

Scientific Program

Tuesday, October 27 :

Welcome (starting at 08:30)

09:00 Introduction by Elisabeth Crepon (Ensta ParisTech) et Pierre Pansu (FMJH)

09:15 Scientific Conference by Tamás Terlaky : Mixed-Integer Second-Order Cone Optimization (MISOCO): Disjunctive Conic Cuts (DCCs) - Theory and Experiments

10:00 Results of the PGM0 PhD prize by Benjamin Martin.

10:10 PHD Prize : talk 1

10:40 Coffee Break

11:10 Scientific conference by Coralia Cartis : Regularization methods - varying the power, the smoothness and the accuracy

11:55 Scientific conference by Alexandre Boissy (Air France) : Optimize an airline: the Air France KLM case. Why OR is a key player in concrete daily operational decisions as well as for very strategic stakes

Lunch / coffee (12:40 — 14:30)

14:30 Scientific conference by Anatoli Juditsky : Optimization problems and Variational Inequalities on domains given by Linear Minimization Oracles

15:15 Scientific conference by Jean-Paul Chabard (EDF) : The electrical system : an overview of some new challenges for optimization and operational research.

16:00 Coffee Break.

16:30 PHD Prize : talk 2 by Samuel Vaiter.

17:00 Review of PGM0 projects by Stéphane Gaubert and Sandrine Charousset.

Breaks will be the opportunity for discussion around posters describing the activities of PGM0 projects.

Wednesday, October 28 :

Parallel sessions on PGM0 main topics

Room 1

9h00-10h30 - Combinatorial 1

- Emiliano Traversi (LIPN Université Paris 13) :
QPLIB, a library of Quadratic Programming Instances
- Frédéric Meunier (CERMICS, Ecole des Ponts) :
New complexity results for colorful linear programming

- Rosa Figueredo (LIA, Université d'Avignon) :
Relevance of Negative Links in Graph Partitioning: A Case Study Using Votes From the European Parliament

11h00-12:30 - **Combinatorial 2**

- Julien Darlay and Frédéric Gardi (Innovation 24 & LocalSolver) :
Extension of the ADSL network of Bouygues Telecom
- Nicolas Beldiceanu (Mines Nantes, TASC team (CNRS/INRIA) :
Using Finite Transducers for Describing and Synthesising Structural Time-Series Constraints for Constraint Programming and Linear Programming
- Said Hanafi (Université de Valenciennes) :
Convergent Scatter Search Algorithms for 0–1 Mixed Integer Programs

14h30-16h00 - **Quadratic Programming**

- Denis Cornaz :
Equilibrated Vertex k-Separator Problem
- Sourour Elloumi (Cedric-ENSIIE) and Amélie Lambert (Cedric-Cnam) :
Exact solution of general quadratic programs through quadratic convex relaxation
- Immanuel Bomze (Department of Statistics and Operations Research (ISOR), University of Vienna) :
New formulations, relaxations and penalisations for mixed binary Qps

16h30–18h - **Combinatorial – Energy problems**

- Sandra Ulrich Ngueveu (INP Toulouse & LAAS-CNRS) :
Integration of reversible energy sources in combinatorial energy optimization problems
- Etienne Gaillard de Saint Germain (EDF R&D) :
Application of branch and price to solve the operational scheduling problem at ERDF
- Miguel Munoz Zuniga (IFPEN) :
Optimization under probabilistic constraints of complex systems – Application to the anchoring of offshore wind-turbines

Room 2

9h-10h30 - **Stochastic 1**

- René Henrion (Weierstrass Institut Berlin, Germany) :
(Sub-) gradient formulae for probability functions with Gaussian distribution
- Wim van Ackooij (EDF R&D) :
Probabilistic optimization via approximate P-efficient points and bundle methods
- Emilie Chouzenoux (Institut Gaspard Monge et Univ. Paris Est) :
Some recent results on proximal primal dual methods for convex optimization

11h-12h30 - **Robust**

- Dominikus Noll (Institut de Mathématiques de Toulouse) :
Optimization for the design of robust feedback controllers
- Michael Poss (LIRMM, CNRS) :
A Dynamic Programming Approach for a Class of Robust Optimization Problems
- Pierre-Louis Poirion (LIX-Ecole Polytechnique):
On a robust inventory problem

14h30-16h - **Stochastique 2**

- Céline Gicquel (Université Paris Saclay / Laboratoire de Recherche en Informatique) :
A stochastic programming approach for planning remanufacturing activities under uncertain demand and returns forecasts
- Francisco J. SILVA (XLIM-DMI, Université de Limoges) :
The Sakawa-Shindo Algorithm in Stochastic Control
- Dang Phuong Nguyen (LIP6 UPMC) :
Stochastic graph partitioning: Quadratic versus SOCP formulations

16h30-18h – Stochastic – Energy Problems

- Pierre Carpentier (Ensta ParisTech) and Jean-Philippe Chancelier (ENPC) :
Abstract : Dual approximate dynamic programming for large scale hydro valley

- Valentin Foucher (Ecole Polytechnique, stagiaire au CERMICS-ENPC) :
Abstract : SDDP for Energy Management in Microgrid

- Henri Gerard (Cermics ENPC) :
Abstract : Extending decomposition methods to stochastic optimization under risk

Room 3

9h-10h30 - **Games** (Session proposed by "GdR Jeux", organised by G. Vigerl)

- Sylvain Sorin (CNRS, Université Pierre et Marie Curie) :
Convergence of gradient-like and evolutionary dynamics

- Tristan Tomala (HEC Paris) :
Stochastic Revision Games : Existence of Markov Perfect Equilibria

- Vianney Perchet (Université Paris Diderot - INRIA) :
Approachability and Stochastic Games with Incomplete Information

11h-12h30 - Markets

- Luce Brotcorne (INRIA) :
How to determine new energy service prices by integrating customers behaviour?

- Miroslav Pistek (The Institute of Information Theory and Automation of the CAS, Prague, Czech Republic) :

Nash Equilibrium in Pay-as-bid Electricity Market

- Yezekael Hayel (Université d'Avignon) :
Strategic design optimization problem under stochastic user equilibrium constraints

14h30-16h - **Games** (Session proposed by "GdR Jeux", organised by G. Vigerl)

- Guillaume Vigerl (Université Paris-Dauphine, CEREMADE) :
An operator approach to zero-sum games with varying duration

- Yannick Viossat (Université Paris-Dauphine) :
Imitation dynamics and dominated strategies

- Antoine Hochart (INRIA and CMAP, Ecole Polytechnique, CNRS) :
Solvability of the ergodic equation for zero-sum games

16h30-18h - Smart-Grids

- Ana Busic (Inria Paris-Rocquencourt) :
Ancillary Service to the Grid Using Intelligent Deferrable Loads

- Didier Aussel (Université de Perpignan) :
Water and energy integration in Eco-Industrial Parks Using a Multi-Leader-Follower Approach

- Riadh Zorgati : (EDF R&D Dept. OSIRIS) :
Two Experiments for Centralized/Decentralized Management of Energy

Room 4

9h-10h30 - Online Optimisation

- Marc Renault (LIAFA, Université Paris Diderot-Paris 7) :
Star search problems

- Cedric Gouvernet (EDF R&D) :
Warmstarted Augmented Lagrangian for online short-term unit-commitment

- Kim Thang Nguyen (IBISC, Université d'Evry Val d'Essonne) :
Lagrangian Duality in Online Scheduling

11h-12h30 - **Control**

- Helene Frankowska (Institut de Mathématiques de Jussieu - Université Pierre et Marie Curie) :
Deterministic Control under State Constraints
- Hasnaa Zidani (UMA ENSTA ParisTech) :
Stochastic control problems with state constraints
- Dario Prandi :
A sub-Riemannian Santaló formula with applications to isoperimetric inequalities and Dirichlet spectral gap of hypoelliptic operators

14h30-16h - **Unit-Commitment / Learning**

- Vincent Leclère (CERMICS Ecole des Ponts) :
Sparse optimization methods for EDF intra-day problem
- Kostas Tavlaridis-Gyparakis (LIX, Ecole Polytechnique) :
MILP Approaches for the EdF Unit Commitment Problem
- Said Hanafi (Université de Valenciennes) :
A variable neighborhood descent for short-term hydro scheduling

16h30-18h - **Optimal control and beyond**

- Terence Bayen (Laboratoire Montpelliérain Alexander Grothendieck, Université Montpellier) :
About Moreau-Yosida regularization of the minimal time crisis problem
- Matthieu Bonnivard (Université Paris 7) :
Phase-field approximation of optimal networks
- Axel Kroener (Inria-Saclay and CMAP, Ecole Polytechnique, France) :
Optimal control of a bilinear system with application to the Schroedinger equation

Room 5

9h-10h30 - **Black-Box and derivative free**

- Cedric Malherbe (CMLA, ENS Cachan) :
On the complexity of derivative free methods
- Carola Doerr (CNRS, LIP6 Université Pierre et Marie Curie) :
Analyzing the Drawbacks of Elitist Behavior in Black-Box Optimization
- Ider Tseveendorj (Université de Versailles Saint Quentin en Yvelines) :
Use of spherical sets for nonconvex optimization

11h-12h30 - **Statistics and Optimization**

- Alexandre Gramfort (LTCI, CNRS, Télécom ParisTech, Université Paris-Saclay) :
Mind the duality gap: safer rules for the Lasso
- Emile Contal (CMLA, ENS Cachan) :
Optimization with gaussian processes via chaining
- Michel Barlaud (Université de Nice Sophia Antipolis) :
Constrained Neyman Pearson Classification

14h30-16h - **Polynomial systems and Optimization**

- Jean-Bernard Lasserre (LAAS-CNRS & Institute of Mathematics, University of Toulouse) :
A bounded degree SOS hierarchy for polynomial optimization
- Alain Jacquemard (POLSYS team INRIA Paris LIP6 UPMC) :
Algebraic issues in the contrast problem in Nuclear Magnetic Resonance.

- Vianney Boeuf (INRIA & CMAP – Ecole Polytechnique) :
Performance Evaluation of an Emergency Call Center: Tropical Polynomial Systems applied to Timed Petri Nets

16h30-18h - **Energy**

- Roberto Wolfler (LIPN université Paris 13) :
Column and row generation for stochastic optimization
- Arnaud Lenoir :
A computational framework for decomposition-based algorithms in energy management