Drori, Google, IL, talk 18
Co-Authors: *Adrien Taylor*,
2 - Optimized first-order method for decreasing gradient of smooth convex functions
Speaker: Donghwan Kim, Dartmouth College, US, talk 19
Co-Authors: *Jeffrey Fessler*,
3 - The Fastest Known First-Order Method for Smooth Strongly Convex Minimization
Speaker: Bryan Van Scoy, University of Wisconsin, US, talk 146
Co-Authors: *Laurent Lessard*, *Randy Freeman*, *Kevin Lynch*,
4 - Analysis of First-Order Algorithms for Distributed Optimization
Speaker: Laurent Lessard, Univ. of Wisconsin-Madison, US, talk 1212
Co-Authors: *Akhil Sundararajan*, *Bryan Van Scoy*, *Bin Hu*,

Submodular Maximization

Discrete Optimization & Integer Programming
APPROX - Th 8:30am-10:30am, Format: 4x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 29
Organizer: Moran Feldman, Open University of Israel, IL

1 - Deterministic and Combinatorial Algorithms for Submodular Maximization
Speaker: Moran Feldman, Open University of Israel, IL, talk 49
2 - Constrained Submodular Maximization via Greedy Local Search
Speaker: Baruch Schieber, IBM Research, US, talk 71
Co-Authors: *Kanthi Sarpatwar*, *Hadas Shachnai*,
3 - Submodular Maximization through the Lens of Linear Programming
Speaker: Simon Bruggmann, ETH Zurich, CH, talk 67
Co-Authors: *Rico Zenklusen*,
4 - Constrained Submodular Maximization via a Non-symmetric Technique
Speaker: Niv Buchbinder, Tel Aviv University, IL, talk 51
Co-Authors: *Moran Feldman*,

Bayesian and Randomized Optimization I

Continuous Optimization
DerFree - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 39
Chair: Stefan Wild, Argonne National Laboratory, US

1 - Improving Bayesian optimization via random embeddings
Speaker: Mickael Binois, Argonne National Laboratory, US, talk 525
Co-Authors: *David Ginsbourger*, *Olivier Roustant*,
2 - Bayesian Optimization of Expensive Integrands
Speaker: Saul Toscano-Palmerin, Cornell University, US, talk 931
Co-Authors: *Peter Frazier*,
3 - Using Models in Allocate and Partition Algorithms
Speaker: Clément Royer, UW-Madison, US, talk 1022
Co-Authors: *Jeffrey Larson*, *Stefan Wild*,
4 - A Rigorous Framework for Efficient Global Optimization
Speaker: Youssef Diouane, ISAE-SUPAERO, FR, talk 414
Co-Authors: *Alexandre Scotto*, *Michel Salaun*,

Universal methods in non-smooth analysis

Continuous Optimization
NonSmooth - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

Invited Session 53
Organizer: Alexander Gasnikov, MIPT, RU

1 - Universal Nesterov's gradient method in general model conception
Speaker: Alexander Tyurin, HSE, RU, talk 542
Co-Authors: *Pavel Dvurechensky*, *Alexander Gasnikov*,
2 - Dual universal conjugate gradient type methods.
Speaker: Sergey Guminov, MIPT, RU, talk 352
Co-Authors: *Alexander Gasnikov*, *Alexander Gornov*, *Anton Anikin*,

3 - Universal Proximal Method for Variational Inequalities
Speaker: Alexander Tytov, MIPT, RU, talk 635
Co-Authors: *Fedor Stonyakin*, *Mohammad Alkousa*, *Pavel Dvurechensky*, *Alexander Gasnikov*,
4 - Universal Intermediate Gradient Method for Convex Problems with Inexact Oracle
Speaker: Dmitry Kamzolov, MIPT Moscow, RU, talk 1433
Co-Authors: *Pavel Dvurechensky*, *Alexander Gasnikov*,

Recent advances in interior point methods and NLP

Continuous Optimization
NLP - Th 8:30am-10:30am, Format: 4x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 77
Organizer: Michael Todd, Cornell University, US

1 - The ellipsoid method redux
Speaker: Michael Todd, Cornell University, US, talk 204
2 - MILP Formulations for Globally Solving Nonconvex Standard Quadratic Programs
Speaker: E. Alper Yildirim, Koc University, TR, talk 733
Co-Authors: *Jacek Gondzio*,
3 - A One-phase Interior Point Method For Nonconvex Optimization
Speaker: Yinyu Ye, Stanford University, US, talk 869
Co-Authors: *Oliver Hinder*,
4 - A polynomial time interior point method for problems with nonconvex constraints
Speaker: Oliver Hinder, Stanford, US, talk 881
Co-Authors: *Yinyu Ye*,

Cycles and Trees

Discrete Optimization & Integer Programming
APPROX - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 90
Organizer: Tobias Mömke, University of Bremen, DE

1 - Coloring and Dominating Set on Digraphs with Bounded Independence Number
Speaker: Alantha Newman, CNRS and G-SCOP, Grenoble, FR, talk 697
Co-Authors: *Ararat Haratyunyan*, *Tien-Nam Le*, *Stéphan Thomassé*,
2 - A PTAS for TSP with Hyperplane Neighborhoods
Speaker: Antonios Antoniadis, UdS and MPII, DE, talk 184
Co-Authors: *Krzysztof Fleszar*, *Ruben Hoeksma*, *Kevin Schewior*,
3 - Maximum Scatter TSP in doubling metrics
Speaker: László Kozma, TU Eindhoven, NL, talk 222
Co-Authors: *Tobias Mömke*,
4 - Approximabilty of Hub Allocation Problems
Speaker: Ralf Klasing, CNRS, University of Bordeaux, FR, talk 662

Unit Commitment Problem and Applications

Specific Models, Algorithms, and Software
Energy - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 94
Organizer: Tiziano Parriani, Optit S.r.l., IT

1 - Off-line/on-line optimization under uncertainty on energy management
Speaker: Allegra De Filippo, University of Bologna, IT, talk 841
Co-Authors: *Michele Lombardi*, *Michela Milano*,
2 - A Constrained Shortest Path formulation for the Hydro Unit Commitment Problem
Speaker: Dimitri Thomopulos, LIX, Ecole Polytechnique, FR, talk 988
Co-Authors: *Claudia D Ambrosio*, *Wim van Ackooij*, *Pascal Benchimol*,
3 - Stochastic Hydrothermal Unit Commitment via Multi-level Scenario Trees
Speaker: Rafael Lobato, State University of Campinas, BR, talk 1074
Co-Authors: *Erlon Finardi*, *Vitor de Matos*, *Claudia Sagastizabal*, *Asgeir Tomasgard*,
4 - CHP Systems Optimization in Presence of Time Binding Constraints
Speaker: Tiziano Parriani, Optit S.r.l., IT, talk 769
Co-Authors: *Angelo Gordini*, *Matteo Pozzi*,

Advanced Linear(ized) MIP Formulations for Zero-One Programs

Discrete Optimization & Integer Programming
IPpractice - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Invited Session 127
Organizer: Sven Mallach, University of Cologne, DE

1 - Mixed-Integer Programming for Clustering in Non-reversible Markov Processes
Speaker: Leon Eifler, ZIB, DE, talk 344
2 - A new ILP for the Steiner Tree Problem with Revenues, Budget and Hop Constraints
Speaker: Adalat Jabrayilov, TU Dortmund University, DE, talk 551
Co-Authors: *Petra Mutzel*,
3 - An extended formulation for the Steiner Forest Problem
Speaker: Daniel Schmidt, Universität zu Köln, DE, talk 813
Co-Authors: *Bernd Zey*, *Francois Margot*,
4 - Compact Linearization for Zero-One Quadratic Programs
Speaker: Sven Mallach, University of Cologne, DE, talk 293

Nonlinear Optimization and Variational Inequalities I

Continuous Optimization
Variat - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 140
Organizer: Xin Liu, Chinese Academy of Sciences, CN

1 - Theory and Applicaiton of p-regularized subproblem with $p > 2$
Speaker: Yaxiang Yuan, Chinese Academy of Sciences, CN, talk 63
Co-Authors: *Yong Tsia*, *S.-L. Sheu*,
2 - A semidefinite relaxation algorithm for polynomial equations
Speaker: Jinyan Fan, Shanghai Jiao Tong University, CN, talk 319
3 - On a special robust optimization problem
Speaker: Cong Sun, Beijing Univ. Post. Telecomm., CN, talk 61
4 - Limited memory algorithms with cubic regularization
Speaker: Liang Zhao, Chinese Academy of Sciences, CN, talk 107
Co-Authors: *Oleg Burdakov*, *Yaxiang Yuan*,

Integer linear programming, convex geometry, and lattices

Discrete Optimization & Integer Programming
IPtheory - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 142
Organizer: Sinai Robins, University of Sao Paulo, BR

1 - Exploiting Linear Symmetries in Integer Convex Optimization
Speaker: Achill Schürmann, University of Rostock, DE, talk 1145
2 - On the reverse isodiametric problem
Speaker: Matthias Schymura, EPFL, CH, talk 451
Co-Authors: *Bernardo González Merino*,
3 - The Complexity of Presburger Arithmetic in Fixed Dimension
Speaker: Kevin Woods, Oberlin College, US, talk 281
4 - Fourier transforms of polytopes, solid angle sums, and discrete volumes
Speaker: Sinai Robins, University of Sao Paulo, BR, talk 1174

Geometry and duality in convex optimization

Continuous Optimization
SDP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 160
Organizer: Javier Pena, Carnegie Mellon University, US

1 - Condition Numbers for Convex Functions with Polytope Domains
Speaker: David Gutman, Carnegie Mellon University, US, talk 1282
Co-Authors: *Javier Pena*,
2 - Conditioning of conic systems via the Grassmannian manifold
Speaker: Javier Pena, Carnegie Mellon University, US, talk 1014
Co-Authors: *Vera Roshchina*,
3 - Solving linear inequalities via non-convex optimization
Speaker: Jourdain Lamperski, MIT, US, talk 1190
4 - On positive duality gaps in semidefinite programming
Speaker: Gabor Pataki, UNC Chapel Hill, US, talk 283

Mining Applications

Specific Models, Algorithms, and Software
Energy - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Invited Session 172
Organizer: Alexandra Newman, Colorado School of Mines, US

1 - Lane's Algorithm Revisisted
Speaker: Marcos Goycoolea, Universidad Adolfo Ibáñez, CL, talk 1352
Co-Authors: *Patricio Lamas*, *Bernardo Pagnoncelli*, *Adriana Piazza*,
2 - A MILP-based approach for loader assignment in open pit scheduling
Speaker: Peter Malkin, Datamine Software, GB, talk 923
Co-Authors: *Abdallah Jarray*,
3 - Optimal Selection of Support Pillars in an Underground Mine
Speaker: Levente Sipeki, CSM, US, talk 788
Co-Authors: *Alexandra Newman*, *Candace Yano*,
4 - Mathematical Methods for Complex Underground Design and Scheduling Problems
Speaker: Alexandra Newman, Colorado School of Mines, US, talk 792
Co-Authors: *Levente Sipeki*, *Peter Nesbitt*,

Machine learning for optimisation

Continuous Optimization
NLP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 176
Organizer: Coralia Cartis, University of Oxford, GB

1 - Dimensionality reduction for global optimisation: adaptive random embeddings
Speaker: Adilet Otemissov, The Alan Turing Institute, GB, talk 839

Co-Authors: *Coralia Cartis*,
2 - Stochastic trust-region with global rate to second-order criticality
Speaker: Coralia Cartis, University of Oxford, GB, talk 785
Co-Authors: *Katya Scheinberg*,
3 - Online generation via offline selection of strong linear cuts from QP SDP relax.
Speaker: Radu Baltean-Lugojan, Imperial College London, GB, talk 1041
Co-Authors: *Ruth Misener*,
4 - Global optimization in Hilbert Space
Speaker: Boris Houska, ShanghaiTech, CN, talk 1517
Co-Authors: *Mario Villanueva*, *Benoit Chachuat*,

First-order methods for nonconvex and pathological convex problems

Continuous Optimization
NonSmooth - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 183
Organizer: Wotao Yin, UCLA, US

1 - Alternating structure-adapted proximal gradient descent for nonconvex problems
Speaker: Mila Nikolova, CMLA, CNRS, ENS Cachan, FR, talk 901
Co-Authors: *Pauline Tan*,
2 - ADMM for Multiaffine Constrained Optimization
Speaker: Wenbo Gao, Columbia University, US, talk 520
Co-Authors: *Donald Goldfarb*, *Frank Curtis*,
3 - Douglas-Rachford Splitting for Pathological Convex Optimization
Speaker: Ernest Ryu, UCLA, US, talk 956
Co-Authors: *Yanli Liu*, *Wotao Yin*,
4 - Polynomial-Time Run-and-Inspect Method for Certain Nonconvex Optimization
Speaker: Wotao Yin, UCLA, US, talk 1213
Co-Authors: *Yifan Chen*, *Yuejiao Sun*,

Recent Advances on Stochastic Algorithms and Machine Learning

Continuous Optimization
RandomM - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 202
Organizer: Shiqian Ma, UC Davis, US

1 - Level-Set Methods for Finite-Sum Constrained Convex Optimization
Speaker: Qihang Lin, University of Iowa, US, talk 357
Co-Authors: *Runchao Ma*, *Tianbao Yang*,
2 - Estimation of Markov Chain via Rank-constrained Likelihood
Speaker: Xudong Li, Princeton University, US, talk 413
Co-Authors: *Mengdi Wang*, *Anru Zhang*,
3 - Random gradient extrapolation for distributed and stochastic optimization
Speaker: Guanghui Lan, Georgia Institute of Technolog, US, talk 1584
4 - An Accelerated Algorithm for Stochastic Three-composite Optimization
Speaker: Renbo Zhao, NUS ISEM, MIT ORC, SG, talk 261
Co-Authors: *William Haskell*, *Vincent Tan*,

Graphs and clutters

Discrete Optimization & Integer Programming
COMB - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 263
Organizer: Gerard Cornuejols, Carnegie Mellon University, US

1 - Packing cycles in a tournament
Speaker: Guoli Ding, Louisiana State University, US, talk 1593
2 - Min-Max Theorems for Packing and Covering Odd (u,v)-trails
Speaker: Sharat Ibrahimpur, University of Waterloo, CA, talk 1172
Co-Authors: *Chaitanya Swamy*,
3 - Cuboids, a class of clutters
Speaker: Ahmad Abdi, University of Waterloo, CA, talk 633
Co-Authors: *Gerard Cornuejols*, *Dabeen Lee*, *Natalia Guricanova*,
4 - Deltas, extended odd holes and their blockers
Speaker: Dabeen Lee, Carnegie Mellon University, US, talk 627
Co-Authors: *Ahmad Abdi*,

Numerically Efficient Methods for Piecewise Algorithmic Differentiation II

Specific Models, Algorithms, and Software
Algo - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 270
Organizer: Torsten Bosse, FSU Jena, DE

1 - Pushing the Algorithmic Differentiation tool Tapenade towards new languages
Speaker: Laurent Hascoet, INRIA, FR, talk 1534
Co-Authors: *Valerie Pascual*,
2 - Generalized Sensitivity Analysis of Nonlinear Programs
Speaker: Peter Stechlinski, University of Maine, US, talk 340
Co-Authors: *Kamil Khan*, *Paul Barton*, *Amir Akbari*, *Johannes Jaschke*,
3 - Evaluating generalized derivatives efficiently for nonsmooth composite functions
Speaker: Kamil Khan, McMaster University, CA, talk 1435
4 - Optimality Conditions for Nonsmooth Constrained Optimization Problems
Speaker: Lisa Hegerhorst, Leibniz Universität Hannover, DE,

talk 726

High-Performance Computing in Optimization I

Specific Models, Algorithms, and Software
Algo - Th 9:00am-10:30am, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Invited Session 271
Organizer: Kibaek Kim, ANL, US

1 - Performance Assessment for Parallel MILP Solvers
Speaker: Ted Ralphs, Lehigh University, US, talk 1347
Co-Authors: *Stephen Maher*, *Yuji Shinano*,
2 - Ubiquity Generator Framework to parallelize state-of-the-art B and B based solvers
Speaker: Yuji Shinano, Zuse Institute Berlin, DE, talk 1181
3 - Branching Strategies on Decomposition Methods for Mixed-Integer Programming
Speaker: Kibaek Kim, ANL, US, talk 1510
Co-Authors: *Brian Dandurand*,

Parallel Computing and Sustainability

Discrete Optimization & Integer Programming
CP - Th 8:30am-10:30am, Format: 4x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 296
Organizer: Bistra Dilkina, Univ of Southern California, US

1 - Designing the game to play in security and sustainability domains
Speaker: Fei Fang, Carnegie Mellon University, US, talk 70
Co-Authors: *Zheyuan Shi*, *Ziye Tang*, *Long Tran-Thanh*, *Rohit Singh*,
2 - A Robust Optimization Model for an Invasive Species Management Problem
Speaker: Nahid Jafari, SUNY Farmingdale, US, talk 893
Co-Authors: *Austin Phillips*, *Panos Pardalos*,
3 - Parallel HYbridization for Simple Heuristics
Speaker: Salvador Abreu, University of Évora, PT, talk 25
Co-Authors: *Danny Múnera*, *Daniel Diaz*, *Jheisson Lopez*,
4 - Parallel Search, Ordering, Reproducibility, and Scalability
Speaker: Ciaran McCreesh, University of Glasgow, GB, talk 214
Co-Authors: *Blair Archibald*, *Ruth Hoffmann*, *Patrick Prosser*, *Phil Trinder*,

Performance Analysis

Discrete Optimization & Integer Programming
CP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 47 Building: A, 3rd floor, Zone: 1

Invited Session 298
Organizer: Charlotte Truchet, Université de Nantes, FR

1 - The Shapley Value and the Temporal Shapley Value for Algorithm Analysis
Speaker: Lars Kotthoff, University of Wyoming, US, talk 1138
Co-Authors: *Alexandre Fréchette*, *Alexandre Fréchette*, *Alexandre Fréchette*, *Alexandre Fréchette*, *Alexandre Fréchette*,
2 - Phase transitions in random constraint satisfaction problems
Speaker: Guilhem Semerjian, LPT-ENS, FR, talk 510
3 - A probabilistic study of the propagation of the AllDifferent constraint
Speaker: Charlotte Truchet, Université de Nantes, FR, talk 906
Co-Authors: *Xavier Lorca*, *Danièle Gardy*,
4 - Improving Energetic Propagations for Cumulative Scheduling
Speaker: Alexander Tesch, Zuse Institute Berlin, DE, talk 727

First-order methods for large-scale convex problems

Specific Models, Algorithms, and Software
Learning - Th 8:30am-10:30am, Format: 4x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 316
Organizer: Stephen Vavasis, University of Waterloo, CA

1 - A single potential governing convergence of CG, AG and Geometric Descent
Speaker: Stephen Vavasis, University of Waterloo, CA, talk 582
Co-Authors: *Sahar Karimi*,
2 - Robust Accelerated Gradient Method
Speaker: Mert Gurbuzbalaban, Rutgers University, US, talk 1106
3 - Randomized methods for convex feasibility problems and applications to ML
Speaker: Peter Richtarik, KAUST, SA, talk 385
Co-Authors: *Ion Necoara*, *Andrei Patrascu*,
4 - Bregman Divergence for Stochastic Variance Reduction
Speaker: Yaoliang Yu, University of Waterloo, CA, talk 937
Co-Authors: *Xinhua Zhang*, *Zhan Shi*,

Large-scale learning

Specific Models, Algorithms, and Software
Learning - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 335
Organizer: Lorenzo Rosasco, university of genoa-iit-mit, IT

1 - The power of interpolation: on the effectiveness of SGD in modern learning
Speaker: Mikhail Belkin, Ohio State University, US, talk 930
2 - Precision on the Brain: Low-Precision to High-Precision for Machine Learning
Speaker: Chris Re, Stanford, US, talk 1302
3 - Iterate averaging as regularization for stochastic gradient descent
Speaker: Gergely Neu, Universitat Pompeu Fabra, ES, talk 776
Co-Authors: *Lorenzo Rosasco*,
4 - Convergence vs stability: a regularization view on accelerated methods
Speaker: Lorenzo Rosasco, university of genoa-iit-mit, IT, talk 632

Optimal Control of Variational Inequalities and Complementarity Systems

Continuous Optimization
Control - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Contributed Session 336
Chair: Alexandre Vieira, INRIA Grenoble, FR

1 - Optimal control of Linear Complementarity Systems
Speaker: Alexandre Vieira, INRIA Grenoble, FR, talk 1618
Co-Authors: *Bernard Brogliato*, *Christophe Prieur*,
2 - Computing a Subgradient for the Solution Operator of the Obstacle Problem
Speaker: Anne-Therese Rauls, TU Darmstadt, DE, talk 1013
Co-Authors: *Stefan Ulbrich*,
3 - Optimal Control of Thermoviscoplasticity
Speaker: Ailyn Stötzner, TU Chemnitz, DE, talk 1590
Co-Authors: *Roland Herzog*, *Christian Meyer*,
4 - Optimal Control of Elastoplasticity Problems with Finite Deformations
Speaker: Anna Walter, TU Darmstadt, DE, talk 1096
Co-Authors: *Stefan Ulbrich*,

Bin Packing

Discrete Optimization & Integer Programming
APPROX - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Contributed Session 344
Chair: Frits Spieksma, TU Eindhoven, NL

1 - Automatically computed bounds for the online bin stretching problem
Speaker: Nadia Brauner, Université Grenoble Alpes, FR, talk 1057
Co-Authors: *Michaël Gabay*, *Vladimir Kotov*, *Valentin Bartier*,
2 - Batched bin packing
Speaker: Leah Epstein, University of Haifa, IL, talk 1256
3 - Online Packing of Arbitrary Size Items into Designated and Multipurpose Bins
Speaker: Shlomo Karhi, Bar-Ilan Univesity, IL, talk 681
Co-Authors: *Noam Goldberg*,
4 - Partitioning Vectors into Quadruples
Speaker: Frits Spieksma, TU Eindhoven, NL, talk 847
Co-Authors: *Annette Ficker*, *Thomas Erlebach*, *Matus Mihalak*,

Multi-commodity flows

Specific Models, Algorithms, and Software
Network - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 358
Organizer: Ralf Borndörfer, ZIB, DE

1 - Monotonicity and conformality in multicommodity network-flow problems
Speaker: Daniel Granot, University of British Columbia, CA, talk 178
2 - An exact method based on adaptive partitions for the Stochastic Fixed-Charge MCF
Speaker: Eduardo Moreno, Universidad Adolfo Ibanez, CL, talk 1428
Co-Authors: *Cristian Ramirez Pico*,
3 - Approximate Wasserstein Distances of order 1 between images
Speaker: Stefano Gualandi, University of Pavia, IT, talk 1450
Co-Authors: *Marco Veneroni*, *Federico Bassetti*,
4 - Metric Inequalities for Routings on Direct Connections in Line Planning
Speaker: Ralf Borndörfer, ZIB, DE, talk 1461
Co-Authors: *Marika Karbstein*,

Stackelberg Games

Optimization under Uncertainty
Game - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 374
Chair: Stefano Coniglio, University of Southampton, GB

1 - Tropical geometry applied to bilevel programming
Speaker: Jean-Bernard Eytard, INRIA - Ecole Polytechnique, FR, talk 1375
Co-Authors: *Marianne Akian*, *Mustapha Bouhtou*, *Stephane Gaubert*, *Gleb Koshevoy*,
2 - Bilevel Programming for Combinatorial Exchanges with Budget Constraints
Speaker: Stefan Waldherr, TU Munich, DE, talk 295
Co-Authors: *Martin Bichler*,
3 - Computing Pessimistic Leader-Follower Equilibria with Multiple Followers
Speaker: Stefano Coniglio, University of Southampton, GB, talk 1188
4 - A learning approach for selection of subgame perfect Nash equilibria
Speaker: Francesco Caruso, Univ. of Naples Federico II, IT,

talk 361
Co-Authors: *Maria Ceparano*, *Jacqueline Morgan*,

Energy

Invited Talks
INTERFACE - Th 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 387
Chair: Kazem Abbaszadeh, UoA, NZ

1 - Optimization Models for Geothermal Energy
Speaker: Rishi Adiga, The University of Auckland, NZ, talk 934
Co-Authors: *Andy Philpott*, *John O'Sullivan*,
2 - Static robustness for EDF nuclear long term production planning
Speaker: Rodolphe Griset, EDF-INRIA, FR, talk 1647
Co-Authors: *Boris Detienne*, *Francois Vanderbeck*, *Marc Porcheron*, *Pascale Bendotti*, *Hugo Gevret*,
3 - Optimization of district heating production operations
Speaker: Gabriela Maschietto, Veolia, FR, talk 1297
Co-Authors: *Phillipe Sampaio*, *Damien Chenu*, *Stephane Couturier*, *David Mouquet*,
4 - Demand and reserve co-optimization for a price-making consumer of electricity
Speaker: Mahbubeh Habibian, University of Auckland, NZ, talk 947
Co-Authors: *Golbon Zakeri*, *Anthony Downward*,

Vehicle Routing I

Specific Models, Algorithms, and Software
Logistics - Th 9:00am-10:30am, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Contributed Session 411
Chair: Guy Desaulniers, Polytechnique Montreal GERAD, CA

1 - The vehicle routing problem with stochastic and correlated travel times
Speaker: Guy Desaulniers, Polytechnique Montreal GERAD, CA, talk 506
Co-Authors: *Borzou Rostami*, *Fausto Errico*, *Andrea Lodi*,
2 - An exact formulation for pickup and delivery problem with divisible split-ups
Speaker: Bolor Jargalsaikhan, University of Groningen, NL, talk 1073
Co-Authors: *Ward Romeijnders*, *Kees Jan Roodbergen*,
3 - Branch-and-Price for Probabilistic Vehicle Routing
Speaker: Mathias Klapp, PUC, CL, talk 388
Co-Authors: *Felipe Lagos*, *Alejandro Toriello*,

Graph theory

Discrete Optimization & Integer Programming
COMB - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 422
Chair: Thomas Bellitto, University of Bordeaux, FR

1 - A Tight Cut Decomposition for Hypergraphs with Perfect Matchings
Speaker: Isabel Beckenbach, Zuse Institute Berlin, DE, talk 623
Co-Authors: *Sebastian Wiederrecht*, *Meike Hatzel*,
2 - Densities, Matchings, and Fractional Edge-Colorings
Speaker: Xujin Chen, Chinese Academy of Sciences, CN, talk 771
Co-Authors: *Wenan Zang*, *Qiulan Zhao*,
3 - Making Bipartite Graphs DM-irreducible
Speaker: Yutaro Yamaguchi, Osaka University, JP, talk 566
Co-Authors: *Kristóf Bérczi*, *Satoru Iwata*, *Jun Kato*,
4 - Optimal weighting to minimize the independence ratio of a graph
Speaker: Thomas Bellitto, University of Bordeaux, FR, talk 1414
Co-Authors: *Arnaud Pecher*,

First Order Methods I

Continuous Optimization
NLP - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Contributed Session 436
Chair: Sandra Santos, University of Campinas, BR

1 - Accelerating block coordinate descent methods with identification strategies
Speaker: Sandra Santos, University of Campinas, BR, talk 389
Co-Authors: *Ronaldo Lopes*, *Paulo Silva*,
2 - On Matching Pursuit and Coordinate Descent
Speaker: Francesco Locatello, MPI - ETH Zurich, CH, talk 1642
Co-Authors: *Anant Raj*, *Sai Praneeth Karimireddy*, *Gunnar Rätsch*, *Bernhard Schölkopf*, *Sebastian Stich*, *Martin Jaggi*,
3 - A Unified Scheme to Accelerate Adaptive Cubic Regularization and Gradient Method
Speaker: Tianyi Lin, UC Berkeley, US, talk 198
Co-Authors: *Shuzhong Zhang*, *Bo Jiang*,
4 - Performance Estimation for Fixed Point Iterations
Speaker: Felix Lieder, Heinrich-Heine University, DE, talk 7

New applications of robust optimizations

Optimization under Uncertainty
Robust - Th 9:00am-10:30am, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Contributed Session 461
Chair: Mirjam Duer, Augsburg University, DE

1 - Condition and geometric measures for consistency in intertemporal optimization
Speaker: Jorge Vera, Catholic University of Chile, CL, talk 1113
Co-Authors: *Rodrigo Cofre*,
2 - Compositional Stochastic Optimization with Kernels for Robust Online Learning
Speaker: Alec Koppel, U.S. Army Research Laboratory, US, talk 47
Co-Authors: *Amrit Bedi Singh*, *Ketan Rajawat*,
3 - Robust Approach for Stratified Sampling Allocation Problems
Speaker: Mirjam Duer, Augsburg University, DE, talk 1010

Dynamical systems, control and optimization

Specific Models, Algorithms, and Software
Learning - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 470
Chair: Benjamin Recht, UC Berkeley, US

1 - Tangent Space Regularization for Neural-Networks Models of Dynamical Systems
Speaker: Fredrik Bagge Carlson, Automatic Control, Lund Uni., SE, talk 1303
Co-Authors: *Anders Robertsson*, *Rolf Johansson*,
2 - The sample complexity of iteratively learning to control
Speaker: Benjamin Recht, UC Berkeley, US, talk 1217
3 - Optimization-based adaptive control using a system level approach.
Speaker: Nikolai Matni, UC Berkeley, US, talk 1311
4 - Lyapunov arguments in optimization
Speaker: Ashia Wilson, UC Berkeley, US, talk 1622

New results in chance-constrained optimization

Optimization under Uncertainty
Stoch - Th 8:30am-10:30am, Format: 4x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Contributed Session 489
Chair: Bismark Singh, Sandia National Laboratories, US

1 - Smoothing Methods for Chance Constrained Optimization of Elliptic PDE Systems
Speaker: Abebe Geletu, Technische Univerisität Ilmena, DE, talk 1312
Co-Authors: *Armin Hoffmann*, *Patrick Schmidt*, *Pu Li*,
2 - Dynamic chance constraints under random distributiond
Speaker: René Henrion, Weierstrass Institute Berlin, DE, talk 1395
3 - Differentiabilty of joint chance constraints under weakened LICQ
Speaker: Armin Hoffmann, TU Ilmenau, DE, talk 382
Co-Authors: *Abebe Geletu*, *Pu Li*,
4 - Approximating Chance Constrained Programs using Classical Inequalities
Speaker: Bismark Singh, Sandia National Laboratories, US, talk 1589
Co-Authors: *Jean-Paul Watson*,

Topics in multistage and integer stochastic optimization

Optimization under Uncertainty
Stoch - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 490
Organizer: Jim Luedtke, University of Wisconsin-Madiso, US

1 - Three-Stage Stochastic Airline Scheduling Problem
Speaker: Ozge Safak, Bilkent University, TR, talk 1293
Co-Authors: *Ozlem Cavus*, *Selim Akturk*,
2 - State space analysis of a stochastic DP to deal with curse of dimensionality
Speaker: Mehdi Karimi-Nasab, Institute for OR, Uni Hamburg, DE, talk 351
3 - Partitioned Subgradient Methods for Stochastic Mixed Integer Program duals
Speaker: Cong Han Lim, UW-Madison, US, talk 1196
Co-Authors: *Jeff Linderoth*, *Jim Luedtke*, *Stephen Wright*,
4 - Lagrangian dual decision rules for multistage stochastic integer programs
Speaker: Jim Luedtke, University of Wisconsin-Madiso, US, talk 104
Co-Authors: *Merve Bodur*, *Maryam Daryalal*,

Convexity and Polytopes

Discrete Optimization & Integer Programming
IPtheory - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Contributed Session 518
Chair: David Warme, Group W, Inc., US

1 - Box-Total Dual Integrality and k-Edge-Connectivity
Speaker: Emiliano Lancini, LIPN - Université Paris 13, FR, talk 1651
Co-Authors: *Roland Grappe*, *Mathieu Lacroix*, *Michele Barbato*, *Roberto Wolfler Calvo*,
2 - On the Circuit Diameter Conjecture
Speaker: Tamon Stephen, Simon Fraser University, CA, talk 1403
3 - The role of extreme points for convex hull operations.
Speaker: Filipe Cabral, UFRJ, BR, talk 1107
Co-Authors: *Bernardo Costa*, *Joari Costa*,
4 - Metrics for Strength of Inequalities with Respect to a Polytope
Speaker: David Warme, Group W, Inc., US, talk 777

Non smooth optimization for lage scale poblems

Continuous Optimization
NonSmooth - Th 8:30am-10:30am, Format: 4x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Invited Session 556
Organizer: Yu Du, University of Colorado Denver, US

1 - Selective Linearization for Multi-block Statistical Learning Problems
Speaker: Yu Du, University of Colorado Denver, US, talk 280
Co-Authors: *Andrzej Ruszczynski*,
2 - Randomized Proximal Algorithm with Automatic Dimension Reduction.
Speaker: Dmitry Grishchenko, Univ. Grenoble Alpes, FR, talk 1426
Co-Authors: *Franck Iutzeler*, *Jerome Malick*, *Massih-Reza Amini*,
3 - Inexact proximal memoryless spectral-scaling MBFGS method
Speaker: Shummin Nakayama, Tokyo University of Science, JP, talk 225
Co-Authors: *Yasushi Narushima*, *Hiroshi Yabe*,
4 - Decomposition methods for computing d-stationary solutions for nonconvex problem
Speaker: Min Tao, Nanjing University, CN, talk 3
Co-Authors: *Jong-Shi Pang*,

Cutting Planes in the Extended Space

Invited Talks
KEYNOTE - Th 11:00am-12:00am, Format: 1x60 min
Room: BROCA Building: W, 3rd floor, Zone: 0

Invited Session 543
Organizer: Adam Letchford, Lancaster University, GB

1 - Cutting Planes in the Extended Space
Speaker: Oktay Gunluk, IBM Research, US, talk 1629

Effective Scenarios and Scenario Reduction for Risk-Averse Stochastic Programs

Invited Talks
KEYNOTE - Th 11:00am-12:00am, Format: 1x60 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 544
Organizer: Jim Luedtke, University of Wisconsin-Madiso, US

1 - Effective Scenarios and Scenario Reduction for Risk-Averse Stochastic Programs
Speaker: Tito Homem-de-Mello, Universidad Adolfo Ibanez, CL, talk 1598
Co-Authors: *Sebastian Arpon*, *Bernardo Pagnoncelli*, *Hamed Rahimian*, *Guzin Bayraksan*,

The BARON software for MINLP

Invited Talks
SEMI - Th 11:00am-12:00am, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 547
Organizer: Claudia D Ambrosio, LIX, FR

1 - The BARON software for MINLP
Speaker: Nikolaos Sahinidis, Carnegie Mellon University, US, talk 1558

Randomness, risk and electricity prices

Invited Talks
PLENARY - Th 1:30pm-2:30pm, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 554
Organizer: Michael Ferris, University of Wisconsin, US

1 - Randomness, risk and electricity prices
Speaker: Andy Philpott, University of Auckland, NZ, talk 1605
Co-Authors: *Michael Ferris*,

Noncommutative polynomial optimization: semidefinite relaxations, free convexity and applications to quantum information II

Continuous Optimization
SDP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 18
Organizer: Monique Laurent, CWI and Tilburg University, NL

1 - Quantifying entanglement of a quantum correlation using polynomial optimization
Speaker: Sander Gribling, CWI, NL, talk 57
Co-Authors: *David de Laat*, *Monique Laurent*,
2 - Graph isomorphism: conic relaxations and physical interpretation
Speaker: Antonios Varvitsiotis, National University of Singapo, SG, talk 60
Co-Authors: *Laura Mancinska*, *David Roberson*, *Albert Atserias*, *Robert Samal*, *Simone Severini*,
3 - Optimization over univariate polynomials: Algorithms and applications
Speaker: Farid Alizadeh, Rutgers University, US, talk 1679

Co-Authors: *Mohammad Ranjbar*,

Methods of Optimization in Riemannian Manifolds

Continuous Optimization
NLP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 21
Organizer: Orizon Ferreira, Universidade Federal de Goias, BR

1 - A two-phase proximal-like algorithm in domains of positivity
Speaker: Paulo Oliveira, Federal University R J, BR, talk 34
Co-Authors: *Ronaldo Gregorio*, *Charlan Alves*,
2 - Proximal point method in multiobjective optimization on Hadamard manifolds
Speaker: Glaydston Bento, Universidade Federal de Goias, BR, talk 42
Co-Authors: *João Cruz Neto*, *Lucas Meireles*,
3 - Newton's Method for Locally Lipschitz vector Fields on Riemannian Manifolds
Speaker: Orizon Ferreira, Universidade Federal de Goias, BR, talk 28
Co-Authors: *Fabiana de Oliveira*,

Approximation Algorithms for Clustering.

Discrete Optimization & Integer Programming
APPROX - Th 3:15pm-4:45pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 32
Organizer: Deeparnab Chakrabarty, Dartmouth College, US

1 - Constant-Factor Approximation for Ordered k-Median
Speaker: Jaroslaw Byrka, University of Wroclaw, PL, talk 464
Co-Authors: *Krzysztof Sornat*, *Joachim Spoerhase*,
2 - Sampling-based algorithms and clustering with outliers
Speaker: Amit Jayant Deshpande, Microsoft Research, IN, talk 454
3 - Generalized Center Problems with Outliers
Speaker: Deeparnab Chakrabarty, Dartmouth College, US, talk 891
Co-Authors: *Maryam Negahbani*,

Convexification and more (I)

Discrete Optimization & Integer Programming
MINLP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 62
Organizer: Jon Lee, University of Michigan, US

1 - Treating indefinite quadratic and bilinear forms in MINLP
Speaker: Marcia Fampa, UFRJ, BR, talk 620
Co-Authors: *Jon Lee*,
2 - Valid inequalities for QCQPs
Speaker: Amélie Lambert, Cedric-Cnam, FR, talk 745
3 - More Virtuous Smoothing
Speaker: Luze Xu, University of Michigan, US, talk 772
Co-Authors: *Jon Lee*, *Daphne Skipper*,

Optimization Models for Renewable Energy Integration 1

Specific Models, Algorithms, and Software
Energy - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 120
Organizer: Luis Zuluaga, Lehigh University, US

1 - Optimal Grid Operation and DER Dispatch in Active Distribution Networks
Speaker: Panagiotis Andrianesis, Boston University, US, talk 1658
Co-Authors: *Michael Caramanis*,
2 - Bilevel Optimization for Flexible Electricity Supply Tariff Design
Speaker: Galina Orlinskaya, FAU Erlangen-Nuernberg, DE, talk 1425
Co-Authors: *Veronika Grimm*, *Martin Schmidt*, *Gregor Zöttl*, *Lars Schewe*,
3 - Competitive equilibrium and revenue adequate prices for robust energy markets
Speaker: Luis Zuluaga, Lehigh University, US, talk 941
Co-Authors: *Xin Chi*, *Alberto Lamadrid*,

Nonlinear Optimization and Variational Inequalities II

Continuous Optimization
Variat - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 141
Organizer: Cong Sun, Beijing Univ. Post. Telecomm., CN

1 - On the Lojasiewicz Exponent of Quadratic Minimization with Sphere Constraint
Speaker: Xin Liu, Chinese Academy of Sciences, CN, talk 96
Co-Authors: *Bin Gao*, *Xiaojun Chen*, *Yaxiang Yuan*,
2 - A Parallelizable Algorithm for Orthogonally Constrained Optimization Problems
Speaker: Bin Gao, Chinese Academy of Sciences, CN, talk 85
Co-Authors: *Xin Liu*, *Yaxiang Yuan*,
3 - A Joint Matrix Minimization Approach for Seismic

Wavefield Recovery
Speaker: Yanfei Wang, Chinese Academy of Sciences, CN, talk 1559
Co-Authors: *Liping Wang*,

Asynchronous Parallel and Distributed Optimization

Continuous Optimization
RandomM - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 200
Organizer: Wotao Yin, UCLA, US

1 - Improved asynchronous parallel optimization analysis for incremental methods
Speaker: Rémi Leblond, INRIA, FR, talk 741
Co-Authors: *Fabian Pedregosa*, *Simon Lacoste-Julien*,
2 - Why Asynchronous Algorithms may Drastically Outperform Traditional Ones
Speaker: Robert Hannah, UCLA, US, talk 339
Co-Authors: *Wotao Yin*,
3 - Complexity of a quadratic penalty accelerated inexact proximal point method
Speaker: Renato Monteiro, Georgia Tech, US, talk 938
Co-Authors: *Weiwei Kong*, *Jefferson Melo*,

Algorithms for TSP

Discrete Optimization & Integer Programming
COMB - Th 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Invited Session 239
Organizer: Ola Svensson, EPFL, CH

1 - Approaching 3/2 for the s-t-path TSP
Speaker: Vera Traub, University of Bonn, DE, talk 571
Co-Authors: *Jens Vygen*,
2 - Cut-Covering Decompositions for Connectivity Problems
Speaker: Ramamoorthi Ravi, CMU, US, talk 585
Co-Authors: *Arash Haddadan*, *Alantha Newman*,
3 - A Constant-factor Approximation Algorithm for the Asymmetric Traveling Salesman
Speaker: Ola Svensson, EPFL, CH, talk 550
Co-Authors: *Jakub Tarnawski*, *Laszlo Vegh*,

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 1

Optimization under Uncertainty
Stoch - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 246
Organizer: Vincent Leclère, ENPC, FR

1 - Computing parameter sensitivities for discrete time Markov decision processes
Speaker: David Wozabal, Technical University of Munich, DE, talk 1002
Co-Authors: *Goncalo Terca*,
2 - Modeling time-dependent randomness in stochastic dual dynamic programming
Speaker: Nils Löhndorf, University of Luxembourg, LU, talk 849
Co-Authors: *Alexander Shapiro*,
3 - Computing ellipsoidal controlled invariant sets for stochastic programming
Speaker: Benoît Legat, UCLouvain, BE, talk 1243
Co-Authors: *Raphaël Jungers*,

Generation and Representation Algorithms in Multiobjective Optimization

Optimization under Uncertainty
Game - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Invited Session 267
Organizer: Michael Stiglmayr, University of Wuppertal, DE

1 - On a Polynomial Bound in Multiobjective Unconstrained Combinatorial Optimization
Speaker: Britta Schulze, University of Wuppertal, DE, talk 1061
Co-Authors: *Kathrin Klamroth*, *Michael Stiglmayr*,
2 - Efficient Representation of the Search Region and Generic Algorithms in MOCO
Speaker: Kathrin Klamroth, University of Wuppertal, DE, talk 1232
Co-Authors: *Kerstin Daechert*, *Renaud Lacour*, *Daniel Vanderpooten*,
3 - Representation of the non-dominated set of multiobjective optimization problems
Speaker: Michael Stiglmayr, University of Wuppertal, DE, talk 1127

Heuristics in MINLP

Discrete Optimization & Integer Programming
MINLP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Contributed Session 276
Chair: Bertrand Travacca, UC Berkeley, US

1 - MINLP solutions using a Generalized-GRASP solver
Speaker: João Lauro Faco', Federal University of RJ, BR, talk 1368
Co-Authors: *Ricardo Silva*, *Mauricio Resende*,
2 - Feasible rounding ideas for mixed-integer optimization problems
Speaker: Christoph Neumann, Cont. Opt. IOR KIT, DE, talk 494

Co-Authors: *Nathan Sudermann-Merx*, *Oliver Stein*,
3 - Dual Hopfield Models for Large Scale Mixed Integer Programming
Speaker: Bertrand Travacca, UC Berkeley, US, talk 796
Co-Authors: *Scott Moura*,

MINLP with quadratic terms

Discrete Optimization & Integer Programming
MINLP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4
Contributed Session 282
Chair: Enrico Bettiol, LIPN - Université Paris 13, FR

1 - The p-Lagrangian method for MIQCQPs
Speaker: Fabricio Oliveira, Aalto University, FI, talk 201
Co-Authors: *Tiago Andrade*, *Silvio Hamacher*,
2 - A dedicated version of BiqCrunch for solving the Max-Stable Set problem exactly
Speaker: Etienne Leclercq, LIPN, University Paris XIII, FR, talk 1489
Co-Authors: *Frederic Roupin*,
3 - Simplicial Decomposition for quadratic convex 0-1 problems
Speaker: Enrico Bettiol, LIPN - Université Paris 13, FR, talk 716
Co-Authors: *Lucas Letocart*, *Emiliano Traversi*, *Francesco Rinaldi*,

Applications of CP

Discrete Optimization & Integer Programming
CP - Th 3:15pm-4:45pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1
Invited Session 284
Organizer: Louis-Martin Rousseau, Polytechnique Montreal, CA

1 - A Constraint Programming approach to a meal delivery problem
Speaker: Olivier Bachollet, IMT Atlantique - CIRRELT, FR, talk 1604
Co-Authors: *Michel Gendreau*, *Fabien Lehuédé*, *Louis-Martin Rousseau*,
2 - A Decomposition Approach for the Home Health Care Routing and Scheduling Problem
Speaker: Florian Grenouilleau, Polytechnique Montréal, CA, talk 1053
Co-Authors: *Nadia Lahrichi*, *Louis-Martin Rousseau*,
3 - A CP Approach to the Traveling Salesman Problem in the Postal Services
Speaker: Louis-Martin Rousseau, Polytechnique Montreal, CA, talk 1333
Co-Authors: *Alexis Bretin*, *Guy Desaulniers*,

Extending the Reach of First-Order Methods, Part II

Continuous Optimization
NonSmooth - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12
Invited Session 286
Organizer: Robert Freund, MIT, US

1 - Risk and parameter convergence of logistic regression
Speaker: Matus Telgarsky, UIUC, US, talk 1557
Co-Authors: *Ziwei Ji*,
2 - A conditional gradient framework for composite convex minimization
Speaker: Alp Yurtsever, EPFL, CH, talk 254
Co-Authors: *Olivier Fercoq*, *Francesco Locatello*, *Volkan Cevher*,
3 - Accelerating Greedy Coordinate Descent Methods
Speaker: Robert Freund, MIT, US, talk 260
Co-Authors: *Haihao Lu*, *Vahab Mirrokni*,

Computational Issues in Integer Programming

Discrete Optimization & Integer Programming
IPpractice - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1
Invited Session 289
Organizer: Ricardo Fukasawa, Ricardo, CA

1 - Implementation and performance of the simplex method
Speaker: Laurent Poirrier, University of Waterloo, CA, talk 1124
Co-Authors: *Ricardo Fukasawa*,
2 - Learning MILP resolution outcomes before reaching time-limit
Speaker: Giulia Zarpellon, Polytechnique Montreal, CA, talk 1341
Co-Authors: *Martina Fischetti*, *Andrea Lodi*,
3 - Computational Results with V-Polyhedral Cuts and Strengthening Approaches
Speaker: Aleksandr Kazachkov, Carnegie Mellon University, US, talk 356
Co-Authors: *Egon Balas*,

Accelerating Learning

Specific Models, Algorithms, and Software
Learning - Th 3:15pm-4:45pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8
Invited Session 322
Organizer: Martin Takac, Lehigh University, US

1 - Nonlinear Acceleration of Stochastic Algorithms
Speaker: Damien Scieur, INRIA - ENS, FR, talk 468
Co-Authors: *Francis Bach*, *Alexandre d Aspremont*,
2 - Accelerated First Order Methods with Approximate Subproblems

Speaker: Sai Praneeth Karimireddy, EPFL, CH, talk 1543
Co-Authors: *Sebastian Stich*, *Martin Jaggi*,
3 - Optimal Algorithms for Distributed Optimization
Speaker: Angelia Nedich, ASU, US, talk 307
Co-Authors: *Cesar Uribe*, *Soomin Lee*, *Alexander Gasnikov*,

Robust first order methods

Specific Models, Algorithms, and Software
Learning - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Invited Session 332
Organizer: Fatma Kilinc-Karzan, Carnegie Mellon University, US

1 - Robust distributed learning in the face of adversity
Speaker: Dimitris Papailiopoulos, UW-Madison, US, talk 783
Co-Authors: *Lingjiao Chen*, *Zachary Charles*, *Hongyi Wang*,
2 - Characterizing implicit bias of optimization and its role in generalization
Speaker: Suriya Gunasekar, TTI Chicago, US, talk 1519
Co-Authors: *Jason Lee*, *Daniel Soudry*, *Nathan Srebro*,
3 - First-order Framework for Robust Convex Optimization
Speaker: Nam Ho-Nguyen, Carnegie Mellon University, US, talk 1077
Co-Authors: *Fatma Kilinc-Karzan*,

Theory and Methods for ODE- and PDE-Constrained Optimization 2

Continuous Optimization
Control - Th 3:15pm-4:15pm, Format: 2x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Contributed Session 333
Chair: Johann Schmitt, TU Darmstadt, DE

1 - Optimal boundary control of hyperbolic balance laws with state constraints
Speaker: Johann Schmitt, TU Darmstadt, DE, talk 751
Co-Authors: *Stefan Ulbrich*,
2 - Numerical approximation of optimal control problems for conservation laws
Speaker: Paloma Schäfer Aguilar, TU Darmstadt, DE, talk 1076
Co-Authors: *Stefan Ulbrich*,

Routing and Inventory

Discrete Optimization & Integer Programming
APPROX - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Invited Session 343
Organizer: Dorit Hochbaum, UC Berkeley, US

1 - Improved upper bound for online Dial-a-Ride on the line
Speaker: Alexander Birx, TU Darmstadt, DE, talk 544
Co-Authors: *Yann Disser*,
2 - A 4/5 - Approximation Algorithm for the Maximum Traveling Salesman Problem
Speaker: Jan Marcinkowski, University of Wroclaw, PL, talk 1464
Co-Authors: *Szymon Dudycz*, *Katarzyna Paluch*, *Bartosz Rybicki*,
3 - The gap between the continuous and discrete Replenishment Schedule problem
Speaker: Dorit Hochbaum, UC Berkeley, US, talk 284
Co-Authors: *Xu Rao*,

Distributionally Robust Optimization With Marginals and Cones

Optimization under Uncertainty
Robust - Th 3:15pm-4:45pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 354
Organizer: Divya Padmanabhan, SUTD, SG

1 - Distributionally Robust Linear and Discrete Optimization with Marginals
Speaker: Louis Chen, MIT, US, talk 762
Co-Authors: *Karthik Natarajan*, *Will Ma*, *David Simchi-Levi*, *Zhenzhen Yan*,
2 - A Copositive Approach for Decision Rule Approximations of Multi-Stage RO
Speaker: Guanglin Xu, University of Iowa, US, talk 696
Co-Authors: *Grani Hanasusanto*,
3 - Tractable Solutions to Distributionally Robust Optimisation
Speaker: Divya Padmanabhan, SUTD, SG, talk 1239
Co-Authors: *Karthik Natarajan*, *Karthyek Murthy*,

Inverse Problems in Physics

Specific Models, Algorithms, and Software
Sciences - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Contributed Session 391
Chair: Leo Liberti, CNRS and Ecole Polytechnique, FR

1 - On the reconstruction of lattices from diffraction data
Speaker: Andreas Alpers, Technical University of Munich, DE, talk 1442
2 - Grain map reconstruction by means of generalized Voronoi Diagrams
Speaker: Fabian Klemm, Technical University of Munich, DE, talk 1003
Co-Authors: *Peter Gritzmann*,
3 - Scientific applications of distance geometry
Speaker: Leo Liberti, CNRS and Ecole Polytechnique, FR, talk 399

Path Problems

Specific Models, Algorithms, and Software
Logistics - Th 3:15pm-4:15pm, Format: 2x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Contributed Session 453
Chair: Yanchao Liu, Wayne State University, US

1 - Dynamic Discretization Discovery Algorithms for Time-Dependent Path Problems
Speaker: Edward He, GIT, US, talk 1615
Co-Authors: *Natashia Boland*, *George Nemhauser*, *Martin Savelsbergh*,
2 - Drone Path Planning and Aerial Traffic Flow
Speaker: Yanchao Liu, Wayne State University, US, talk 1632

Non-linear robust optimization

Optimization under Uncertainty
Robust - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Contributed Session 460
Chair: Laurent Alfandari, ESSEC Business School, FR

1 - Graph learning with the Wasserstein metric
Speaker: Daniel de Roux, Universidad de los Andes, CO, talk 1191
Co-Authors: *Mauricio Velasco*,
2 - Robust optimization for non-linear impact of data variation
Speaker: Laurent Alfandari, ESSEC Business School, FR, talk 1610
Co-Authors: *Juan-Carlos Espinoza-Garcia*,
3 - A mathematical program for signal control with equilibrium constraints
Speaker: Suh-Wen Chiou, National Dong Hwa Univ, TW, talk 183

High-Performance Computing in Optimization II

Specific Models, Algorithms, and Software
Algo - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 466
Chair: Joaquim Dias Garcia, PSR and PUC-Rio, BR

1 - High-Performance Solver for Binary Quadratic Problems
Speaker: Timotej Hrga, University of Ljubljana, SI, talk 969
Co-Authors: *Janez Povh*, *Angelika Wiegele*,
2 - Bilevel optimization approaches for power system security
Speaker: Brian Dandurand, Argonne National Laboratory, US, talk 1413
Co-Authors: *Kibaek Kim*, *Sven Leyffer*,
3 - Genesys: Simulating Power Systems by Solving Millions of MIPs
Speaker: Joaquim Dias Garcia, PSR and PUC-Rio, BR, talk 1091
Co-Authors: *André Pinto*, *Raphael Chabar*, *Julio Dias*, *Luiz Carlos da Costa Junior*, *John Fazio*, *John Ollis*, *Dan Hua*,

Progress in Algorithms for Optimal Power Flow Problems II

Specific Models, Algorithms, and Software
Energy - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Contributed Session 509
Chair: Miguel Anjos, Polytechnique Montreal, CA

1 - Robust Optimization for the Alternating Current Optimal Power Flow Problem
Speaker: Alvaro Lorca, PUC-Chile, CL, talk 2
Co-Authors: *Andy Sun*,
2 - Global Optimization for Alternating Current Optimal Power Flow
Speaker: Ksenia Bestuzheva, ANU, Data61-CSIRO, AU, talk 1169
Co-Authors: *Hassan Hijazi*,
3 - Optimal Power Flow solver based on HELM
Speaker: Andreas Grothey, Uni Edinburgh, GB, talk 335
Co-Authors: *Ian Wallace*, *Ken McKinnon*,

Electricity Generation Scheduling and Dispatch

Specific Models, Algorithms, and Software
Energy - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 511
Chair: Christophe Duhamel, Université Clermont Auvergne, FR

1 - Data-Driven Generator Maintenance and Operations Scheduling under Uncertainty
Speaker: Beste Basciftci, Georgia Tech, US, talk 1292
Co-Authors: *Shabbir Ahmed*, *Nagi Gebraeel*,
2 - A Network Flow–Based MILP Formulation for the Thermal Unit Commitment Problem
Speaker: Diego Jimenez, UTFSM, CL, talk 1492
Co-Authors: *Alejandro Angulo*,
3 - solving the Short-term Hydrothermal Scheduling problem with linearizations
Speaker: Christophe Duhamel, Université Clermont Auvergne, FR, talk 1305
Co-Authors: *Gabriela Migliorini*, *Pedro Palermo*,

Non-Standard IP Methods

Discrete Optimization & Integer Programming
IPtheory - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 42 Building: C, 3rd floor, Zone: 1

Contributed Session 513
Chair: Ulf Friedrich, TU Munich, DE

1 - Algebraic Geometry and Integer Programmings in Cooperative Game Theory
Speaker: Tri-Dung Nguyen, University of Southampton, GB, talk 629
2 - A hierarchy of cutting plane operators based on lineality spaces
Speaker: Wolfgang Keller, Otto-von-Guericke University, DE, talk 854
3 - A power series algorithm for non-negative IP
Speaker: Ulf Friedrich, TU Munich, DE, talk 1021

Polynomial Time Solvable Problems and Complete Descriptions

Discrete Optimization & Integer Programming
IPtheory - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Contributed Session 520
Chair: Andreas Bärmann, FAU Erlangen-Nürnberg, DE

1 - Extreme points for scheduling around a common due date
Speaker: A-E Falq, LIP6, FR, talk 870
Co-Authors: *Pierre Fouilhoux*, *Safia Kedad-Sidhoum*,
2 - On Integer Programming and Convolution
Speaker: Lars Rohwedder, University of Kiel, DE, talk 846
Co-Authors: *Klaus Jansen*,
3 - The Clique Problem with Multiple-Choice Constraints and Two Polynomial Subcases
Speaker: Andreas Bärmann, FAU Erlangen-Nürnberg, DE, talk 1176
Co-Authors: *Patrick Gemander*, *Maximilian Merkert*, *Oskar Schneider*,

Production Planning

Specific Models, Algorithms, and Software
Scheduling - Th 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 531
Chair: Michel Siemon, RWTH Aachen, DE

1 - ISO-PESP - A PESP Variant for Minimizing the Cycle Time of Production Lines
Speaker: Tobias Hofmann, TU Chemnitz, DE, talk 576
Co-Authors: *Christoph Helmberg*,
2 - A matheuristic for the blocking job shop problem with a tardiness objective
Speaker: Julia Lange, OvG-Universität Magdeburg, DE, talk 1331
Co-Authors: *Reinhard Bürgy*,
3 - Value-based End-to-End Production Planning in Non-Ferrous Metal Industry
Speaker: Michel Siemon, RWTH Aachen, DE, talk 1568
Co-Authors: *Max Schiffer*, *Grit Walther*,

Polynomial and tensor optimization II

Continuous Optimization
NLP - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 6
Organizer: Jiawang Nie, Univ. of California San Diego, US

1 - Computing invariant measures with the Lasserre hierarchy
Speaker: Didier Henrion, LAAS-CNRS Univ. Toulouse, FR, talk 227
2 - Completely positive tensor recovery with minimal nuclear value
Speaker: Anwa Zhou, Shanghai University, CN, talk 9
Co-Authors: *Jinyan Fan*,
3 - Phaseless rank of a matrix
Speaker: João Gouveia, University of Coimbra, PT, talk 297
Co-Authors: *António Goucha*,
4 - A Complete Semidefinite Algorithm for Detecting Copositive Matrices and Tensors
Speaker: Xinzhen Zhang, Tianjin University, CN, talk 10

Recent Advances in Conic Programming III

Continuous Optimization
SDP - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 84
Organizer: Masakazu Muramatsu, UEC, JP

1 - A path-following method for semidefinite programming without Slater condition
Speaker: Makoto Yamashita, Tokyo Institute of Technology, JP, talk 166
Co-Authors: *Kei Takemura*,
2 - A Majorized Newton-CG ALM for Linearly Constrained Convex Programming
Speaker: Tang Peipei, Zhejiang University City Colle, CN, talk 122
Co-Authors: *Chengjing Wang*,
3 - Analysis of Positive Systems by Semidefinite and Copositive Programming
Speaker: Yoshio Ebihara, Kyoto University, JP, talk 441
4 - Acceleration of the Lagrangian-DNN method for a class of QOPs
Speaker: Yuzhu Wang, University of Tsukuba, JP, talk 443
Co-Authors: *Akiko Yoshise*,

Approximation Algorithms for Optimization under Uncertainty

Discrete Optimization & Integer Programming
APPROX - Th 5:00pm-6:30pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 95
Organizer: Marc Uetz, University of Twente, NL

1 - Prophet Inequalities Made Easy: Stochastic Opt. by Pricing Non-Stochastic Inputs
Speaker: Thomas Kesselheim, University of Bonn, DE, talk 816
Co-Authors: *Paul Dütting*, *Michal Feldman*, *Brendan Lucier*,
2 - Hiring Secretaries over Time: The Benefit of Concurrent Employment
Speaker: Max Klimm, HU Berlin, DE, talk 909
Co-Authors: *Yann Disser*, *John Fearnley*, *Martin Gairing*, *Oliver Göbel*, *Daniel Schmand*, *Alexander Skopalik*, *Andreas Tönnis*,
3 - Greed is Good - Online Algorithms for Stochastic Unrelated Machine Scheduling
Speaker: Marc Uetz, University of Twente, NL, talk 837
Co-Authors: *Varun Gupta*, *Benjamin Moseley*, *Qiaomin Xie*,

Large-scale combinatorial optimization implementations

Specific Models, Algorithms, and Software
Algo - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Invited Session 96
Organizer: Aaron Archer, Google, US

1 - Lost in Translation: Production Code Efficiency
Speaker: Andrew Goldberg, Amazon.com, US, talk 641
2 - Distributed Balanced Partitioning via Linear Embedding
Speaker: Kevin Aydin, Google Inc, US, talk 908
Co-Authors: *Hossein Bateni*, *Vahab Mirrokni*,
3 - High Quality Graph and Hypergraph Partitioning
Speaker: Christian Schulz, University Vienna, AT, talk 545
Co-Authors: *Sebastian Schlag*, *Peter Sanders*,
4 - Solving Coverage Problems on Massive Data
Speaker: Hossein Bateni, Google Inc., US, talk 779
Co-Authors: *Hossein Esfandiari*, *Vahab Mirrokni*,

Robust Optimization under Data Uncertainty

Optimization under Uncertainty
Robust - Th 5:00pm-6:30pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 98
Organizer: Omid Nohadani, Northwestern University, US

1 - Uncertain Data Envelopment Analysis
Speaker: Matthias Ehrgott, Lancaster University, GB, talk 299
Co-Authors: *Allen Holder*, *Omid Nohadani*,
2 - Wasserstein Distributionally Robust Kalman Filtering
Speaker: Soroosh Shafieezadeh, EPFL, CH, talk 1449
Co-Authors: *Viet Anh Nguyen*, *Peyman Mohajerin Esfaha*, *Daniel Kuhn*,
3 - Appointment Scheduling Under Time-Dependent Patient No-Show Behavior
Speaker: Zhenzhen Yan, Nanyang Technological Universi, SG, talk 928
Co-Authors: *Qingxia Kong*, *Shan Li*, *Nan Liu*, *Chung Piaw Teo*,

Convexification and more (II)

Discrete Optimization & Integer Programming
MINLP - Th 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 106
Organizer: Akshay Gupte, Clemson University, US

1 - Binary Programming with Semilinear Elliptic PDE-constraints
Speaker: Christoph Buchheim, TU Dortmund, DE, talk 374
Co-Authors: *Renke Kuhlmann*, *Christian Meyer*,
2 - Using algebraic structure to accelerate polyhedral approximation
Speaker: Christopher Coey, MIT, US, talk 692
Co-Authors: *Juan Pablo Vielma*,
3 - Quadratic optimization with M-matrices and semi-continuous variables
Speaker: Andres Gomez, University of Pittsburgh, US, talk 220
Co-Authors: *Alper Atamturk*,

Efficient Semismooth Newton Methods for Large Scale Statistical Optimization Problems

Continuous Optimization
NonSmooth - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

Invited Session 123
Organizer: Defeng Sun, Hong Kong Polytechnic Univ, HK

1 - Efficient sparse Hessian based algorithms for the clustered lasso problem
Speaker: Meixia Lin, NUS, SG, talk 497
Co-Authors: *Defeng Sun*, *Kim-Chuan Toh*, *Yong-Jin Liu*,
2 - An efficient algorithm for solving large scale sparse group Lasso problems
Speaker: Yangjing Zhang, NUS, SG, talk 449
Co-Authors: *Ning Zhang*, *Defeng Sun*, *Kim-Chuan Toh*,
3 - On the efficient computation of the projector over the Birkhoff polytope
Speaker: Defeng Sun, Hong Kong Polytechnic Univ, HK, talk

959
Co-Authors: *Xudong Li*, *Kim-Chuan Toh*,

Equilibrium and Optimization in Energy Markets

Specific Models, Algorithms, and Software
Energy - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 151
Organizer: Asgeir Tomasgard, NTNU, NO

1 - Bilevel Linear Programming Investment Problems Lower-Level Primal and Dual Variables
Speaker: Steven Gabriel, University of Maryland and NTNU, US, talk 1223
Co-Authors: *Henrik Bylling*, *Trine Boomsma*,
2 - The Flow-Based Market Coupling Model and the Bidding Zone Configuration
Speaker: Endre Bjorndal, Norwegian School of Economics, NO, talk 1457
Co-Authors: *Mette Bjorndal*, *Hong Cai*,
3 - A European power market model with short- and long-term uncertainty
Speaker: Asgeir Tomasgard, NTNU, NO, talk 1391
Co-Authors: *Hector Marañón-Ledesma*,

VU-decomposition techniques for nonsmooth optimization

Continuous Optimization
Variat - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 158
Organizer: Claudia Sagastizabal, Unicamp, BR

1 - An epsilon-VU algorithm with superlinear convergence
Speaker: Shuai Liu, University of Campinas, BR, talk 481
Co-Authors: *Claudia Sagastizabal*, *Mikhail Solodov*,
2 - A derivative-free $\mathcal{VU}$-algorithm for convex finite-max problems
Speaker: Claudia Sagastizabal, Unicamp, BR, talk 30
Co-Authors: *Warren Hare*, *Chayne Planiden*,
3 - A Fast Gradient Sampling-like Method for Solving Nonsmooth Optimization Problems
Speaker: Lucas Simões, University of Campinas, BR, talk 477
Co-Authors: *Elias Helou*, *Sandra Santos*,

Combinatorial robust optimization I

Optimization under Uncertainty
Robust - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 167
Organizer: Marc Goerigk, Lancaster University, GB

1 - Solving the Robust Capacitated Vehicle Routing Problem Under Demand Uncertainty
Speaker: Artur Pessoa, Univ. Federal Fluminense, BR, talk 302
Co-Authors: *Michael Poss*, *Ruslan Sadykov*, *Francois Vanderbeck*,
2 - Approximating combinatorial optimization problems with the OWA criterion
Speaker: Marc Goerigk, Lancaster University, GB, talk 987
Co-Authors: *Adam Kasperski*, *Pawel Zielinski*, *Andre Chassein*,
3 - Reformulations for Robust Lot-Sizing Problem with Remanufacturing
Speaker: Oyku Naz Attila, University of Strathclyde, GB, talk 1103
Co-Authors: *Agostinho Agra*, *Kerem Akartunali*, *Ashwin Arulselvan*,
4 - ast robust shortest path computations
Speaker: Christoph Hansknecht, TU Braunschweig, DE, talk 1020
Co-Authors: *Sebastian Stiller*, *Alexander Richter*,

Matching Problems

Discrete Optimization & Integer Programming
IPpractice - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Invited Session 175
Organizer: Sergio García Quiles, University of Edinburgh, GB

1 - Stable Matching with Proportionality Constraints
Speaker: Thanh Nguyen, Purdue University, US, talk 509
Co-Authors: *Rakesh Vohra*,
2 - Mathematical models for stable marriage problems with ties
Speaker: Maxence Delorme, University of Edinburgh, GB, talk 866
Co-Authors: *Sergio García Quiles*, *David Manlove*, *Jacek Gondzio*, *Joerg Kalcsics*, *William Pettersson*,
3 - Improvements in Kidney Exchange Programme Models for Large-Scale Programmes
Speaker: William Pettersson, University of Glasgow, GB, talk 1095
Co-Authors: *David Manlove*, *Maxence Delorme*, *Sergio García Quiles*, *Joerg Kalcsics*,
4 - Stable project allocation under distributional constraints
Speaker: Peter Biro, Hungarian Academy of Sciences, HU, talk 1369
Co-Authors: *Kolos Goston*, *Richárd Szántó*,

Different faces of nonsmoothness in optimization

Continuous Optimization

NonSmooth - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 212
Organizer: Tim Hoheisel, McGill, CA

1 - Global optimization of GSIPs using disjunctive programming
Speaker: Oliver Stein, KIT, DE, talk 203
Co-Authors: *Peter Kirst*,
2 - Superlinear Convergence of QN Methods for PLQ Convex-Composite Optimization
Speaker: Abraham Engle, University of Washington, US, talk 1638
Co-Authors: *James Burke*,
3 - Applications of the generalized matrix-fractional function
Speaker: Tim Hoheisel, McGill, CA, talk 1109
Co-Authors: *James Burke*,

Advances in Integer Programming

Discrete Optimization & Integer Programming
IPtheory - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 227
Organizer: Robert Hildebrand, Virginia Tech, US

1 - On the diameter of the fractional matching polytope
Speaker: Laura Sanità, University of Waterloo, CA, talk 929
2 - Treewidth-based Extension Complexity Lower Bounds
Speaker: Gonzalo Muñoz, Polytechnique Montreal, CA, talk 208
Co-Authors: *Yuri Faenza*, *Sebastian Pokutta*,
3 - On valid inequalities for knapsack polytopes
Speaker: Igor Malinovic, EPFL, CH, talk 1502
Co-Authors: *Yuri Faenza*, *Monaldo Mastrolilli*, *Ola Svensson*,
4 - Polynomial Integer Programming in Fixed Dimension and Applications in FPT
Speaker: Robert Hildebrand, Virginia Tech, US, talk 587

Computational OR in Julia/JuMP

Specific Models, Algorithms, and Software
Algo - Th 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 238
Organizer: Miles Lubin, Google, US

1 - JuMP 0.19 and MathOptInterface: new abstractions for mathematical optimization
Speaker: Miles Lubin, Google, US, talk 1175
2 - Optimizing Public Policy: School Transportation and Start Times in Boston.
Speaker: Sebastien Martin, MIT, US, talk 1376
Co-Authors: *Dimitris Bertsimas*, *Arthur Delarue*,
3 - Capstan: Next-Generation Automatic Differentiation for Julia
Speaker: Jarrett Revels, MIT, US, talk 553

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 2

Optimization under Uncertainty
Stoch - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Invited Session 247
Organizer: Vincent Leclère, ENPC, FR

1 - The practitioners guide to SDDP: lessons from SDDP.jl
Speaker: Oscar Dowson, University of Auckland, NZ, talk 439
2 - Decomposing Dynamic Programming equations: from global to nodal value functions
Speaker: François Pacaud, CERMICS, FR, talk 615
Co-Authors: *Carpentier Pierre*, *Michel De Lara*,
3 - Energy portfolio optimization for Brazilian distribution companies: a multistage
Speaker: Vitor de Matos, Plan4, BR, talk 1373
Co-Authors: *Guilherme Ramalho*, *Paulo Larroyd*, *Rodrigo Antunes*, *Luis Baran*, *Julia Paul*, *Marcos Coelho*,
4 - Stochastic programming framework for risk aversion representation with SDDP
Speaker: Luiz Carlos da Costa Junior, PSR, BR, talk 1498
Co-Authors: *Raphael Chabar*, *Joaquim Dias Garcia*,

Approximation algorithms for combinatorial optimization problems

Discrete Optimization & Integer Programming
COMB - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 265
Organizer: Thomas Rothvoss, University of Washington, US

1 - Approximation Algorithms for Diverse Subset Selection Problems
Speaker: Mohit Singh, Georgia Institute of Technolog, US, talk 868
Co-Authors: *Aleksander Nikolov*, *Weijun Xie*, *Uthaipon Tantipongpipat*,
2 - Local Guarantees in Graph Cuts and Clustering
Speaker: Roy Schwartz, Technion, IL, talk 1153
Co-Authors: *Moses Charikar*, *Neha Gupta*,
3 - Scheduling Stochastic Jobs on Unrelated Machines
Speaker: Anupam Gupta, Carnegie Mellon University, US, talk 224
Co-Authors: *Amit Kumar*, *Xiangkun Shen*, *Viswanath Nagarajan*,

Relaxations in MINLP

Discrete Optimization & Integer Programming
MINLP - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Contributed Session 280
Chair: Jan Kronqvist, Åbo Akademi University, FI

1 - Tight Convex Relaxations for Expansion Planning of Potential Driven Networks
Speaker: Ralf Lenz, Zuse Institute Berlin, DE, talk 1063
Co-Authors: *Felipe Serrano*,
2 - Using Regularization and Second Order Derivatives with Outer Approximation
Speaker: Jan Kronqvist, Åbo Akademi University, FI, talk 1362
Co-Authors: *David Bernal*, *Ignacio Grossmann*,
3 - The Supporting Hyperplane Optimization Toolkit for Convex MINLP
Speaker: Andreas Lundell, Åbo Akademi University, FI, talk 998
Co-Authors: *Jan Kronqvist*,

Applications in MINLP

Discrete Optimization & Integer Programming
MINLP - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Contributed Session 283
Chair: Justo Puerto, University of Seville, ES

1 - Modeling and optimization of traffic at traffic-light controlled intersections
Speaker: Do Duc Le, OVGU Magdeburg, DE, talk 1319
Co-Authors: *Maximilian Merkert*, *Sebastian Sager*, *Stephan Sorgatz*, *Mirko Hahn*,
2 - Flow-based extended formulations for feasible traffic light controls
Speaker: Maximilian Merkert, OVGU Magdeburg, DE, talk 1295
Co-Authors: *Gennadiy Averkov*, *Do Duc Le*, *Sebastian Sager*,
3 - MINLP for pricing transaction costs in different models of portfolio selection
Speaker: Justo Puerto, University of Seville, ES, talk 972
Co-Authors: *Marina Leal-Palazon*,

Gas Network and Market Optimization

Specific Models, Algorithms, and Software
Energy - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 293
Organizer: Jonas Schweiger, Zuse Institute Berlin, DE

1 - Foresighted decision support for gas network operation
Speaker: Jonas Schweiger, Zuse Institute Berlin, DE, talk 856
2 - Controlling complex network elements by target values
Speaker: Felix Hennings, Zuse Institute Berlin, DE, talk 456
3 - Nonconvex Equilibrium Models for Gas Market Analysis
Speaker: Julia Grübel, FAU Erlangen-Nürnberg, DE, talk 981
Co-Authors: *Veronika Grimm*, *Martin Schmidt*, *Lars Schewe*, *Gregor Zöttl*,

Recent Progress on Second-order Type Optimization Methods

Continuous Optimization
RandomM - Th 5:00pm-6:30pm, Format: 3x20 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Invited Session 302
Organizer: Andre Milzarek, PKU, CN

1 - Inexact Successive Quadratic Approximation for Regularized Optimization
Speaker: Ching-pei Lee, Univ. of Wisconsin-Madison, US, talk 393
Co-Authors: *Stephen Wright*,
2 - Structured Quasi-Newton method For Optimization with Orthogonality Constraints
Speaker: Jiang Hu, Peking university, CN, talk 960
Co-Authors: *Zaiwen Wen*, *Yaxiang Yuan*,
3 - A stochastic semismooth Newton method for nonsmooth nonconvex optimization
Speaker: Andre Milzarek, PKU, CN, talk 958
Co-Authors: *Xiantao Xiao*, *Shicong Cen*, *Zaiwen Wen*, *Michael Ulbrich*,

First-order methods for large-scale convex problems II

Specific Models, Algorithms, and Software
Learning - Th 5:00pm-6:30pm, Format: 4x20 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 318
Organizer: Stephen Vavasis, University of Waterloo, CA

1 - Convex Low Rank Semidefinite Optimization
Speaker: Madeleine Udell, Cornell, US, talk 770
Co-Authors: *Lijun Ding*, *Volkan Cevher*, *Joel Tropp*, *Alp Yurtsever*,
2 - Frank-Wolfe Splitting via Augmented Lagrangian Method
Speaker: Simon Lacoste-Julien, Université de Montréal, CA, talk 1514
Co-Authors: *Gautheir Gidel*, *Fabian Pedregosa*,
3 - Extending performance estimation beyond exact convex fixed-step methods
Speaker: Francois Glineur, UCLouvain, BE, talk 1072
Co-Authors: *Adrien Taylor*, *Théo Golvet*,
4 - Low-Storage Conditional Gradient Method for Low-Rank and Sparse Optimization
Speaker: Xuan Vinh Doan, The University of Warwick, GB, talk 1286
Co-Authors: *Stephen Vavasis*, *Jimit Majmudar*,

Advances in Reinforcement Learning Algorithms

Specific Models, Algorithms, and Software
Learning - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Invited Session 329
Organizer: Lin Xiao, Microsoft Research, US

1 - Compressive Learning for Sequential Decision Process
Speaker: Mengdi Wang, Princeton University, US, talk 775
2 - Posterior sampling for reinforcement learning
Speaker: Shipra Agrawal, Columbia University, US, talk 1179
Co-Authors: *Randy Jia*,
3 - SBEED learning: Convergent control with nonlinear function approximation
Speaker: Lihong Li, Google, US, talk 535
Co-Authors: *Bo Dai*, *Albert Shaw*, *Lin Xiao*, *Niao He*, *Zhen Liu*, *Jianshu Chen*, *Le Song*,
4 - Zap Q-Learning: Fastest Convergent Q-learning
Speaker: Adithya M Devraj, University of Florida, US, talk 939
Co-Authors: *Sean Meyn*,

Variational Analysis 5

Continuous Optimization
Variat - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 371
Organizer: David Sossa, Universidad de O'Higgins, CL

1 - A global-local approach for stochastic programs with complementarity constraints
Speaker: Francisco Jara-Moroni, Northwestern University, US, talk 1436
Co-Authors: *Andreas Waechter*,
2 - Conical Regularization of Multiobjective Optimization Problems
Speaker: Miguel Sama, UNED, ES, talk 502
Co-Authors: *Ruben López*, *Akhtar Khan*, *Baasansuren Jadamba*,
3 - Complementarity problems with respect to Loewnerian cones
Speaker: David Sossa, Universidad de O'Higgins, CL, talk 1579
Co-Authors: *Alberto Seeger*,
4 - Relaxed Peaceman-Rachford Splitting Method: Convergence Study
Speaker: Chee Khian Sim, University of Portsmouth, GB, talk 485
Co-Authors: *Renato Monteiro*,

Approximation in dynamic programming

Optimization under Uncertainty
Markov - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 382
Chair: Philip Placek, CityBldr, US

1 - Dynamic Programming via a State Abstract Machine and Implementation
Speaker: Wolf Kohn, Veritone, US, talk 160
Co-Authors: *Zelda Zabinsky*,
2 - An Incremental Probability Model for Dynamic Systems
Speaker: Philip Placek, CityBldr, US, talk 163
Co-Authors: *Wolf Kohn*, *Zelda Zabinsky*, *Jonathan Cross*,
3 - A Stochastic Min-plus Algorithm for Deterministic Optimal Control
Speaker: Benoît Tran, CERMICS, FR, talk 1567
Co-Authors: *Marianne Akian*, *Jean-P. Chancelier*,

Planning

Invited Talks
INTERFACE - Th 5:00pm-6:30pm, Format: 4x20 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Contributed Session 389
Chair: Jeanjean Antoine, Recommerce Group, FR

1 - Planning model for recommerce activities
Speaker: Jeanjean Antoine, Recommerce Group, FR, talk 1251
Co-Authors: *Nabil Absi*, *Xavier Schepler*,
2 - A Propagation Approach for Railway Rolling Stock Optimization
Speaker: Boris Grimm, Zuse Institute Berlin, DE, talk 1332
Co-Authors: *Ralf Borndörfer*, *Stanley Schade*, *Markus Reuther*, *Thomas Schlechte*,
3 - Real Size Exam Timetabling at Montpellier University (France)
Speaker: Eric Bourreau, LIRMM, FR, talk 687
Co-Authors: *Valentin Pollet*,
4 - An Hypergraph Model for the Rolling Stock Rotation Planning and Train Selection
Speaker: Mohamed Benkirane, IMB and SNCF, FR, talk 1599
Co-Authors: *François Clautiaux*, *Boris Detienne*, *Jean Damay*,

Medicine and Metabolic engineering

Specific Models, Algorithms, and Software
Sciences - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Contributed Session 396
Chair: Mahdi Doostmohammadi, University of Edinburgh,

GB

1 - Model Predictive Control and Robust Optimization in Adaptive Radiation Therapy
Speaker: Michelle Boeck, KTH, SE, talk 1228
Co-Authors: *Anders Forsgren*, *Kjell Eriksson*,
2 - Improving a Dose-Volume Model for HDR Brachytherapy to Reduce Tumour Cold Spots
Speaker: Björn Morén, Linköping University, SE, talk 613
Co-Authors: *Torbjörn Larsson*, *ÅSa Carlsson Tedgren*,
3 - New bilevel formulations for optimizing flux bounds in metabolic engineering
Speaker: Amanda Smith, Univ. of Wisconsin-Madison, US, talk 303
Co-Authors: *Jim Luedtke*,
4 - MOMO - Multi-Objective Mixed integer Optimisation for metabolic engineering
Speaker: Mahdi Doostmohammadi, University of Edinburgh, GB, talk 519
Co-Authors: *Ricardo Andrade*, *Joao Santos*, *Marie-France Sagot*, *Nuno Mira*, *Susana Vinga*,

Vehicle Routing III

Specific Models, Algorithms, and Software
Logistics - Th 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 413
Chair: Raquel Bernardino, CMAFCIO-FCUL, PT

1 - A hybrid algorithm for the family traveling salesman problem
Speaker: Raquel Bernardino, CMAFCIO-FCUL, PT, talk 821
Co-Authors: *Ana Paias*,
2 - Snow removal: Modeling and bounds by relaxation, heuristic and branch-and-bound
Speaker: Roghayeh Hajizadeh, Linköping University, SE, talk 1037
Co-Authors: *Kaj Holmberg*,
3 - Column Generation Based Local Search for Pickup-and-Delivery problems
Speaker: Vitor Nesello, Université de Bordeaux, FR, talk 1577
Co-Authors: *Francois Vanderbeck*, *Ruslan Sadykov*, *Artur Pessoa*, *Issam Tahiri*,

Heuristics for combinatorial optimization problems

Discrete Optimization & Integer Programming
COMB - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Contributed Session 428
Chair: Evren Guney, Istanbul Arel University, TR

1 - A Matheuristic to the Firefighter Problem on Graphs
Speaker: Cid de Souza, University of Campinas, BR, talk 598
Co-Authors: *Natanael Ramos*, *Pedro de Rezende*,
2 - Accelerated Best-first Search for Monotone Submodular Function Maximization
Speaker: Shinsaku Sakaue, NTT, JP, talk 680
Co-Authors: *Masakazu Ishihata*,
3 - A statistical stopping criterion for simulated annealing
Speaker: Kazuya Fukuoka, Kyoto University, JP, talk 1225
Co-Authors: *Hiroyuki Masuyama*, *Hiroshige Dan*, *Shunji Umetani*,
4 - A Lagrangean Relaxation Based Heuristic For Efficient Influence Maximization
Speaker: Evren Guney, Istanbul Arel University, TR, talk 989

First Order Methods II

Continuous Optimization
NLP - Th 5:00pm-6:30pm, Format: 3x20 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Contributed Session 437
Chair: Guillaume Berger, UCLouvain, BE

1 - Hölder-continuous gradient and first-order approximation accuracy
Speaker: Guillaume Berger, UCLouvain, BE, talk 231
Co-Authors: *P.-A. Absil*, *Raphaël Jungers*, *Yurii Nesterov*,
2 - Accelerating Nonnegative Matrix Factorization Algorithms using Extrapolation
Speaker: Andersen Ang, UMONS, BE, talk 1240
Co-Authors: *Nicolas Gillis*,
3 - First-Order Primal-Dual Method for Nonlinear Convex Cone Programs
Speaker: Lei Zhao, Shanghai Jiaotong University, CN, talk 1636
Co-Authors: *DaoLi Zhu*,

Ranking and recommendation

Specific Models, Algorithms, and Software
Learning - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 472
Chair: Aleksandra Burashnikova, Skoltech, RU

1 - Learning Online Ranking Models with a Sequential Optimization Algorithm
Speaker: Aleksandra Burashnikova, Skoltech, RU, talk 1208
2 - Integrating Individual and Aggregate Diversity in Top-N Recommendation
Speaker: Ibrahim Muter, University of Bath, GB, talk 1529
Co-Authors: *Ethem Canakoglu*, *Tevfik Aytekin*,
3 - A stochastic gradient descent algorithm for learning to rank
Speaker: Engin Tas, Afyon Kocatepe University, TR, talk 12
Co-Authors: *Senay Ozdemir*,
4 - The Recommender Problem with Convex Hulls
Speaker: Jose Dula, University of Alabama, US, talk 338
Co-Authors: *Marie-Laure Bougnol*,

Cutting Planes

Discrete Optimization & Integer Programming
IPpractice - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Contributed Session 485
Chair: Fabrizio Marinelli, Univ. Politecnica delle Marche, IT

1 - A tighter ILP model and an improved branching for a load-balancing problem
Speaker: Edvin ABlad, Chalmers - Math. Sci., SE, talk 1338
2 - A Branch-and-Cut Approach for the Car Renter Salesman Problem
Speaker: Sávio Dias, UFRJ, BR, talk 375
Co-Authors: *Luidi Simonetti*, *Pedro González*,
3 - On Lifted Cover Inequalities: A New Lifting Procedure with Unusual Properties
Speaker: Georgia Souli, Lancaster University, GB, talk 294
Co-Authors: *Adam Letchford*,
4 - Exploiting star inequalities for the maximum quasi-clique problem
Speaker: Fabrizio Marinelli, Univ. Politecnica delle Marche, IT, talk 838
Co-Authors: *Andrea Pizzuti*, *Fabrizio Rossi*,

Topics in multistage stochastic optimization

Optimization under Uncertainty
Stoch - Th 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 492
Chair: Felipe Beltrán, UFSC, BR

1 - Risk Minimization, Regret Minimization and the Progressive Hedging Algorithm
Speaker: Min Zhang, Curtin University, AU, talk 286
Co-Authors: *Jie Sun*, *Xinmin Yang*, *Qiang Yao*,
2 - Recursive Evaluate and Cut for combinatorial Multistage Programs
Speaker: David Hemmi, Monash University, Data61, AU, talk 1165
Co-Authors: *Guido Tack*, *Mark Wallace*,
3 - Stochastic dual dynamic programming with Chebyshev centers
Speaker: Felipe Beltrán, UFSC, BR, talk 1354
Co-Authors: *Erlon Finardi*, *Welnigton de Oliveira*, *Guilherme Fredo*,

Advances in DFO III

Continuous Optimization
DerFree - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 496
Chair: Juan Meza, NSF, US

1 - Utilizing Non-Commutative Maps in Derivative-Free Optimization
Speaker: Jan Feiling, University of Stuttgart, DE, talk 965
Co-Authors: *Christian Ebenbauer*,
2 - Generalization of DIRECT algorithm supporting interactive problem redefinition
Speaker: Richard Carter, DNVGL, US, talk 1137
3 - Pattern Search Methods With Surrogates for Surface Structure Determination
Speaker: Juan Meza, NSF, US, talk 1683
Co-Authors: *Mark Abramson*,

Using coning programming in problems solving

Continuous Optimization
SDP - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 497
Chair: Kurt Majewski, Siemens AG. CT RDA BAM ORD-DE, DE

1 - Linear Relaxation of Maximum k-Cut with Semidefinite-Based Constraints
Speaker: Vilmar Jefte De Sousa, Polytechnique Montreal, CA, talk 666
Co-Authors: *Miguel Anjos*, *Sébastien Le Digabel*,
2 - Feedback Controller and Topology Design for uncertain mechanical systems
Speaker: Anja Kuttich, TU Darmstadt, DE, talk 1249
Co-Authors: *Stefan Ulbrich*,
3 - Stabilization of the moment-based approach to prove global optimality for ACOPF
Speaker: Julie Sliwak, RTE, FR, talk 579
Co-Authors: *Miguel Anjos*, *Lucas Letocart*, *Manuel Ruiz*, *Emiliano Traversi*,
4 - Maximum Volume Inscribed Ellipsoids for Specific Absorption Rate Bounds in MRI
Speaker: Kurt Majewski, Siemens AG. CT RDA BAM ORD-DE, DE, talk 1152

Global Optimization 3

Continuous Optimization
Global - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Contributed Session 503
Chair: Jean-Baptist Hiriart-Urruty, Paul Sabatier University, FR

1 - Tighter McCormick relaxations through subgradient propagation in a BaB framework
Speaker: Jaromil Najman, AVT.SVT RWTH Aachen University, DE, talk 1241
Co-Authors: *Alexander Mitsos*,
2 - Nonlinear branch-and-bound improvements for global optimization

Speaker: Simon Boulmier, LocalSolver, FR, talk 1266
3 - JAVA implementation of a modular, population based global optimizer package
Speaker: Mester Abigél, SZTE, HU, talk 1412
Co-Authors: *Balázs Bánhelyi*, *Tibor Csendes*, *Dániel Zombori*, *Balázs Lévai*, *László Pál*,
4 - A rigorous MINLP solver using interval unions
Speaker: Tiago Montanher, University of Vienna, AT, talk 1633
Co-Authors: *Mihály Markót*, *Arnold Neumaier*,

Cutting Planes for Special Problems

Discrete Optimization & Integer Programming
IPtheory - Th 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 42 Building: C, 3rd floor, Zone: 1

Contributed Session 517
Chair: Eleazar Madriz, UFRB, BR

1 - Separation problem for 2-partition inequalities
Speaker: Ruslan Simanchev, Omsk State University, RU, talk 1220
Co-Authors: *Inna Urazova*,
2 - Polyhedral results for position based scheduling of chains on a single machine
Speaker: Markó Horváth, MTA SZTAKI, HU, talk 263
Co-Authors: *Tamás Kis*,
3 - A Benders procedure for the b-complementary multi-semigroup dual program.
Speaker: Eleazar Madriz, UFRB, BR, talk 659
Co-Authors: *Yuri Passos*,

Supply Chain

Specific Models, Algorithms, and Software
Scheduling - Th 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 533
Chair: Daniel Ramón-Lumbierres, UPC, ES

1 - Using SAP Integrated Business Planning to Optimize Supply Chain
Speaker: Wei Huang, SAP, DE, talk 1533
2 - Complexity of processing-time dependent profit maximization scheduling problems
Speaker: Florian Fontan, G-SCOP, FR, talk 1300
Co-Authors: *Pierre Lemaire*, *Nadia Brauner*,
3 - Modelization and optimization of inventory management for palletization
Speaker: Abdessamad Ouzidan, UBS Lorient, Fives Syleps, FR, talk 1301
Co-Authors: *Marc Sevaux*, *Berenger David*,
4 - A multistage stochastic programming model for the strategic supply chain design
Speaker: Daniel Ramón-Lumbierres, UPC, ES, talk 1006
Co-Authors: *F.-Javier Heredia*, *Robert Gimeno Feu*, *Julio Consola*, *Román Buil Giné*,

Copositive and completely positive optimization

Continuous Optimization
SDP - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Invited Session 24
Organizer: Olga Kuryatnikova, Tilburg University, NL

1 - A New Certificate For Copositivity
Speaker: Peter Dickinson, University of Twente, NL, talk 507
2 - Copositive Approach to adjustable robust optimization
Speaker: Markus Gabl, UNIVIE, AT, talk 232
Co-Authors: *Immanuel Bomze*,
3 - Using Binary Programming to solve Copositive Optimization Problems
Speaker: Juan Vera, Tilburg University, NL, talk 1245
Co-Authors: *Luis Zuluaga*, *Luis Zuluaga*,
4 - Copositive certificates of non-negativity for polynomials on unbounded sets
Speaker: Olga Kuryatnikova, Tilburg University, NL, talk 729
Co-Authors: *Juan Vera*, *Luis Zuluaga*,

Power Systems Models with Discrete Decision Variables

Specific Models, Algorithms, and Software
Energy - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Invited Session 26
Organizer: Adolfo Escobedo, ASU, US

1 - Co-optimizing Energy and Ancillary Services
Speaker: Kai Pan, Hong Kong Polytechnic Univ., HK, talk 65
Co-Authors: *Jianqiu Huang*, *Yongpei Guan*,
2 - Stochastic Framework for Coordinated Operation of Multiple Microgrids
Speaker: Harsha Gangammanavar, Southern Methodist University, US, talk 922
3 - Generation of Angular Valid Inequalities for Transmission Expansion Planning
Speaker: Adolfo Escobedo, ASU, US, talk 58
Co-Authors: *Laura Escobar V.*, *J. Kyle Skolfield*,

First order methods

Continuous Optimization
NLP - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 27
Organizer: Gerardo Toraldo, Uni. Naples Federico II, IT

1 - Variable metric techniques for the inexact inertial forward-backward algorithm
Speaker: Simone Rebegoldi, Università di Ferrara, IT, talk 392

Co-Authors: *Silvia Bonettini*, *Valeria Ruggiero*,
2 - Combining IRN and gradient methods for TV-based Poisson image restoration
Speaker: Daniela di Serafino, Univ. Campania L. Vanvitelli, IT, talk 401
Co-Authors: *Germana Landi*, *Marco Viola*,
3 - An Active Set Algorithm for Polyhedral Constrained Optimization
Speaker: William Hager, University of Florida, US, talk 390
Co-Authors: *Hongchao Zhang*, *James Diffenderfer*,
4 - A line-search based proximal gradient method for (non-)convex optimization
Speaker: Ignace Loris, Université libre de Bruxelles, BE, talk 419

Challenging applications in DFO

Continuous Optimization
DerFree - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 38
Chair: Francesco Rinaldi, University of Padova, IT

1 - Global Direct Search and an application to Additive Manufacturing (3D Printing)
Speaker: A Ismael Vaz, University of Minho, PT, talk 473
Co-Authors: *Luis Nunes Vicente*,
2 - Derivative-free methods for complex black-box problems
Speaker: Stefano Lucidi, DIAG Sapienza Univ. of Rome, IT, talk 970
Co-Authors: *Giampaolo Liuzzi*, *Andrea Credo*, *Francesco Rinaldi*, *Marco Villani*,
3 - Parallel Hybrid Multiobjective Derivative-Free Optimization for Machine Learning
Speaker: Steven Gardner, SAS Institute, Inc., US, talk 1084
Co-Authors: *Joshua Griffin*, *Oleg Golovidov*, *Patrick Koch*, *Scott Pope*,
4 - Robust multi-objective optimization: Application to the recycling of plastics
Speaker: Lukas Adam, SUSTECH, CN, talk 1207
Co-Authors: *Frantisek Mach*,

Stochastic and Nonlinear Optimization II

Continuous Optimization
NLP - Fr 8:30am-10:30am, Format: 4x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 48
Organizer: Jorge Nocedal, Northwestern University, US

1 - "Active-set complexity" of proximal-gradient: How long does it take to find the
Speaker: Mark Schmidt, UBC, CA, talk 482
2 - A Positive Outlook on Negative Curvature
Speaker: Daniel Robinson, Johns Hopkins University, US, talk 804
Co-Authors: *Frank Curtis*, *Zachary Lubberts*,
3 - Derivative-Free Optimization of Noisy Functions via Quasi-Newton Methods
Speaker: Albert Berahas, Northwestern University, US, talk 561
Co-Authors: *Jorge Nocedal*, *Richard Byrd*,
4 - Randomized Primal-Dual Algorithms for Asynchronous Distributed Optimization
Speaker: Lin Xiao, Microsoft Research, US, talk 472
Co-Authors: *Wei Yu*, *Qihang Lin*,

Matching and scheduling

Discrete Optimization & Integer Programming
COMB - Fr 8:30am-10:30am, Format: 4x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Invited Session 54
Organizer: Seffi Naor, Technion, IL

1 - Online Matching in Regular Graphs (and Beyond)
Speaker: David Wajc, CMU, US, talk 433
Co-Authors: *Ilan Cohen*, *Seffi Naor*,
2 - Coflow Scheduling and beyond
Speaker: Samir Khuller, U. Maryland, US, talk 649
3 - Best of Two Local Models: Centralized local and Distributed local Algorithms
Speaker: Guy Even, Tel-Aviv Univ., IL, talk 476
Co-Authors: *Moti Medina*, *Dana Ron*,
4 - Competitive Algorithms for Online Multi-level Aggregation
Speaker: Seffi Naor, Technion, IL, talk 436
Co-Authors: *Niv Buchbinder*, *Moran Feldman*, *Ohad Talmon*,

Regularization and Iterative Methods in Large-Scale Optimization

Continuous Optimization
NLP - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Invited Session 59
Organizer: Jacek Gondzio, University of Edinburgh, GB

1 - Local analysis of a regularized primal-dual algorithm for NLP without SOSC
Speaker: Paul Armand, University of Limoges, FR, talk 611
Co-Authors: *Ngoc Nguyen Tran*,
2 - Implementing a smooth exact penalty function for nonlinear optimization
Speaker: Dominique Orban, GERAD and Ecole Polytechnique, CA, talk 1308
Co-Authors: *Ron Estrin*, *Michael Saunders*, *Michael Friedlander*,
3 - Dynamic primal-dual regularization in interior point methods
Speaker: Spyridon Pougkakiotis, University of Edinburgh, GB, talk 410
Co-Authors: *Jacek Gondzio*,

4 - Stabilized Optimization via an NCL Algorithm
Speaker: Michael Saunders, Stanford University, US, talk 605
Co-Authors: *Ding Ma*, *Dominique Orban*, *Kenneth Judd*,

Data-Driven Revenue Management with Customer Choice

Discrete Optimization & Integer Programming
APPROX - Fr 8:30am-10:30am, Format: 4x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 81
Organizer: Jacob Feldman, Washington University, US

1 - Constrained Assortment Optimization under the Markov Chain based Choice Model
Speaker: Antoine Desir, Google Inc., US, talk 8
Co-Authors: *Vineet Goyal*, *Danny Segev*, *Chun Ye*,
2 - Near-Optimal Approximations for Dynamic Assortment Planning under the MNL Model
Speaker: Danny Segev, University of Haifa, IL, talk 656
Co-Authors: *Ali Aouad*,
3 - Near-Optimal Approximations for Display Optimization Under MNL Preferences
Speaker: Ali Aouad, London Business School and Uber, GB, talk 672
Co-Authors: *Danny Segev*,
4 - New Results for Assortment Optimization under the Exponomial Choice Model
Speaker: Jacob Feldman, Washington University, US, talk 685
Co-Authors: *Ali Aouad*, *Danny Segev*,

New Developments in Optimization Modeling Software

Specific Models, Algorithms, and Software
Algo - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Invited Session 101
Organizer: Robert Fourer, AMPL Optimization Inc, US

1 - Enhanced Model Deployment and Solution in GAMS
Speaker: Steven Dirkse, GAMS Development, US, talk 628
2 - Adding Functions to AMPL
Speaker: David Gay, AMPL Optimization Inc., US, talk 219
3 - Optimization Modeling in MATLAB
Speaker: Paul Kerr-Delworth, MathWorks, GB, talk 73
Co-Authors: *Aurèle Turnes*, *Steve Grikschat*, *Adam Hug*, *Mary Fenelon*, *Alan Weiss*, *Penny Anderson*,
4 - Efficient model generation for decomposition methods in modeling languages
Speaker: Youngdae Kim, Univ. of Wisconsin-Madison, US, talk 1487
Co-Authors: *Michael Ferris*,

Optimal Control Problems with Discrete Switches

Discrete Optimization & Integer Programming
MINLP - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 102
Organizer: Christian Kirches, TU Braunschweig, DE

1 - An Algorithm for Model-Predictive Control of Switched Nonlinear Dynamic Systems
Speaker: Adrian Bürger, Karlsruhe UAS, DE, talk 828
Co-Authors: *Angelika Altmann-Dieses*, *Moritz Diehl*, *Clemens Zeile*, *Sebastian Sager*,
2 - Approximation algorithms for MIOCPs with discontinuous switch costs
Speaker: Felix Bestehorn, TU Braunschweig, DE, talk 1043
Co-Authors: *Christian Kirches*,
3 - Numerical Modeling of Switched Systems with Jumps in Optimal Control Problems
Speaker: Matthias Schloeder, IAM Heidelberg University, DE, talk 570
Co-Authors: *Ekaterina Kostina*,

Machine Learning in State Estimation and Situational Awareness in Power Grids

Specific Models, Algorithms, and Software
Energy - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 134
Organizer: Deepjyoti Deka, Los Alamos National Lab, US

1 - Learning with end-users in distribution grids:Topology and parameter estimation
Speaker: Deepjyoti Deka, Los Alamos National Lab, US, talk 597
Co-Authors: *Scott Backhaus*, *Deepjyoti Deka*, *Michael Chertkov*,
2 - Online Learning of Power Transmission Dynamics
Speaker: Marc Vuffray, Los Alamos National Laboratory, US, talk 490
Co-Authors: *Andrey Lokhov*, *Dmitry Shemetov*, *Deepjyoti Deka*, *Michael Chertkov*,
3 - Machine learning with PMU signals
Speaker: Mauro Escobar, Columbia University, US, talk 596
Co-Authors: *Daniel Bienstock*, *Michael Chertkov*, *Apurv Shukla*,
4 - Convex polytope machine approach for transient stability assessment
Speaker: Dongchan Lee, MIT, US, talk 408
Co-Authors: *Konstantin Turitsyn*, *Yury Maximov*,

Stochastic Optimization and Variational Inequalites

Continuous Optimization

VARIAT - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

INVITED SESSION 149
Organizer: Hailin Sun, NJUST, CN

1 - Behavioural Function Equilibria and Approximation Schemes in Bayesian Games
Speaker: Huifu Xu, University of Southampton, GB, talk 679
Co-Authors: *Shaoyan Guo*, *Liwei Zhang*,
2 - Inference of two stage stochastic programs using SVI techniques
Speaker: Shu Lu, UNC-Chapel Hill, US, talk 282
Co-Authors: *Yang Yu*,
3 - Theory and algorithms for two-stage stochastic variational inequalities
Speaker: Xiaojun Chen, Hong Kong Polytechnic Univ., HK, talk 46
4 - Sample average approximation of two-stage stochastic generalized equation
Speaker: Hailin Sun, NJUST, CN, talk 44
Co-Authors: *Xiaojun Chen*, *Alexander Shapiro*,

Clustering.

DISCRETE OPTIMIZATION & INTEGER PROGRAMMING
APPROX - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

INVITED SESSION 155
Organizer: Zac Friggstad, University of Alberta, CA

1 - A Near-Linear Approximation Scheme for Multicuts of Embedded Graphs
Speaker: Arnaud de Mesmay, CNRS, Gipsa-lab, FR, talk 857
Co-Authors: *Vincent Cohen-Addad*, *Éric Colin de Verdière*,
2 - On local search for clustering
Speaker: Vincent Cohen-Addad, CNRS and Sorbonne Université, FR, talk 689
3 - Approximation Schemes for Clustering With Outliers
Speaker: Zac Friggstad, University of Alberta, CA, talk 1146
Co-Authors: *Kamyar Khodamoradi*, *Mohsen Rezapour*, *Mohammad Salavatipour*,
4 - Dynamic Facility Location via Exponential Clocks
Speaker: Ashkan Norouzi Fard, EPFL, CH, talk 514
Co-Authors: *Ola Svensson*, *Hyung-chan An*,

Hybrid Algorithms and Matheuristics for VRP

SPECIFIC MODELS, ALGORITHMS, AND SOFTWARE
LOGISTICS - Fr 8:30am-10:30am, Format: 4x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

INVITED SESSION 181
Organizer: Thibaut Vidal, PUC-Rio, BR

1 - Heuristics for vehicle routing problems: Sequence or set optimization?
Speaker: Thibaut Vidal, PUC-Rio, BR, talk 1261
Co-Authors: *Túlio Toffolo*, *Tony Wauters*,
2 - Single Liner Service Design with Speed Optimization
Speaker: Dominique Feillet, Mines Saint-Etienne and LIMOS, FR, talk 1359
Co-Authors: *Nadjib Brahimi*, *Ali Cheaitou*, *Pierre Cariou*,
3 - Heuristic pricing for the shortest path problem with resource constraints
Speaker: Jean Bertran Gauthier, Johannes Gutenberg University, DE, talk 1026
Co-Authors: *Stefan Irnich*,
4 - Garbage Collection Routing With Heterogeneous Fleet
Speaker: Pedro Diniz, PUC-Rio, BR, talk 1508
Co-Authors: *Rafael Martinelli*, *Marcus Poggi*, *Augusto Baffa*, *Thibaut Vidal*,

Geometry in complexity analysis of non-smooth optimization methods

CONTINUOUS OPTIMIZATION
NONSMOOTH - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

INVITED SESSION 199
Organizer: Jalal Fadili, Normandie Univ-ENSICAEN, FR

1 - An ODE associated to the Nesterov acceleration scheme
Speaker: Charles Dossal, INSA de Toulouse, FR, talk 1551
Co-Authors: *J-F Aujol*, *Aude Rondepierre*,
2 - Structured sparsity in inverse problems and support recovery
Speaker: Guillaume Garrigos, ENS Paris, FR, talk 202
Co-Authors: *Lorenzo Rosasco*, *Silvia Villa*,
3 - Error Bound-Based Convergence Rate Analysis of Newton-Type Methods
Speaker: Anthony So, CUHK, HK, talk 1535
Co-Authors: *Man-Chung Yue*, *Zirui Zhou*,
4 - Finite Activity Identification: Geometry and Algorithms
Speaker: Jalal Fadili, Normandie Univ-ENSICAEN, FR, talk 54
Co-Authors: *Jerome Malick*, *Gabriel Peyre*,

Recent Advances in Coordinate Descent and Constrained Problems

CONTINUOUS OPTIMIZATION
RANDOMM - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

INVITED SESSION 208
Organizer: Ion Necoara, Univ. Politehnica Bucharest, RO

1 - Convergence Analysis of Inexact Randomized Iterative Methods
Speaker: Nicolas Loizou, University of Edinburgh, GB, talk 835
Co-Authors: *Peter Richtarik*,
2 - A Stochastic Penalty Model for Optimization with Many Convex Constraints

Speaker: Konstantin Mishchenko, KAUST, SA, talk 1264
Co-Authors: *Peter Richtarik*, *Ion Necoara*,
3 - Random coordinate descent methods for linearly constrained convex optimization
Speaker: Ion Necoara, Univ. Politehnica Bucharest, RO, talk 809
Co-Authors: *Martin Takac*,

Recent advances in Integer Optimization

Discrete Optimization & Integer Programming
IPtheory - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 218
Organizer: Alberto Del Pia, UW-Madison, US

1 - Computational evaluation of new MIP models for tree ensembles optimization
Speaker: Jean-Philipp Richard, UF, US, talk 1141
Co-Authors: *Bijan Taslimi*, *Jongeun Kim*, *Mohit Tawarmalani*,
2 - Strong duality for conic mixed-integer programs
Speaker: Diego Moran, UAI, CL, talk 1195
Co-Authors: *Burak Kocuk*, *Gustavo Angulo*,
3 - An affine bounding method for two-stage stochastic integer programs
Speaker: Gustavo Angulo, Universidad Católica, CL, talk 1051
Co-Authors: *Merve Bodur*, *Diego Moran*,
4 - Aggregation-based cutting-planes for packing and covering integer programs
Speaker: Merve Bodur, University of Toronto, CA, talk 218
Co-Authors: *Alberto Del Pia*, *Santanu Dey*, *Marco Molinaro*, *Sebastian Pokutta*,

Recent progress in graph cut problems

Discrete Optimization & Integer Programming
COMB - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Invited Session 244
Organizer: Karthekeyan Chandrasekaran, UIUC, US

1 - Approximation of Linear 3-Cut and related problems
Speaker: Tamás Király, Eötvös University Budapest, HU, talk 125
2 - An FPT Algorithm Beating 2-Approximation for k-Cut
Speaker: Euiwoong Lee, New York University, US, talk 170
Co-Authors: *Anupam Gupta*, *Jason Li*,
3 - An Integrality Gap for the Călinescu–Karloff–Rabani Relaxation for Multiway Cut
Speaker: Yury Makarychev, TTIC, US, talk 181
Co-Authors: *Haris Angelidakis*, *Pasin Manurangsi*,
4 - Hypergraph k-cut in randomized polynomial time
Speaker: Karthekeyan Chandrasekaran, UIUC, US, talk 196
Co-Authors: *Chao Xu*, *Xilin Yu*,

Theoreticals and practicals aspects of decomposition algorithms for multistage stochastic problems: 3

Optimization under Uncertainty
Stoch - Fr 8:30am-10:30am, Format: 4x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 245
Organizer: Vincent Leclère, ENPC, FR

1 - Distributionally Robust Dual Dynamic Programming
Speaker: David Morton, Northwestern University, US, talk 435
Co-Authors: *Daniel Duque*,
2 - Stochastic dual dynamic integer programming
Speaker: Andy Sun, Georgia Institute of Technolog, US, talk 943
Co-Authors: *Shabbir Ahmed*, *Jikai Zou*,
3 - A deterministic algorithm for solving stochastic minimax dynamic programmes
Speaker: Regan Baucke, University of Auckland, NZ, talk 900
Co-Authors: *Anthony Downward*, *Golbon Zakeri*,
4 - Exact converging bounds for Stochastic Dual Dynamic Programming
Speaker: Vincent Leclère, ENPC, FR, talk 349
Co-Authors: *François Pacaud*, *Arnaud Lenoir*, *Jean-Philipp Chancelier*, *Carpentier Pierre*,

Algorithmic aspects of connectivity in network design

Discrete Optimization & Integer Programming
COMB - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 264
Organizer: Neil Olver, Vrije Universiteit Amsterdam, NL

1 - Beyond Metric Embedding: Approximating Group Steiner on Bounded Treewidth Graphs
Speaker: Bundit Laekhanukit, MPI-INF, DE, talk 190
Co-Authors: *Syamantac Das*, *Daniel Vaz*, *Parinya Chalermsook*,
2 - Approximating Node-Weighted k-MST on Planar Graphs
Speaker: Mateusz Lewandowski, University of Wroclaw, PL, talk 189
Co-Authors: *Jaroslaw Byrka*, *Joachim Spoerhase*,
3 - Improved Algorithms for MST and Metric-TSP Interdiction
Speaker: Andre Linhares, University of Waterloo, CA, talk 206
Co-Authors: *Chaitanya Swamy*,
4 - On the Integrality Gap of the Prize-Collecting Steiner Forest LP
Speaker: Kanstantsin Pashkovich, University of Waterloo, CA, talk 103

Co-Authors: *Jochen Koenemann*, *Neil Olver*, *Chaitanya Swamy*, *Ramamoorthi Ravi*, *Jens Vygen*,

Mixed Integer Programming Representability

Discrete Optimization & Integer Programming
IPtheory - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4
Invited Session 275
Organizer: Juan Pablo Vielma, MIT, US

1 - Mixed-integer linear representability, disjunctions, and Chvátal functions
Speaker: Chris Ryan, University of Chicago, US, talk 760
Co-Authors: *Amitabh Basu*, *Kipp Martin*, *Guanyi Wang*,
2 - A mixed-integer branching approach for very small formulations
Speaker: Joey Huchette, MIT, US, talk 781
Co-Authors: *Juan Pablo Vielma*,
3 - On the Size of Integer Programs with Sparse Constraints or Bounded Coefficients
Speaker: Marc Pfetsch, TU Darmstadt, DE, talk 766
Co-Authors: *Christopher Hojny*, *Hendrik Lüthen*,
4 - Mixed-integer convex representability
Speaker: Juan Pablo Vielma, MIT, US, talk 699
Co-Authors: *Miles Lubin*, *Ilias Zadik*,

Integer Programming and Crew Scheduling

Discrete Optimization & Integer Programming
IPpractice - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1
Invited Session 292
Organizer: Francois Soumis, Polytechnique, CA

1 - Dynamic Constraints Aggregation for Crew Scheduling Problem
Speaker: Francois Soumis, Polytechnique, CA, talk 1173
2 - Integrated Crew Pairing and Personalized Crew Assignment Problems
Speaker: Vahid Zeighami, Polytechnique Montreal, CA, talk 1575
Co-Authors: *Francois Soumis*,
3 - Considering preferences and language skills in the airline crew pairings problem
Speaker: Frédéric Quesnel, École Polytechnique Montréal, CA, talk 1388
Co-Authors: *Francois Soumis*, *Guy Desaulniers*,
4 - Alternate Lagrangian Decomposition for Integrated Crew Scheduling Problem
Speaker: Mohammed Saddoune, Polytechnique Montréal, CA, talk 1555
Co-Authors: *Vahid Zeighami*,

Graphical Optimization Model 2

Discrete Optimization & Integer Programming
CP - Fr 8:30am-10:30am, Format: 4x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1
Invited Session 297
Organizer: Maria Restrepo, Polytechnique Montreal, CA

1 - Recent algorithmic advances for combinatorial optimization in graphical models
Speaker: Simon de Givry, INRA, FR, talk 1524
Co-Authors: *Thomas Schiex*, *David Allouche*, *George Katsirelos*, *Abdelkader Ouali*, *Matthias Zytnicki*,
2 - Learning and using Graphical models to design new molecules
Speaker: Thomas Schiex, INRA, FR, talk 1587
Co-Authors: *Sophie Barbe*, *David Simoncini*, *Jelena Vucinic*, *Manon Ruffini*,
3 - Integrated staffing and scheduling for home healthcare
Speaker: Maria Restrepo, Polytechnique Montreal, CA, talk 1027
Co-Authors: *Louis-Martin Rousseau*,
4 - Solving parallel machine scheduling problems with B and P and decision diagrams
Speaker: Daniel Kowalczyk, KU Leuven, BE, talk 736
Co-Authors: *Roel Leus*,

Optimal Control in Engineering Applications

Continuous Optimization
Control - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6
Contributed Session 310
Chair: Maxime Grangereau, EDF, FR

1 - A Priori Error Estimates for a Linearized Fracture Control Problem
Speaker: Masoumeh Mohammadi, TU Darmstadt, DE, talk 824
Co-Authors: *Winnifried Wollner*,
2 - Stochastic optimal control of a battery : resolution with McKean-FBSDE
Speaker: Maxime Grangereau, EDF, FR, talk 984
Co-Authors: *Emmanuel Gobet*,
3 - Adaptive Multilevel Optimization of Fluid-Structure Interaction
Speaker: Johanna Biehl, TU Darmstadt, DE, talk 740
Co-Authors: *Stefan Ulbrich*,

Dimensionality reduction tools for learning: A sketchy session

Specific Models, Algorithms, and Software
Learning - Fr 9:00am-10:30am, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8
Invited Session 313
Organizer: Robert Gower, Telecom Paristech, FR

1 - Sketched Learning with Random Feature Moments
Speaker: Nicolas Keriven, ENS, FR, talk 991
Co-Authors: *Rémi Gribonval*, *Gabriel Peyre*, *Gilles Blanchard*, *Clarice Poon*, *Yann Traonmilin*,
2 - Stochastic Subsampling for Factorizing Huge Matrices
Speaker: Arthur Mensch, Inria, FR, talk 1481
Co-Authors: *Julien Mairal*, *Bertrand Thirion*, *Gaël Varoquaux*,
3 - Optimal kernel methods for large scale machine learning
Speaker: Alessandro Rudi, INRIA and ENS, FR, talk 730

Telecommunications

Specific Models, Algorithms, and Software
Network - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7
Invited Session 361
Organizer: Edoardo Amaldi, Politecnico di Milano, IT

1 - An Optimization Model for Quadratic Flow Thinning
Speaker: Michal Pioro, Warsaw Univ. of Techn., PL, talk 161
Co-Authors: *Ilya Kalesnikau*, *Michael Poss*,
2 - Approximating the Virtual Network Embedding Problem: Theory and Practice
Speaker: Matthias Rost, TU Berlin, DE, talk 1218
Co-Authors: *Stefan Schmid*,
3 - DDRA: Distributed Detection and Recovery Algorithm for Wireless Sensor Networks
Speaker: Chafiq Titouna, University of Batna2, DZ, talk 1544
4 - On the Virtual Network Embedding problem with substrate network expansion
Speaker: Edoardo Amaldi, Politecnico di Milano, IT, talk 1485
Co-Authors: *Antonio Capone*, *Alessandro Cimbelli*,

Variational Analysis 3

Continuous Optimization
Variat - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8
Invited Session 369
Organizer: Johanna Burtscheidt, University of Duisburg-Essen, DE

1 - Stability and Small Application of a Risk Averse CP under Uncertainty
Speaker: Johanna Burtscheidt, University of Duisburg-Essen, DE, talk 543
2 - Variable selection with heredity principles by nonconvex optimization
Speaker: Hongbo Dong, Washington State University, US, talk 1540
3 - Adaptive Full Newton-step Infeasible Interior-Point Method for Sufficient HLCP
Speaker: Goran Lesaja, Georgia Southern University, US, talk 1046
Co-Authors: *Florian Potra*,
4 - Application of Optimization over the Pareto set in Machine Learning
Speaker: Henri Bonnel, University of New Caledonia, NC, talk 1660
Co-Authors: *Christopher Schneider*,

Algorithmic Game Theory II

Optimization under Uncertainty
Game - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5
Contributed Session 372
Chair: Margarida Carvalho, Polytechnique Montréal, CA

1 - Efficient Black-Box Reductions for Separable Cost Sharing
Speaker: Anja Huber, Augsburg University, DE, talk 961
2 - Finding and verifying the nucleolus of cooperative games
Speaker: Marton Benedek, University of Southampton, GB, talk 1343
Co-Authors: *Tri-Dung Nguyen*, *Joerg Fliege*,
3 - Perfect d-Proper Equilibrium and Its Determination
Speaker: Chuangyin Dang, City University of Hong Kong, HK, talk 798
4 - Kidney Exchange Game
Speaker: Margarida Carvalho, Polytechnique Montréal, CA, talk 1035
Co-Authors: *Andrea Lodi*,

Advances in theory of dynamic programming

Optimization under Uncertainty
Markov - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5
Contributed Session 385
Chair: Stephane Gaubert, INRIA, FR

1 - On controllability of Markov chains: A Markov Decision Processes approach
Speaker: Mauricio Junca, Universidad de los Andes, CO, talk 601
Co-Authors: *Daniel Avila*,
2 - Stochastic Convex Optimization and Regret Bounds for Apprenticeship Learning
Speaker: Angeliki Kamoutsi, ETH ZURICH, CH, talk 1490
Co-Authors: *John Lygeros*,
3 - Randomized Dimension Reduction for Monte Carlo Simulations
Speaker: Nabil Kahale, ESCP Europe, FR, talk 574
4 - Dynamic programming over noncommutative spaces applied to switched systems
Speaker: Nikolas Stott, INRIA - Ecole Polytechnique, FR, talk 1676
Co-Authors: *Stephane Gaubert*,

Finance and Portfolio Optimization

Specific Models, Algorithms, and Software
Sciences - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 395
Organizer: Asaf Shupo, TD Bank, CA

1 - Auction under ROI constraints
Speaker: Benjamin Heymann, Criteo R & D, FR, talk 652
2 - Time Consistency of the Mean-Risk Problem
Speaker: Gabriela Kovacova, Wirtschaftsuniversität Wien, AT, talk 273
Co-Authors: *Birgit Rudloff*,
3 - Building Optimal Strategies Using Multi-Objective Optimization
Speaker: Asaf Shupo, TD Bank, CA, talk 664
Co-Authors: *Daniel Ivan*,

Decomposition Methods

Continuous Optimization
NLP - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 431
Chair: Roger Behling, UFSC, BR

1 - Circumcentering the Douglas–Rachford method
Speaker: Roger Behling, UFSC, BR, talk 6
Co-Authors: *José Bello Cruz*, *Luiz Santos*,
2 - On the linear convergence of the circumcentered–reflection method
Speaker: Luiz-Rafael Santos, UFSC, BR, talk 91
Co-Authors: *Yunier Bello-Cruz*, *Roger Behling*,
3 - Alternating Direction Method of Multipliers for k-means Clustering
Speaker: Yuan Shen, Nanjing University of Finance, CN, talk 259
Co-Authors: *Xin Liu*,
4 - A Nonomonotone Decomposition Framework: convergence analysis and applications
Speaker: Leonardo Galli, Università di Firenze, IT, talk 1031
Co-Authors: *Alessandro Galligari*, *Marco Sciandrone*,

New Horizons in Robust Optimization

Optimization under Uncertainty
Robust - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 447
Organizer: Angelos Georghiou, McGill University, CA

1 - Data-driven Chance Constrained Programs over Wasserstein Balls
Speaker: Zhi Chen, Imperial College London, GB, talk 918
Co-Authors: *Daniel Kuhn*, *Wolfram Wiesemann*,
2 - Cardinality-Constrained Clustering and Outlier Detection via Conic Optimization
Speaker: Kilian Schindler, EPFL, CH, talk 974
Co-Authors: *Napat Rujeerapaiboon*, *Daniel Kuhn*, *Wolfram Wiesemann*,
3 - A robust optimization prospective to decentralized decision making
Speaker: Angelos Georghiou, McGill University, CA, talk 1423
Co-Authors: *Georgios Darivianakis*, *John Lygeros*,

Dealing with non-convexity

Specific Models, Algorithms, and Software
Learning - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 473
Chair: Damek Davis, Cornell University, US

1 - Smoothing Piecewise Linear Loss Functions for Deep Learning
Speaker: Leonard Berrada, University of Oxford, GB, talk 1294
Co-Authors: *Pawan Kumar*, *Andrew Zisserman*,
2 - Convergence rates of stochastic methods for nonsmooth nonconvex problems
Speaker: Damek Davis, Cornell University, US, talk 910
Co-Authors: *Dmitriy Drusvyatskiy*,
3 - Implicit Regularization in Nonconvex Statistical Estimation
Speaker: Cong Ma, Princeton University, US, talk 258
Co-Authors: *Kaizheng Wang*, *Yuxin Chen*, *Yuejie Chi*,
4 - Provable Convex Minimization under Non-convex Submodular-structured Sparsity
Speaker: Naoki Marumo, NTT, JP, talk 1193
Co-Authors: *Tomoharu Iwata*,

New methods for stochastic optimization and variational inequalities

Optimization under Uncertainty
Stoch - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5

Contributed Session 491
Chair: Yunxiao Deng, Dept of ISE, USC, US

1 - Extragradient method for pseudomonotone stochastic variational inequalities
Speaker: Alfredo Iusem, IMPA, BR, talk 192
Co-Authors: *Philip Thompson*, *Alejandro Jofre*,
2 - An Accelerated Randomized Method for Smooth Stochastic Convex Optimization
Speaker: Eduard Gorbunov, MIPT, RU, talk 1287
Co-Authors: *Pavel Dvurechensky*, *Alexander Gasnikov*,
3 - Stochastic Analogues to Deterministic Optimization Methods
Speaker: Mihai Anitescu, Argonne National Laboratory, US,

talk 215
4 - Convex Stochastic Decomposition and Applications to Machine Learning
Speaker: Yunxiao Deng, Dept of ISE, USC, US, talk 1657
Co-Authors: *Suvrajeet Sen*,

Stability and scaling in conic programming

Continuous Optimization
SDP - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Contributed Session 498
Chair: Diego Cifuentes, Max Planck Institute MPI MiS, DE

1 - Scaling points and reach for non-self-scaled barriers
Speaker: Roland Hildebrand, LJK CNRS, FR, talk 496
2 - Stability Analysis for Parameterized Conic Programs
Speaker: Hector Ramirez, Universidad de Chile, CL, talk 1623
3 - An improved projection and rescaling algorithm for conic feasible problems
Speaker: Wei Zhang, The logistics Institute NUS, SG, talk 288
Co-Authors: *Kees Roos*, *Yanqin Bai*,
4 - On the local stability of semidefinite relaxations
Speaker: Diego Cifuentes, Max Planck Institute MPI MiS, DE, talk 1671

Scheduling Applications

Specific Models, Algorithms, and Software
Scheduling - Fr 9:00am-10:30am, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Contributed Session 526
Chair: Mauricio de Souza, UFMG, BR

1 - Generating many optimal solutions in nurse scheduling
Speaker: Atsuko Ikegami, Seikei University, JP, talk 997
Co-Authors: *Wei Wu*, *Masaya Hasebe*, *Koji Nonobe*,
2 - Mixed Integer Programming Based Merge Search for Open Pit Block Scheduling
Speaker: Davaatseren Baatar, Monash University, AU, talk 702
Co-Authors: *Dhananjay Thiruvady*, *Andreas Ernst*, *Angus Kenny*, *Mohan Krishnamoorthy*, *Gaurav Singh*,
3 - Surgical scheduling under uncertainty by approximate dynamic programming
Speaker: Mauricio de Souza, UFMG, BR, talk 1024
Co-Authors: *Thiago Silva*,

Convergence analysis for non smooth optimization

Continuous Optimization
NonSmooth - Fr 8:30am-10:30am, Format: 4x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 557
Organizer: Robert Csetnek, University of Vienna, AT

1 - ADMM for monotone operators: convergence analysis and rates
Speaker: Robert Csetnek, University of Vienna, AT, talk 1012
Co-Authors: *Radu Ioan Bot*,
2 - Optimal Convergence Rates for Generalized Alternating Projections
Speaker: Mattias Fält, Lund University, SE, talk 1334
Co-Authors: *Pontus Giselsson*,
3 - Newton method for bilevel optimization: Theory+extensive numerical experiments
Speaker: Alain Zemkoho, University of Southampton, GB, talk 1434
4 - Inducing strong convergence into the asymptotic behaviour of proximal splitting
Speaker: Dennis Meier, University of Vienna, AT, talk 581
Co-Authors: *Radu Ioan Bot*, *Robert Csetnek*,

Majority judgment

Invited Talks
KEYNOTE - Fr 11:00am-12:00am, Format: 1x60 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 535
Organizer: Martine Labbé, Université Libre de Bruxelles, BE

1 - Majority judgment
Speaker: Michel Balinski, CNRS and Ecole Polytechnique, FR, talk 1576

Submodularity in mixed-integer quadratic and conic quadratic optimization

Invited Talks
KEYNOTE - Fr 11:00am-12:00am, Format: 1x60 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 540
Organizer: Daniel Bienstock, Columbia University, US

1 - Submodularity in mixed-integer quadratic and conic quadratic optimization
Speaker: Alper Atamturk, UC Berkeley, US, talk 1667

Modern Branch-and-Cut Implementation

Invited Talks
KEYNOTE - Fr 11:00am-12:00am, Format: 1x60 min
Room: BROCA Building: W, 3rd floor, Zone: 0

Invited Session 542
Organizer: Marc Pfetsch, TU Darmstadt, DE

1 - Modern Branch-and-Cut Implementation
Speaker: Matteo Fischetti, University of Padua, IT, talk 1574

Tseng Memorial Lectureship in Continuous Optimization

Invited Talks
SEMI - Fr 11:00am-12:00am, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 549
Organizer: Yaxiang Yuan, Chinese Academy of Sciences, CN

Bounds for quantum graph parameters by conic and polynomial optimization

Invited Talks
PLENARY - Fr 1:30pm-2:30pm, Format: 1x60 min
Room: Auditorium Building: Symph H, Gambetta, Zone: 0

Invited Session 553
Organizer: Frank Vallentin, University of Cologne, DE

1 - Bounds for quantum graph parameters by conic and polynomial optimization
Speaker: Monique Laurent, CWI and Tilburg University, NL, talk 311
Co-Authors: *Sander Gribling*, *David de Laat*, *Sabine Burgdorf*, *Teresa Piovesan*,

Estimation and Learning for Power Systems

Specific Models, Algorithms, and Software
Energy - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle DENUCE Building: Q, Ground Floor, Zone: 8

Invited Session 25
Organizer: Javad Lavaei, UC Berkeley, US

1 - Performance Bound for Power System State Estimation via Conic Relaxations
Speaker: Yu Zhang, UC Santa Cruz, US, talk 113
Co-Authors: *Ramtin Madani*,
2 - Spurious Critical Points in Power System State Estimation
Speaker: Richard Zhang, UC Berkeley, US, talk 128
3 - Vulnerability analysis and robustification of power grid state estimation
Speaker: Ming Jin, UC Berkeley, US, talk 119

Interior Point Methods in Engineering Applications I

Continuous Optimization
NLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 60
Organizer: Jacek Gondzio, University of Edinburgh, GB

1 - A (non)convex interior-point implementation tuned for radiotherapy optimisation
Speaker: Sebastiaan Breedveld, Erasmus MC, NL, talk 516
Co-Authors: *Rens van Haveren*, *Ben Heijmen*,
2 - Refined planning tools for external radiotherapy using interior point methods
Speaker: Lovisa Engberg, KTH, SE, talk 540
Co-Authors: *Anders Forsgren*,
3 - Computational Study of a Primal-Dual Penalty-Interior-Point Algorithm
Speaker: Renke Kuhlmann, Universität Bremen, DE, talk 79
Co-Authors: *Christof Büskens*,

Advances in the first-order methods for convex optimization

Continuous Optimization
NonSmooth - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Invited Session 73
Organizer: Angelia Nedich, ASU, US

1 - Accelerated curvature-aided incremental aggregated gradient method
Speaker: Hoi To Wai, Arizona State University, US, talk 310
Co-Authors: *Wei Shi*, *Cesar Uribe*, *Angelia Nedich*, *Anna Scaglione*,
2 - Fast Incremental Gradient Method for Optimization with Linear Constraints
Speaker: Tatiana Tatarenko, TU Darmstadt, DE, talk 322
Co-Authors: *Angelia Nedich*,
3 - Efficient Methods For Edge-weighted TV Models with Sphere Constraints
Speaker: Maryam Yashtini, Georgetown University, US, talk 377
Co-Authors: *Sung Ha Kang*, *Wei Zhu*,

Outer Convexification and Mixed-Integer Optimal Control

Discrete Optimization & Integer Programming
MINLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 103
Organizer: Sebastian Sager, University Magdeburg, DE

1 - Improved Regularity Assumptions for Partial Outer Convexification of MIPDECOs
Speaker: Paul Manns, TU Braunschweig, DE, talk 833
Co-Authors: *Christian Kirches*,
2 - Combinatorial Integral Approximation Decompositions for Mixed-Integer Control
Speaker: Clemens Zeile, University of Magdeburg, DE, talk 505
Co-Authors: *Tobias Weber*, *Sebastian Sager*,
3 - Global optimization of ODE constrained network problems
Speaker: Oliver Habeck, TU Darmstadt, DE, talk 376
Co-Authors: *Marc Pfetsch*, *Stefan Ulbrich*,

Relative Entropy Optimization I

Continuous Optimization
SDP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 111
Organizer: Venkat Chandrasekaran, Caltech, US

1 - Exactness of Relative Entropy Relaxations for Signomial Programs
Speaker: Riley Murray, Caltech, US, talk 1685
2 - Certificates of nonnegativity via conic lifts
Speaker: Hamza Fawzi, University of Cambridge, GB, talk 257
3 - Exponential cone in MOSEK: overview and applications
Speaker: Michal Adamaszek, MOSEK ApS, DK, talk 152

Advances in DFO IV

Continuous Optimization
DerFree - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 125
Chair: Katya Scheinberg, Lehigh University, US

1 - New methods for blackbox optimization via structured gradient estimation
Speaker: Krzysztof Choromanski, Google Brain Robotics, US, talk 599
Co-Authors: *Mark Rowland*, *Vikas Sindhwani*, *Richard Turner*, *Adrian Weller*,
2 - Scaling up and Randomizing Derivative Free Optimization for Machine Learning
Speaker: Katya Scheinberg, Lehigh University, US, talk 1079
Co-Authors: *Liyuan Cao*, *Hiva Ghanbari*,
3 - Globally Convergent Simulation-Based Optimization with Integer Variables
Speaker: Prashant Palkar, IIT Bombay, IN, talk 1463
Co-Authors: *Jeffrey Larson*, *Sven Leyffer*, *Stefan Wild*,

Algorithms for optimization and variational problems with possibly nonisolated solutions II

Continuous Optimization
Variat - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 153
Organizer: Alexey Izmailov, Moscow State University, RU

1 - A globally convergent LP-Newton method for piecewise smooth constrained equation
Speaker: Mikhail Solodov, IMPA, BR, talk 236
Co-Authors: *Andreas Fischer*, *Alexey Izmailov*, *Markus Herrich*, *Wladimir Scheck*,
2 - Some Developments on Multiplier Methods in Cone-Constrained Optimization
Speaker: Daniel Steck, University of Wuerzburg, DE, talk 185
Co-Authors: *Christian Kanzow*,
3 - On the second order augmented Lagrangian method for MPCC
Speaker: Paulo Silva, University of Campinas, BR, talk 101
Co-Authors: *Roberto Andreani*, *Leonardo Secchin*,

Submodular Maximization.

Discrete Optimization & Integer Programming
APPROX - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 179
Organizer: Justin Ward, QMUL, GB

1 - Robust Maximization of Submodular Objs. in the Presence of Adversarial Removals
Speaker: Ilija Bogunovic, EPFL, CH, talk 306
Co-Authors: *Slobodan Mitrovic*, *Volkan Cevher*, *Junyao Zhao*, *Jonathan Scarlett*,
2 - Robust submodular maximization under matroid constraints
Speaker: Alfredo Torrico, Georgia Tech, US, talk 708
Co-Authors: *Mohit Singh*, *Sebastian Pokutta*, *Nika Haghtalab*, *Nima Anari*, *Seffi Naor*,
3 - Submodular Optimization: From Discrete to Continuous and Back
Speaker: Amin Karbasi, Yale, US, talk 1509

Intersection cuts, disjunctions, and valid inequalities

Discrete Optimization & Integer Programming
MINLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 180
Organizer: Eli Towle, University of Wisconsin, US

1 - Outer-product-free Sets for Polynomial Optimization
Speaker: Daniel Bienstock, Columbia University, US, talk

149
Co-Authors: *Chen Chen*, *Gonzalo Muñoz*,
2 - Synthetizing branch-and-bound information into cutting planes
Speaker: Egon Balas, Carnegie Mellon University, US, talk 1323
Co-Authors: *Aleksandr Kazachkov*,
3 - Intersection disjunctions for reverse convex sets
Speaker: Eli Towle, University of Wisconsin, US, talk 691
Co-Authors: *Jim Luedtke*,

Risk-aware decision making

Optimization under Uncertainty
Stoch - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 32 Building: B, Ground Floor, Zone: 5
Invited Session 251
Organizer: Minseok Ryu, University of Michigan, US

1 - Medical Homecare Delivery with Time-dependent Stochastic Travel Time
Speaker: Hideaki Nakao, University of Michigan, US, talk 1048
Co-Authors: *Siqian Shen*,
2 - A stochastic programming approach for optimization of latent disease detection
Speaker: Zheng Zhang, University of Michigan, US, talk 1178
Co-Authors: *Brian Denton*,
3 - Nurse staffing under uncertain demand and absenteeism
Speaker: Minseok Ryu, University of Michigan, US, talk 1123
Co-Authors: *Ruiwei Jiang*,

Combinatorial aspects of Linear Programming

Discrete Optimization & Integer Programming
COMB - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2
Invited Session 259
Organizer: Daniel Dadush, CWI, NL

1 - A Friendly Smoothed Analysis of the Simplex Method
Speaker: Sophie Huiberts, CWI, NL, talk 158
Co-Authors: *Daniel Dadush*,
2 - Geometric Rescaling Algorithms for Submodular Function Minimization
Speaker: Giacomo Zambelli, London School of Economics, GB, talk 373
Co-Authors: *Daniel Dadush*, *Laszlo Vegh*,
3 - A Simpler and Faster Strongly Polynomial Algorithm for Generalized Max-Flow
Speaker: Neil Olver, Vrije Universiteit Amsterdam, NL, talk 99
Co-Authors: *Laszlo Vegh*,

Computational Integer Programming I

Specific Models, Algorithms, and Software
Algo - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8
Invited Session 273
Organizer: Domenico Salvagnin, University of Padova, IT

1 - Exploiting Degeneracy in MIP
Speaker: Tobias Achterberg, Gurobi, DE, talk 412
Co-Authors: *Zonghao Gu*, *Edward Rothberg*,
2 - Online Estimation of the Size of the Branch and Bound Tree in MIP Solvers
Speaker: Pierre Le Bodic, Monash University, AU, talk 197
3 - Multi-Row Intersection Cuts based on the Infinity Norm
Speaker: Alinson Xavier, Argonne National Laboratory, US, talk 858
Co-Authors: *Ricardo Fukasawa*, *Laurent Poirrier*,

Branch-and-cut techniques

Discrete Optimization & Integer Programming
MINLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4
Invited Session 277
Organizer: Teodora Dan, Université de Montréal, CA

1 - A branch-and-bound algorithm for a bilevel location-allocation model
Speaker: Teodora Dan, Université de Montréal, CA, talk 1039
Co-Authors: *Andrea Lodi*, *Patrice Marcotte*,
2 - Improving branching for disjunctive models via approximate convex decompositions
Speaker: Lovis Anderson, Zuse Institute Berlin, DE, talk 1229
Co-Authors: *Benjamin Hiller*, *Tom Walther*,
3 - Learning with Cutting Planes
Speaker: Tu Nguyen, Johns Hopkins University, US, talk 638
Co-Authors: *Amitabh Basu*, *Marco Molinaro*, *Sriram Sankaranarayanan*,

Polyhedral theory in practice

Discrete Optimization & Integer Programming
IPtheory - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 34 Building: B, 1st floor, Zone: 3
Invited Session 309
Organizer: Mourad Baiou, CNRS, FR

1 - The Stop Number Minimization Problem: polyhedral analysis
Speaker: Rafael Colares, LIMOS UCA, FR, talk 1438
Co-Authors: *Mourad Baiou*, *Hervé Kerivin*,
2 - On the nucleolus of shortest path and network disconnection games

Speaker: Francisco Barahona, IBM Research, US, talk 1431
Co-Authors: *Mourad Baiou*,
3 - On some network security games
Speaker: Mourad Baiou, CNRS, FR, talk 1329
Co-Authors: *Francisco Barahona*,

Submodular and Incremental Maximization

Discrete Optimization & Integer Programming
APPROX - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 340
Organizer: Martin Gross, RWTH Aachen, DE

1 - Multi-objective Maximization of Monotone Submodular Functions
Speaker: Rajan Udwani, MIT, US, talk 1089
2 - A New Approximation Guarantee for Submodular Maximization via Discrete Convexity
Speaker: Tasuku Soma, The university of Tokyo, JP, talk 1198
Co-Authors: *Yuichi Yoshida*,
3 - General Bounds for Incremental Maximization
Speaker: Martin Gross, RWTH Aachen, DE, talk 1324
Co-Authors: *Aaron Bernstein*, *Yann Disser*,

Distributionally Robust Optimization: Models and Applications

Optimization under Uncertainty
Robust - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 355
Organizer: Selin Ahipasaoglu, SUTD, SG

1 - Heavy tails in a moment-constrained robust newsvendor model
Speaker: Bikramjit Das, Singapore University of Techno, SG, talk 1197
Co-Authors: *Karthik Natarajan*, *Anulekha Dhara*,
2 - Robust Extreme Event Analysis
Speaker: Henry Lam, Columbia University, US, talk 913
Co-Authors: *Clementine Mottet*, *Xinyu Zhang*,
3 - Concentration versus Diversification in Portfolio Selection
Speaker: Selin Ahipasaoglu, SUTD, SG, talk 795

Nash equilibrium and Games 2

Continuous Optimization
Variat - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 366
Organizer: Giancarlo Bigi, Università di Pisa, IT

1 - Numerically tractable optimistic bilevel problems
Speaker: Lorenzo Lampariello, Roma Tre University, IT, talk 1122
Co-Authors: *Simone Sagratella*,
2 - Polyhedral complementarity algorithms for equilibrium problems
Speaker: Vadim Shmyrev, Sobolev Institute, RU, talk 262
3 - Semi-infinite programming via two player generalized Nash games and saddlepoints
Speaker: Giancarlo Bigi, Università di Pisa, IT, talk 967
Co-Authors: *Simone Sagratella*,

Scalarization, representation and the comparison of methods in Multiobjective Optimization

Optimization under Uncertainty
Game - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5

Contributed Session 378
Chair: Tyler Perini, Georgia Tech, US

1 - New scalarization technique for solving multi-objective problems
Speaker: Kenza Oufaska, TIC Lab - ELIT - UIR, MA, talk 1336
Co-Authors: *Khalid El Yassini*, *Mustapha Oudani*, *Tarik Zouadi*,
2 - Approximation of the frontier for a biobjective MIP: comparison between methods
Speaker: Tyler Perini, Georgia Tech, US, talk 1620
Co-Authors: *Diego Pecin*, *Natashia Boland*, *Martin Savelsbergh*,
3 - Multi-Objective Optimization for the Compiler of Hard Real-Time Systems
Speaker: Kateryna Muts, TU Hamburg, DE, talk 834
Co-Authors: *Arno Luppold*, *Heiko Falk*,

Discrete stochastic dynamic programming

Optimization under Uncertainty
Markov - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 384
Chair: Adam Narkiewicz, Simiade, PL

1 - MILP formulations for discrete stochastic optimization (LIMIDs)
Speaker: Victor Cohen, Ecole des Ponts Paristech, FR, talk 1387
Co-Authors: *Axel Parmentier*, *Vincent Leclère*, *Guillaume Obozinski*, *Joseph Salmon*,
2 - LP relaxations for discrete stochastic optimization with variational inference
Speaker: Axel Parmentier, Ecole des Ponts Paristech, FR, talk 1384
Co-Authors: *Victor Cohen*, *Vincent Leclère*, *Guillaume*

Obozinski, *Joseph Salmon*,
3 - A sequential decision process with stochastic action sets
Speaker: Adam Narkiewicz, Simiade, PL, talk 26

Industrial dynamics and Environmental policy

Specific Models, Algorithms, and Software
Sciences - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 392
Organizer: Inmaculada Garcia Fernandez, Universidad de Malaga, ES

1 - Dynamics of Environmental Policy
Speaker: Adriana Piazza, Universidad Adolfo Ibanez, CL, talk 840
Co-Authors: *Hulya Eraslan*,
2 - Challenges in Nutrient Recycling and Biogas Plant Localization
Speaker: Nils-Hassan Quttineh, Linköping University, SE, talk 1290
Co-Authors: *Genevieve Metson*, *Uno Wennergren*, *Usman Akram*,
3 - Use of dynamic programming in inventory control for perishable products
Speaker: Inmaculada Garcia Fernandez, Universidad de Malaga, ES, talk 428
Co-Authors: *Eligius Hendrix*, *Gloria Ortega*,

Vehicle Routing II

Specific Models, Algorithms, and Software
Logistics - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 412
Chair: Chris Potts, University of Southampton, GB

1 - A Branch-Cut-and-Price Algorithm for the TSP with Hotel Selection
Speaker: Eduardo Uchoa, UFF, BR, talk 1467
Co-Authors: *Luiz Santanna*,
2 - Models and Algorithms for Dynamic Workforce Scheduling and Routing
Speaker: Chris Potts, University of Southampton, GB, talk 1612
Co-Authors: *Fulin Xie*, *Tolga Bektas*,
3 - Delivery robots, a transport innovation for the last mile
Speaker: Stefan Schaudt, Institute of Transport Log., DE, talk 1451
Co-Authors: *Uwe Clausen*,

Nonlinear Optimization

Continuous Optimization
NLP - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Contributed Session 429
Chair: Marc Steinbach, Leibniz Universität Hannover, DE

1 - On the Approximate Solutions of Augmented Subproblems within Sequential Methods
Speaker: Ademir Ribeiro, Federal University of Parana, BR, talk 924
Co-Authors: *Mael Sachine*, *Sandra Santos*,
2 - An Elastic Primal Active Set Method for Structured SQP
Speaker: Marc Steinbach, Leibniz Universität Hannover, DE, talk 1271
Co-Authors: *Daniel Rose*,
3 - A Dynamic Penalty Parameter Updating Strategy for SQP Methods
Speaker: Hao Wang, ShanghaiTech University, CN, talk 369
Co-Authors: *Frank Curtis*, *James Burke*, *Jiashan Wang*,

Distributionally Robust Optimization

Optimization under Uncertainty
Robust - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: DENIGES Building: C, Ground Floor, Zone: 5

Invited Session 446
Organizer: Daniel Kuhn, EPFL, CH

1 - Chebyshev Inequalities for Products of Random Variables
Speaker: Napat Rujeerapaiboon, EPFL, CH, talk 608
Co-Authors: *Daniel Kuhn*, *Wolfram Wiesemann*,
2 - Variational Theory for Optimization under Stochastic Ambiguity
Speaker: Johannes Royset, Naval Postgraduate School, US, talk 951
3 - Distributionally Robust Inverse Covariance Estimation
Speaker: Daniel Kuhn, EPFL, CH, talk 820
Co-Authors: *Viet Anh Nguyen*, *Peyman Mohajerin Esfaha*,

Discrete methods for data centers and graphs

Specific Models, Algorithms, and Software
Learning - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Invited Session 477
Organizer: Aaron Archer, Google, US

1 - Overcommitment in Cloud Services - Bin Packing with Chance Constraints
Speaker: Philipp Keller, Facebook, US, talk 1383
Co-Authors: *Maxime Cohen*, *Morteza Zadimoghaddam*, *Vahab Mirrokni*,
2 - Cache-aware load balancing of data center applications via balanced partitioning
Speaker: Aaron Archer, Google, US, talk 528
Co-Authors: *Kevin Aydin*, *Hossein Bateni*, *Vahab Mirrokni*,

Aaron Schild, *Ray Yang*, *Richard Zhuang*,
3 - Compressing Graphs and Indexes with Recursive Graph Bisection
Speaker: Sergey Pupyrev, Facebook, US, talk 644
Co-Authors: *Laxman Dhulipala*, *Igor Kabiljo*, *Brian Karrer*, *Giuseppe Ottaviano*, *Alon Shalita*,

Classification, regression and clustering

Specific Models, Algorithms, and Software
Learning - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Contributed Session 480
Chair: Dimitris Bertsimas, MIT, US

1 - Interpretable Machine Learning
Speaker: Dimitris Bertsimas, MIT, US, talk 1184
Co-Authors: *Jack Dunn*,
2 - Logistic Regression and Principal Curves Applied to Discriminant Analysis
Speaker: Inácio Guimarães, UTFPR Univ. Tec. Federal do PR, BR, talk 241
Co-Authors: *Zaudir Dal'Cortivo*, *Jair Marques*,
3 - Sufficient Conditions for L1-Norm Best-Fit Lines
Speaker: James Brooks, Virginia Commonwealth Universi, US, talk 341
Co-Authors: *Jose Dula*,

Routing

Discrete Optimization & Integer Programming
IPpractice - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Contributed Session 484
Chair: Cole Smith, Clemson University, US

1 - Solving the Time-Dependent TSP using Machine Learning Guidance
Speaker: Imke Joormann, TU Braunschweig, DE, talk 1159
Co-Authors: *Christoph Hansknecht*,
2 - Column generation for routing a fleet of plug-in hybrid vehicles
Speaker: Ann-Brith Strömberg, Chalmers Univ. of Technology, SE, talk 1453
Co-Authors: *Jonathan Ruffieux*, *Peter Lindroth*,
3 - The consistent path problem and binary decision diagrams
Speaker: Cole Smith, Clemson University, US, talk 275
Co-Authors: *David Bergman*, *Leonardo Lozano*,

Global Optimization 2

Continuous Optimization
Global - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6

Contributed Session 502
Chair: Mirjam Duer, Augsburg University, DE

1 - Deterministic upper bounds in global minimization with equality constraints
Speaker: Christian Füllner, KIT, DE, talk 971
Co-Authors: *Peter Kirst*, *Oliver Stein*,
2 - Nonconvex Optimization Approach to Equilibrium and Bilevel Problems
Speaker: Andrei Orlov, IDSTU SB RAS, RU, talk 492
3 - On Solving the General Fractional Problem via D.C. Optimization
Speaker: Tatiana Gruzdeva, ISDCT SB RAS, RU, talk 489
Co-Authors: *Alexander Strekalovskiy*,

IP Practice III

Discrete Optimization & Integer Programming
IPpractice - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 36 Building: B, Intermediate, Zone: 4

Contributed Session 507
Chair: Samuel Brito, UFOP, BR

1 - Valid inequalities for solving a stochastic lot-sizing problem with returns
Speaker: Franco Quezada, LIP6, FR, talk 1155
Co-Authors: *Celine Gicquel*, *Safia Kedad-Sidhoum*,
2 - Improving COIN-OR CBC MIP Solver Using Conflict Graphs
Speaker: Samuel Brito, UFOP, BR, talk 1389
Co-Authors: *Haroldo Santos*,
3 - Two Lower Bound Approaches for the Keyboard Layout Problem
Speaker: Maximilian John, MPII Saarbrücken, DE, talk 748
Co-Authors: *Andreas Karrenbauer*,

Extended Formulations

Discrete Optimization & Integer Programming
IPtheory - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 42 Building: C, 3rd floor, Zone: 1

Contributed Session 514
Chair: Bartosz Filipecki, TU Chemnitz, DE

1 - An Extended Formulation for the 1-Wheels of the Stable Set Polytope
Speaker: Bernd Perscheid, Trier University, DE, talk 1018
Co-Authors: *Sven de Vries*, *Ulf Friedrich*,
2 - Extended formulations for higher-order spanning tree polytopes
Speaker: Mirjam Friesen, OvGU Magdeburg, DE, talk 503
Co-Authors: *Volker Kaibel*,
3 - Stronger Path-based Extended Formulation for the Steiner Tree Problem
Speaker: Bartosz Filipecki, TU Chemnitz, DE, talk 1158
Co-Authors: *Mathieu Van Vyve*,

Optimization in Energy

Specific Models, Algorithms, and Software
Energy - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 22 Building: G, 2nd floor, Zone: 6

Contributed Session 515
Chair: Andrea Simonetto, IBM Research Ireland, IE

1 - Upstream-downstream dynamic programming for optimization of tree-shaped flows
Speaker: Christiano Lyra, University of Campinas, BR, talk 1200
2 - Mathematical Programming for Forecasting Supplies and Demands in Gas Networks
Speaker: Milena Petkovic, Zuse Institute Berlin, DE, talk 1058
Co-Authors: *Inken Gamrath*,
3 - Time-varying optimization: algorithms and engineering applications
Speaker: Andrea Simonetto, IBM Research Ireland, IE, talk 580

Optimization for Energy System Planning

Specific Models, Algorithms, and Software
Energy - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Contributed Session 524
Chair: Andrew Liu, Purdue University, US

1 - Expansion Planning of a Small Size Electric Energy System
Speaker: Luigi Boffino, University of Bergamo, IT, talk 892
Co-Authors: *Luis Baringo*, *Giorgia Oggioni*,
2 - Regaining tractability in SDDP algorithms for large energy planning problems
Speaker: Marion Lemery, Edinburgh University, GB, talk 1059
Co-Authors: *Ken McKinnon*, *Philippe Mahey*,
3 - Capacity Expansion through Decentralized Optimization
Speaker: Andrew Liu, Purdue University, US, talk 752
Co-Authors: *Run Chen*,

Machine Scheduling 1

Specific Models, Algorithms, and Software
Scheduling - Fr 3:15pm-4:45pm, Format: 3x30 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 527
Chair: Renan Trindade, UFRJ, BR

1 - Maximum Probabilistic All-or-Nothing Paths and Critical Chains
Speaker: Noam Goldberg, Bar-Ilan University, IL, talk 1260
Co-Authors: *Michael Poss*,
2 - Max-Cost Scheduling with Controllable Processing Times and a Common Deadline
Speaker: Vitaly Strusevich, University of Greenwich, GB, talk 852
Co-Authors: *Akiyoshi Shioura*, *Natalia Shakhlevich*,
3 - An arc-flow formulation for minimizing makespan on a batch processing machine
Speaker: Renan Trindade, UFRJ, BR, talk 1653
Co-Authors: *Olinto C. B. de Araújo*, *Marcia Fampa*,

Moment relaxations for polynomial optimization with symmetries

Continuous Optimization
NLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: GINTRAC Building: Q, Ground Floor, Zone: 8

Invited Session 10
Organizer: Markus Schweighofer, Universität Konstanz, DE

1 - Coloring the Voronoi tessellation of lattices
Speaker: Frank Vallentin, University of Cologne, DE, talk 40
Co-Authors: *David Madore*,
2 - Semidefinite optimization and arithmetic progressions
Speaker: Cordian Riener, Arctic University of Norway, NO, talk 109
Co-Authors: *Aron Rahman*, *Frank Vallentin*,
3 - The upper density of sets avoiding norm one in the real space of dimension n
Speaker: Philippe Moustrou, University of Tromsø, NO, talk 83
Co-Authors: *Christine Bachoc*, *Sinai Robins*,

Computer-assisted analyses of optimization algorithms II

Continuous Optimization
SDP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle AURIAC Building: G, 1st floor, Zone: 6

Invited Session 16
Organizer: Adrien Taylor, INRIA, FR

1 - SDP performance analysis of inexact Newton-type methods for self-concordant func
Speaker: Etienne De Klerk, Tilburg University, NL, talk 15
Co-Authors: *Adrien Taylor*, *Francois Glineur*,
2 - A Universal Interior Point Method Using Hit-and-Run Sampling
Speaker: Riley Badenbroek, Tilburg University, NL, talk 90
Co-Authors: *Etienne De Klerk*,
3 - Worst-case analyses of stochastic gradient-based methods using SDPs
Speaker: Adrien Taylor, INRIA, FR, talk 20
Co-Authors: *Francis Bach*,

Sparse Semidefinite Programming

Continuous Optimization
SDP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LC5 Building: L, Intermediate 1, Zone: 10

Invited Session 17
Organizer: Somayeh Sojoudi, UC Berkeley, US

1 - Sparse Semidefinite Relaxations of Communicability-Based Graph Partition Problem
Speaker: Martin Andersen, Technical Univ. of Denmark, DK, talk 123
2 - Lasserre hierarchy for large scale polynomial optimization
Speaker: Cedric Josz, UC Berkeley, US, talk 112
Co-Authors: *Daniel Molzahn*,
3 - Fast Algorithms for Max-Det Matrix Completion and Graphical Lasso
Speaker: Somayeh Sojoudi, UC Berkeley, US, talk 111
Co-Authors: *Salar Fattahi*, *Richard Zhang*,

Derivative-free global optimization algorithms

Continuous Optimization
DerFree - Fr 5:00pm-6:00pm, Format: 2x30 min
Room: Salle 21 Building: G, Intermediate, Zone: 6

Contributed Session 41
Chair: Zaikun Zhang, Hong Kong Polytechnic Univ., HK

1 - Optimization with global surrogate and trust-region assisted local search
Speaker: Limeng Liu, Natl. Univ. Singapore, SG, talk 271
Co-Authors: *Christine Shoemaker*,
2 - Benchmarking Bayesian, Derivative-Free, and Stochastic Blackbox Algorithms
Speaker: Anne Auger, Inria and Ecole Polytechnique, FR, talk 555
Co-Authors: *Dimo Brockhoff*, *Pierre Marion*, *Lin Lu*, *Nikolaus Hansen*,

Subspace methods in NLP II

Continuous Optimization
NLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle KC7 Building: K, Intermediate 2, Zone: 10

Invited Session 44
Organizer: Panos Parpas, Imperial College London, GB

1 - Distributed Subspace Decomposition
Speaker: Panos Parpas, Imperial College London, GB, talk 384
2 - Subspace Frameworks for Eigenvalue Optimization
Speaker: Emre Mengi, Koc University, TR, talk 430
3 - A block-coordinate Gauss-Newton method for nonlinear least squares
Speaker: Jaroslav Fowkes, University of Oxford, GB, talk 455
Co-Authors: *Coralia Cartis*,

Nonsmooth DC optimization with applications

Continuous Optimization
NonSmooth - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 8 Building: N, 4th floor, Zone: 12

Contributed Session 46
Chair: Napsu Karmitsa, University of Turku, FI

1 - PIECEWISE LINEAR REGRESSION VIA NONSMOOTH DC OPTIMIZATION
Speaker: Sona Taheri, Federation University, AU, talk 199
Co-Authors: *Adil Bagirov*, *Soodabeh Asadi*,
2 - Double Bundle Method for Nonsmooth DC Optimization
Speaker: Kaisa Joki, University of Turku, FI, talk 118
Co-Authors: *Adil Bagirov*, *Napsu Karmitsa*, *Marko Mäkelä*, *Sona Taheri*,
3 - Support vector machines for clusterwise linear regression
Speaker: Napsu Karmitsa, University of Turku, FI, talk 537
Co-Authors: *Kaisa Joki*, *Adil Bagirov*, *Marko Mäkelä*, *Sona Taheri*,

Mixed-Integer PDE-Constrained Optimization

Discrete Optimization & Integer Programming
MINLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: DURKHEIM Building: A, 3rd floor, Zone: 1

Invited Session 63
Organizer: Sven Leyffer, Argonne National Laboratory, US

1 - Inversion of Convection-Diffusion PDE with Discrete Source
Speaker: Meenarli Sharma, IIT Bombay, IN, talk 1094
Co-Authors: *Sven Leyffer*, *Lars Ruthotto*,
2 - Shape optimization towards binary variables with PDE constraints
Speaker: Martin Siebenborn, Universität Hamburg, DE, talk 607
3 - Set-valued steepest descent for binary topology and control optimization
Speaker: Mirko Hahn, OvGU Magdeburg, DE, talk 1036
Co-Authors: *Sebastian Sager*, *Sven Leyffer*,

Primal-dual and ADMM algorithms for nonlinear programming

Continuous Optimization
NLP - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 05 Building: Q, 1st floor, Zone: 11

Invited Session 91
Organizer: Marco Sciandrone, Università di Firenze, IT

1 - Smooth Primal-Dual Coordinate Descent for Nonsmooth Convex Optimization
Speaker: Ahmet Alacaoglu, EPFL, CH, talk 347
Co-Authors: *Quoc Tran-Dinh*, *Olivier Fercoq*, *Volkan Cevher*,
2 - A primal-dual algorithm for general convex-concave saddle point problems
Speaker: N. Serhat Aybat, Penn State University, US, talk 767
Co-Authors: *Erfan Y. Hamedani*,
3 - ADMM with Plug-and-Play Regularizers: Convergence Guarantees and Applications
Speaker: Mario Figueiredo, Instituto de Telecomunicacoes, PT, talk 774
4 - Alternating minimization methods for constrained nonconvex optimization
Speaker: Giulio Galvan, Università di Firenze, IT, talk 631
Co-Authors: *Matteo Lapucci*, *Tommaso Levato*, *Marco Sciandrone*,

Global Optimization for nonconvex MINLPs

Discrete Optimization & Integer Programming
MINLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 39 Building: E, 3rd floor, Zone: 1

Invited Session 92
Organizer: Hassan Hijazi, Los Alamos National Laboratory, US

1 - Global Optimization for AC Optimal Power Flow Applications
Speaker: Anya Castillo, Sandia National Laboratories, US, talk 761
Co-Authors: *Michael Bynum*, *Carl Laird*, *Jean-Paul Watson*,
2 - Tight Piecewise Formulations and Algorithms for Global Optimization of MINLPs
Speaker: Harsha Nagarajan, Los Alamos National Laboratory, US, talk 782
Co-Authors: *Kaarthik Sundar*, *Russell Bent*, *Site Wang*, *Jeff Linderoth*,
3 - Semidefinite Programming Cuts in Gravity
Speaker: Hassan Hijazi, Los Alamos National Laboratory, US, talk 753
Co-Authors: *Ksenia Bestuzheva*, *Carleton Coffrin*,

Recent Advances and Applications of MINLP

Discrete Optimization & Integer Programming
MINLP - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 35 Building: B, Intermediate, Zone: 4

Invited Session 139
Organizer: Jose Ucha, Universidad de Sevilla, ES

1 - Duality and multidimensional kernels in ℓ_p-Support Vector Machines
Speaker: Victor Blanco, Universidad de Granada, ES, talk 874
Co-Authors: *Justo Puerto*, *Antonio Rodríguez-Chía*,
2 - An algebraic exact method for multi-objective RAP in series-parallel systems.
Speaker: Jose Ucha, Universidad de Sevilla, ES, talk 1069
Co-Authors: *M Isabel Hartillo*, *Haydee Jimenez*,
3 - On Testing Attainment of the Optimal Value in Nonlinear Optimization
Speaker: Jeffrey Zhang, Princeton University, US, talk 933
Co-Authors: *Amir Ali Ahmadi*,

Nonlinear Optimization and Variational Inequalities IV

Continuous Optimization
Variat - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 06 Building: Q, 1st floor, Zone: 11

Invited Session 144
Organizer: Cong Sun, Beijing Univ. Post. Telecomm., CN

1 - A TVSCAD approach for image deblurring with impulsive noise
Speaker: Junfeng Yang, Nanjing University, CN, talk 87
Co-Authors: *Guoyong Gu*, *Suhong Jiang*,
2 - A semismooth Newton based augmented Lagrangian method for solving SVM problems
Speaker: Chengjing Wang, Southwest Jiaotong University, CN, talk 72
Co-Authors: *Dunbiao Niu*, *Tang Peipei*, *Enbin Song*,
3 - Matrix optimization in data science: recent progress on algorithm foundation
Speaker: Chao Ding, AMSS CAS, CN, talk 62
Co-Authors: *Cui Ying*, *Xinyuan Zhao*,

Algorithmic Fairness and Optimization

Discrete Optimization & Integer Programming
APPROX - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: LEYTEIRE Building: E, 3rd floor, Zone: 1

Invited Session 161
Organizer: Nisheeth Vishnoi, EPFL, CH

1 - Measuring Algorithmic (Un)Fairness via Inequality Indices
Speaker: Krishna Gummadi, Max Planck Institute, DE, talk 1163
2 - Controlling Bias in Bandit-based Personalization
Speaker: Elisa Celis, EPFL, CH, talk 500
Co-Authors: *Sayash Kapoor*, *Farnood Salehi*, *Nisheeth Vishnoi*,
3 - Calibration for the (Computationally-Identifiable) Masses
Speaker: Omer Reingold, Stanford University, US, talk 106
Co-Authors: *Ursula Hebert-Johnson*, *Michael Kim*, *Michael Kim*,
4 - Fair and Diverse DPP-based Data Summarization

Speaker: Nisheeth Vishnoi, EPFL, CH, talk 1140
Co-Authors: *Elisa Celis*, *Vijay Keswani*, *Damian Straszak*, *Amit Jayant Deshpande*, *Tarun Kathuria*,

Algorithmic Discrepancy

Discrete Optimization & Integer Programming
APPROX - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 43 Building: C, 3rd floor, Zone: 1

Invited Session 164
Organizer: Nikhil Bansal, CWI and TU Eindhoven, NL

1 - Balancing Vectors in Any Norm
Speaker: Aleksandar Nikolov, University of Toronto, CA, talk 484
Co-Authors: *Daniel Dadush*, *Kunal Talwar*, *Nicole Tomczak*,
2 - The Gram-Schmidt Walk: A cure to the Banaszczyk Blues
Speaker: Daniel Dadush, CWI, NL, talk 359
Co-Authors: *Nikhil Bansal*, *Shashwat Garg*, *Shachar Lovett*,
3 - A Fourier-Analytic Approach For Random Set systems
Speaker: Rebecca Hoberg, University of Washington, US, talk 764
Co-Authors: *Thomas Rothvoss*,

Robust Combinatorial Optimization II

Optimization under Uncertainty
Robust - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 37 Building: B, Intermediate, Zone: 4

Invited Session 168
Organizer: Agostinho Agra, University of Aveiro, PT

1 - Robust Strategic Planning of Phytosanitary Treatments in Agriculture
Speaker: Ayse Arslan, Inria Bordeaux Sud-Ouest, FR, talk 1372
Co-Authors: *Boris Detienne*, *Francois Vanderbeck*,
2 - Exact Solution Algorithms for the Robust Total Tardiness Problem
Speaker: Marco Silva, Universite d Avignon, FR, talk 274
Co-Authors: *Michael Poss*, *Nelson Maculan*,
3 - A Lagrangean dual model for the robust inventory problem
Speaker: Agostinho Agra, University of Aveiro, PT, talk 277
Co-Authors: *Cristina Requejo*, *Filipe Rodrigues*,
4 - Robust Expansion Planning of Interdependent Electricity, Gas, and Heat
Speaker: Yasaman Mozafari, University of Calgary, CA, talk 1411
Co-Authors: *William Rosehart*,

Energy-aware planning and scheduling 2

Specific Models, Algorithms, and Software
Energy - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 23 Building: G, 3rd floor, Zone: 6

Invited Session 178
Organizer: Christian Artigues, LAAS-CNRS, FR

1 - Modelling uncertainties in short-term operational planning optimization
Speaker: Paul Javal, Mines Paristech - EDR R & D, FR, talk 1093
Co-Authors: *Welnigton de Oliveira*, *Hugo Morais*, *Sophie Demassey*, *Wim van Ackooij*,
2 - Solving an electric vehicle routing problem with capacitated charging stations
Speaker: Aurélien Froger, Université de Tours, FR, talk 1536
Co-Authors: *Ola Jabali*, *Gilbert Laporte*, *Jorge Mendoza*,
3 - Polyhedral approach for a continuous energy-constrained scheduling problem
Speaker: Christian Artigues, LAAS-CNRS, FR, talk 1150
Co-Authors: *Margaux Nattaf*, *Markó Horváth*, *Tamás Kis*, *Pierre Lopez*,

Nonconvex Optimization: Theory and Methods - Part 3

Continuous Optimization
NonSmooth - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle LC4 Building: L, Intermediate 1, Zone: 9

Invited Session 188
Organizer: Genaro Lopez, University of Seville, ES

1 - Globally Solving a Class of Optimal Power Flow Problems in Radial Networks
Speaker: Alexander Shtof, Technion, IL, talk 811
Co-Authors: *Amir Beck*, *Yoash Levron*, *Luba Tetruashvili*, *Yuval Beck*,
2 - Algorithms based on unions of nonexpansive maps
Speaker: Matthew Tam, University of Goettingen, DE, talk 140
3 - What do 'convexities' imply on Hadamard manifolds?
Speaker: Genaro Lopez, University of Seville, ES, talk 176

Packing Steiner Trees

Discrete Optimization & Integer Programming
COMB - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: SIGALAS Building: C, 2nd floor, Zone: 2

Invited Session 260
Organizer: Stephan Held, University of Bonn, DE

1 - Global Routing with Timing Constraints
Speaker: Dirk Müller, University of Bonn, DE, talk 234
Co-Authors: *Stephan Held*, *Jens Vygen*, *Daniel Rotter*, *Rudolf Scheifele*, *Vera Traub*,
2 - Steiner Tree Packing in Rhomboidal Tiles

Speaker: Pietro Saccardi, University of Bonn, DE, talk 1537
Co-Authors: *Nicolai Hähnle*,
3 - Reach- and Direction-Restricted Rectilinear Steiner Trees
Speaker: Tilmann Bihler, University of Bonn, DE, talk 617
Co-Authors: *Stephan Held*, *Sophie Spirkl*,

Computational Integer Programming II

Specific Models, Algorithms, and Software
Algo - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: PITRES Building: O, Ground Floor, Zone: 8

Invited Session 274
Organizer: Domenico Salvagnin, University of Padova, IT

1 - Tighter LP relaxations for configuration knapsacks using extended formulations
Speaker: Gregor Hendel, Zuse Institute Berlin, DE, talk 381
Co-Authors: *Ralf Borndörfer*, *Marika Karbstein*, *Timo Berthold*, *Heide Hoppmann*,
2 - Lexicographic Optimization and Recovery in Two-Stage Robust Scheduling
Speaker: Dimitrios Letsios, Imperial College London, GB, talk 504
Co-Authors: *Ruth Misener*,
3 - Dynamic Row Disablement: a practical Implementation of the Kernel Simplex Method
Speaker: Roland Wunderling, IBM, AT, talk 861

Stochastic Methods for Energy Optimization

Specific Models, Algorithms, and Software
Energy - Fr 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 24 Building: G, 3rd floor, Zone: 6

Contributed Session 294
Chair: Tristan Rigaut, Efficacity, FR

1 - Stabilization of Price Signals in Energy Optimization
Speaker: Clara Lage, ENGIE - IMPA - Paris Sorbonne, FR, talk 1585
Co-Authors: *Claudia Sagastizabal*, *Mikhail Solodov*, *Guillaume Erbs*,
2 - Stochastic Unit Commitment Problem: an Exact Probabilistic Constrained Approach
Speaker: Guilherme Matiussi Ramalho, UFSC-Florianopolis, BR, talk 298
Co-Authors: *Wim van Ackooij*, *Erlon Finardi*,
3 - Long term management of energy storage using stochastic optimization
Speaker: Tristan Rigaut, Efficacity, FR, talk 1291
Co-Authors: *Jean-Philipp Chancelier*, *Michel De Lara*, *Carpentier Pierre*,

Machine Learning and Discrete Optimization

Discrete Optimization & Integer Programming
IPtheory - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 34 Building: B, 1st floor, Zone: 3

Invited Session 308
Organizer: Sebastian Pokutta, Georgia Tech, US

1 - Building adversarial examples in Neural Networks by Mixed Integer Optimization
Speaker: Matteo Fischetti, University of Padua, IT, talk 402
Co-Authors: *Jason Jo*,
2 - Mathematics of Neural Networks
Speaker: Anirbit Mukherjee, Johns Hopkins University, US, talk 1616
Co-Authors: *Amitabh Basu*, *Akshay Rangamani*, *Ashish Arora*, *Tejaswini Ganapathy*, *Trac Tran*, *Sang Chin*,
3 - Smart "Predict, then Optimize"
Speaker: Paul Grigas, UC Berkeley, US, talk 1466
Co-Authors: *Adam Elmachtoub*,
4 - Lazy Conditional Gradients through Simpler Oracles
Speaker: Sebastian Pokutta, Georgia Tech, US, talk 386
Co-Authors: *Gábor Braun*, *Daniel Zink*,

Spectral and Semidefinite Methods for Learning

Specific Models, Algorithms, and Software
Learning - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: FABRE Building: J, Ground Floor, Zone: 8

Invited Session 321
Organizer: Martin Jaggi, EPFL, CH

1 - Competitive Online Algorithms with Application to Optimal Experiment Design
Speaker: Maryam Fazel, Univ. of Washington, US, talk 1160
Co-Authors: *Reza Eghbali*, *James Saunderson*,
2 - Positive semi-definite embedding for dimensionality reduction
Speaker: Michael Fanuel, Université cath. de Louvain, BE, talk 812
3 - Variational Perspective on Local Graph Clustering
Speaker: Kimon Fountoulakis, UC Berkeley, US, talk 337
Co-Authors: *Farbod Roosta-Khorasani*, *Julian Shun*, *Xiang Cheng*, *Michael Mahoney*,
4 - Solving lp-norm regularization with tensor kernels
Speaker: Saverio Salzo, Istituto Italiano Tecnologia, IT, talk 400

Algorithms for Structured Statistical Optimization

Continuous Optimization
RandomM - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle KC6 Building: K, Intermediate 1, Zone: 10

Contributed Session 349
Chair: Ilker Birbil, Erasmus University Rotterdam, NL

1 - A Differentially Private Stochastic Gradient Descent Algorithm with Smoothing
Speaker: Ilker Birbil, Erasmus University Rotterdam, NL, talk 1448
Co-Authors: *Nurdan Kuru*, *Sinan Yildirim*,
2 - Leave-one-out approach for statistical optimization
Speaker: Lijun Ding, Cornell University, US, talk 1171
Co-Authors: *Yudong Chen*,
3 - Adaptive Sampling for Online Subspace Estimation
Speaker: Greg Ongie, University of Michigan, US, talk 1099
Co-Authors: *Laura Balzano*, *Dejiao Zhang*, *David Hong*,
4 - Approximation Methods for Bilevel Programming
Speaker: Saeed Ghadimi, Princeton University, US, talk 915
Co-Authors: *Mengdi Wang*,

Transportation networks

Specific Models, Algorithms, and Software
Network - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 18 Building: I, 1st floor, Zone: 7

Contributed Session 359
Chair: Bernard Gendron, CIRRELT DIRO Univ. Montreal, CA

1 - The network maintenance problem
Speaker: Parisa Charkhgard, The University of Newcastle, AU, talk 983
Co-Authors: *Thomas Kalinowski*, *Hamish Waterer*,
2 - Airspace sectorization by set-partitioning approach
Speaker: Yasufumi Saruwatari, University of Tsukuba, JP, talk 1221
Co-Authors: *Yoichi Izunaga*, *Takamori Ukai*, *Kota Kageyama*,
3 - Joint Transceiver Optimization for Wireless Information and Energy Transfer
Speaker: Bin Li, Sichuan University, CN, talk 1662
Co-Authors: *Yue Rong*,
4 - Node-Based Lagrangian Relaxations for Multicommodity Network Design
Speaker: Bernard Gendron, CIRRELT DIRO Univ. Montreal, CA, talk 1601
Co-Authors: *Rahim Akhavan*, *Teodor Crainic*,

Variational Analysis 2

Continuous Optimization
Variat - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle ARNOZAN Building: Q, Ground Floor, Zone: 8

Invited Session 367
Organizer: David Salas, INP-ENSIACET, FR

1 - Maximal Monotonicity Arising in Nonsmooth Lur'e Dynamical systems
Speaker: Ba Khiet Le, Universidad de O'Higgins, CL, talk 1621
Co-Authors: *Samir Adly*, *Abderrah Hantoute*,
2 - Lyapunov pairs for perturbed sweeping processes
Speaker: Emilio Vilches, Universidad de OHiggins, CL, talk 411
Co-Authors: *Abderrah Hantoute*,
3 - Proximal Algorithms in Hadamard Spaces
Speaker: Parin Chaipunya, KMUTT, TH, talk 404
Co-Authors: *Poom Kumam*,
4 - Quasi-Variational Inequality problems over product sets
Speaker: David Salas, INP-ENSIACET, FR, talk 1156
Co-Authors: *Didier Aussel*, *Kien Cao*,

Tractability and approximation algorithms in dynamic programming

Optimization under Uncertainty
Markov - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 31 Building: B, Ground Floor, Zone: 5

Contributed Session 383
Chair: Alexander Hopp, TU Darmstadt, DE

1 - Sample-Based Approximate GMDP Solution with Theoretical Guarantees
Speaker: Yann Dujardin, INRA, FR, talk 1596
Co-Authors: *Nathalie Peyrard*, *Régis Sabbadin*,
2 - An FPTAS for stochastic DPs with multidimensional action and scalar state
Speaker: Giacomo Nannicini, IBM T.J. Watson, US, talk 705
Co-Authors: *Nir Halman*,
3 - On Friedmann's subexponential lower bound for Zadeh's pivot rule
Speaker: Alexander Hopp, TU Darmstadt, DE, talk 458
Co-Authors: *Yann Disser*,

Optimization and Game Theory

Specific Models, Algorithms, and Software
Sciences - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle LA4 Building: L, Basement, Zone: 8

Invited Session 402
Organizer: Veerle Timmermans, RWTH Aachen, DE

1 - Computing Approximate Pure Nash Equilibria in Shapley Value Weighted Congestion
Speaker: Matthias Feldotto, Paderborn University, DE, talk 1306
Co-Authors: *Martin Gairing*, *Grammateia Kotsialou*, *Alexander Skopalik*,
2 - Dynamic taxes for polynomial congestion games
Speaker: Cosimo Vinci, University of L'Aquila, IT, talk 1105
Co-Authors: *Vittorio Bilò*,
3 - Competitive Packet Routing
Speaker: Bjoern Tauer, RWTH Aachen University, DE, talk 1045
Co-Authors: *Britta Peis*, *Veerle Timmermans*, *Laura Vargas Koch*, *Daniel Schmand*, *Tobias Harks*,
4 - Equilibrium Computation in Atomic Splittable Polymatroid Congestion Games
Speaker: Veerle Timmermans, RWTH Aachen, DE, talk 677

Co-Authors: *Tobias Harks*,

Linear Optimization I

Continuous Optimization
NLP - Fr 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 9 Building: N, 4th floor, Zone: 12

Contributed Session 415
Chair: Jianming Shi, Tokyo University of Science, JP

1 - A Fast Polynomial-time Primal-Dual Projection Algorithm for Linear Programming
Speaker: Zhize Li, Tsinghua University, CN, talk 1379
Co-Authors: *Wei Zhang*, *Kees Roos*,
2 - A polarity-based algorithm for solving linear programming problems
Speaker: Jianming Shi, Tokyo University of Science, JP, talk 1274
3 - An algorithm for linear programming based on the projection onto a zonotope
Speaker: Maxim Demenkov, Institute of Control Sciences, RU, talk 1437

Optimization problems in graphs and related

Discrete Optimization & Integer Programming
COMB - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 41 Building: C, 3rd floor, Zone: 1

Contributed Session 423
Chair: Claudio Arbib, University of l'Aquila, IT

1 - Critical node problem based on connectivity index and properties of components
Speaker: Xiucui Guan, southeast University, CN, talk 1640
Co-Authors: *Chao Liu*, *Binwu Zhang*, *Panos Pardalos*,
2 - Inverse Obnoxious Spanning Tree Problems under Hamming Distance
Speaker: Binwu Zhang, Hohai University, CN, talk 1639
Co-Authors: *Xiucui Guan*, *Pengxiang Zhang*,
3 - The random assignment problem on a full preference domain with submodular
Speaker: Ping Zhan, Edogawa University, JP, talk 976
Co-Authors: *Yoshio Sano*,
4 - On uncapacitated metric location and pricing
Speaker: Matteo Tonelli, Gran Sasso Science Institute, IT, talk 1067
Co-Authors: *Claudio Arbib*,

Wasserstein Distributionally Robust Optimization

Optimization under Uncertainty
Robust - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 33 Building: B, Ground Floor, Zone: 5

Invited Session 448
Organizer: Peyman Mohajerin Esfaha, TU Delft, NL

1 - Risk-Averse Optimization over Structured Wasserstein Ambiguity Set
Speaker: Viet Anh Nguyen, EPFL, CH, talk 1234
Co-Authors: *Daniel Kuhn*, *Soroosh Shafieezadeh*, *Peyman Mohajerin Esfaha*,
2 - Wasserstein DRO: Modeling and Optimal Choice of Uncertainty Size
Speaker: Jose Blanchet, Stanford University, US, talk 1518
Co-Authors: *Fan Zhang*, *Karthyek Murthy*,
3 - Data-driven Inverse Optimization with Imperfect Information
Speaker: Peyman Mohajerin Esfaha, TU Delft, NL, talk 845
Co-Authors: *Soroosh Shafieezadeh*, *Grani Hanasusanto*, *Daniel Kuhn*,

Logistics Networks

Specific Models, Algorithms, and Software
Logistics - Fr 5:00pm-6:00pm, Format: 2x20 min
Room: Salle 16 Building: I, 2nd floor, Zone: 7

Contributed Session 468
Chair: El Hassan Laaziz, ECOLE MOHAMMADIA D'INGENIEURS, MA

1 - Robust supply chain network equilibrium model with random demands
Speaker: Yasushi Narushima, Yokohama National University, JP, talk 289
Co-Authors: *Tatsuya Hirano*,
2 - Method Benchmarking for Two-Echelon Capacitated Vehicle Routing
Speaker: Guillaume Marques, Université de Bordeaux, FR, talk 1661
Co-Authors: *Ruslan Sadykov*, *Francois Vanderbeck*, *Remy Dupas*, *Jean-Christophe Deschamps*,

Decomposition II

Discrete Optimization & Integer Programming
IPpractice - Fr 5:00pm-6:30pm, Format: 4x20 min
Room: Salle 44 Building: C, 3rd floor, Zone: 1

Contributed Session 487
Chair: Natashia Boland, Georgia Institute of Technolog, US

1 - Discrete Nonlinear Optimization by State-Space Decompositions
Speaker: Andre Cire, University of Toronto, CA, talk 1357
Co-Authors: *David Bergman*,
2 - Strengthening of mixed integer linear program bounds using variable splitting
Speaker: Jens Clausen, DTU, DK, talk 501
Co-Authors: *Stefan Ropke*, *Richard Lusby*,
3 - A column generation based model to pickup and delivery problems with trans
Speaker: Cristiam Gil, Universidad de Chile, CL, talk 22
Co-Authors: *Michel Gendreau*, *Cristián Cortés*, *Pablo*

Rey,
4 - Decomposition Branching for Mixed Integer Programming
Speaker: Natashia Boland, Georgia Institute of Technolog, US, talk 1613
Co-Authors: *Baris Yildiz*, *Martin Savelsbergh*,

Topics in stochastic optimization

Optimization under Uncertainty
Stoch - Fr 5:00pm-6:30pm, Format: 3x20 min
Room: Salle 30 Building: B, Ground Floor, Zone: 5
Contributed Session 494
Chair: Quentin Mercier, Onera, FR

1 - Flexible Multi-choice Goal Programming with Fuzzy Data
Speaker: Sakina Melloul, University Centre of Maghnia, DZ, talk 69
Co-Authors: *Hocine Mouslim*,
2 - Optimal inflow control in supply systems with uncertain demands
Speaker: Kerstin Lux, University of Mannheim, DE, talk 1281
Co-Authors: *Simone Göttlich*, *Ralf Korn*,
3 - A descent algorithm for stochastic multiobjective optimization problems
Speaker: Quentin Mercier, Onera, FR, talk 1038
Co-Authors: *Fabrice Poirion*, *Jean-Antoine Désidéri*,

Global Optimization 1

Continuous Optimization
Global - Fr 5:00pm-6:30pm, Format: 3x30 min
Room: Salle 20 Building: G, 1st floor, Zone: 6
Contributed Session 501
Chair: Jean-Baptist Hiriart-Urruty, Paul Sabatier University, FR

1 - New clustering methods for large scale global optimization
Speaker: Fabio Schoen, DINFO Univ di Firenze, IT, talk 999
Co-Authors: *Francesco Bagattini*, *Luca Tigli*,
2 - Continuous Approaches to Cluster-Detection Problems in Networks
Speaker: Sergiy Butenko, Texas A&M University, US, talk 1646
3 - Computational advances in the RLT algorithms: A freely available implementation
Speaker: Julio González-Díaz, Univ. Santiago de Compostela, ES, talk 541
Co-Authors: *Brais González*, *Joaquín Ossorio-Castillo*, *Diego Martínez*, *David Penas*,

Dual Ascent

Discrete Optimization & Integer Programming
IPpractice - Fr 5:00pm-6:00pm, Format: 2x20 min
Room: Salle 36 Building: B, Intermediate, Zone: 4
Contributed Session 505
Chair: Sara Maqrot, INRA Toulouse, FR

1 - A dual ascent procedure for solving the generalized set partitioning model
Speaker: Stefania Pan, Horizontal Software, FR, talk 1269
Co-Authors: *Mahuna Akplogan*, *Lucas Letocart*, *Nora Touati*, *Roberto Wolfler Calvo*,
2 - Improving Wedelin's Heuristic with Sensitivity Analysis for Set Partitioning
Speaker: Sara Maqrot, INRA Toulouse, FR, talk 1432
Co-Authors: *Simon de Givry*, *Gauthier Quesnel*, *Marc Tchamitchian*,

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