



### Monday, November 13<sup>th</sup>

**Welcome coffee** (starting at 08:30)

- 09:00 :** Introduction by **Jean-Paul CHABARD** (Scientific Director EDF R&D) and **Pierre Pansu** (FMJH)
- 09:20 :** Optimization and Games in Congested Networks, **Roberto COMINETTI** (UAI, Santiago)
- 10:10 :** PGMO PhD prize ceremony part 1
- 10:20 :** PhD Prize : talk 1 by **Vincent COHEN-ADDAD**
- 10:50 :** Coffee Break
- 11:20 :** Regaining tractability in some large scale/uncertain engineering optimization problems, **Aharon BEN-TAL** (Technion, Tel Aviv)
- 12:10 :** Stakes and overview of research works in Artificial Intelligence and Operations Research at Orange, **Henri SANSON** (Orange)

**Lunch / Coffee** (13:00 — 14:30)

- 14:30 :** Robust Solution Approaches for Challenging Network Optimization and Air-Traffic Management Problems, **Frauke LIERS** (FAU Erlangen-Nürnberg)
- 15:20 :** Risk-Averse Control of Markov Systems, **Andrzej RUSZCZYŃSKI** (Rutgers)
- 16:10 :** Coffee Break
- 16:40 :** PGMO PhD prize ceremony part 2
- 16:45 :** PGMO PhD Prize : talk 2 by **Joon KWON**
- 17:15 :** Review of the PGMO program, and of the IROE and IRSDI research initiatives,

### Tuesday, November 14<sup>th</sup>

• 09:00-10:30

- Room A1.140 : Optimal control and applications to biology** (Invited Session, organized by Jean-Baptiste Caillaud)  
**Clément Moreau, Laetitia Giraldi, Pierre Lissy and Jean-Baptiste Pomet** - Controllability of a Magneto-Elastic Micro-Swimmer
- Cécile Carrère** - Optimization and control of heterogeneous tumors
- Francis Mairet** - Optimal resource allocation for bacterial growth
- Room A1.134 : Telecom 1** (Invited Session, organized by Eric Gourdin and Walid Ben-Ameur)  
**Swappil Dhamal, Walid Ben-Ameur, Tijani Chahed and Eitan Altman** - A Framework for Optimal Investment Strategies for Competing Camps in a Social Network
- Antonia Maria Masucci and Alonso Silva** - Advertising Competitions in Social Networks
- Vincent Angilella, Matthieu Chardy and Walid Ben-Ameur** - Fiber Cables Network Design
- Amphithéâtre 1 : Mean Field Games and applications 1** (Invited Session, organized by Daniela Tonon, Francisco José Silva Alvarez and Filippo Santambrogio)  
**Daniela Tonon and Marco Cirant** - Aggregation in Mean Field Games
- Elisabetta Carlini and Francisco José Silva Alvarez** - On the discretization of some nonlinear Fokker-Planck-Kolmogorov equations and applications
- Guilherme Mazanti and Filippo Santambrogio** - Minimal time mean field games
- Amphithéâtre 2 : Data science for industry 1** (Invited Session, organized by George Hébrail, Michel Prenat and Gilles Stoltz)  
**Julien Jacques, Charles Bouveyron, Laurent Bozzi and Francois-Xavier Jollois** - Model-Based Functional Co-Clustering for the Analysis and the Prediction of Electric Power Consumption
- Albert Bifet and Dihia Boulegane** - Building a Platform for Data Science Competitions on Data Streams
- Benjamin Auder, Jairo Cugliari, Yannig Goude and Jean-Michel Poggi** - Disaggregated Electricity Forecasting using Clustering of Individual Consumers
- Room A1.133 : Equilibria and information (Equilibrium and Decentralization)**  
**Henri Gerard, Vincent Leclere and Andy Philpott** - On risk averse competitive equilibrium
- Michel De Lara and Olivier Gossner** - How much is information worth? An insight using duality between choices and beliefs
- Paulin Jacquot and Cheng Wan** - Splittable Routing Congestion Games: Convergence of n-players Instances to a Nonatomic Instance
- Room A1.128 : Continuous multiobjective optimization of expensive-to-evaluate functions** (Invited Session, organized by GDR MASCOT-NUM)  
**David Gaudrie, Victor Pichery, Rodolphe Le Riche, Benoît Enaux and Vincent Herbert** - Targeting Well-Balanced Solutions in Multi-Objective Bayesian Optimization under a Restricted Budget
- Dimo Brockhoff** - On Numerical Benchmarking of Multiobjective Blackbox Optimizers
- Paul Feliot, Julien Bect and Emmanuel Vazquez** - User preferences in Bayesian multi-objective optimization
- Room A1.122 : Numerical Optimal Transport 1** (Invited Session, organized by Marco Cuturi & Gabriel Peyré)  
**Mathieu Carrière, Marco Cuturi and Steve Oudot** - A Gaussian Type Kernel for Persistence Diagrams
- Francois-Xavier Vialard** - Optimal transport of vector valued measures
- Aude Genevay** - Learning Generative Models with the Wasserstein Distance
- Room A1.139 : Operational Research** (Invited Session, organized by Alain Quilliot, on behalf of GDR RO)  
**Alain Quilliot** - Network Flow Oriented Approaches for Vehicle Sharing Relocation Problems
- Emmanuel Hyon and Alain Jean-Marie** - Optimal Admission in Service in a Queue with Impatience and Set Up Costs.
- Christian Artigues** - Scheduling under energy constraints and objectives
- Room A1.116 : Operational Research - Mining**  
**Zacharie Ales, Arnaud Knippel and Alexandre Pauchet** - Extraction and partitioning for regularity extraction: application to dialogue analysis
- Ekaterina Arafalova, Nicolas Beldiceanu and Helmut Simonis** - Mining and Proving Conjectures: Discovering Invariants on Integer Sequences (with an application for short term replanification)
- Luca Mossina and Emmanuel Rachelson** - Application of Machine Learning Algorithms to the Generation of Sub-problems in Combinatorial Optimization

• 11:00-13:00

- Room A1.140 : Optimal Control and Identification**  
**Helene Frankowska, Haisen Zhang and Xu Zhang** - First and Second Order Necessary Optimality Conditions in Stochastic Optimal Control Problems with End-Point Constraints
- Emilien Flayac, Karim Dahia, Bruno Hérisse and Frédéric Jean** - Nonlinear Fisher Particle Output Feedback Control and its application to Terrain Aided Navigation
- Cédric Rommel, Frédéric Bonnans, Baptiste Gregorutti and Pierre Martinon** - Multi-task Bolasso based aircraft dynamics identification
- Nikolas Stott and Stéphane Gaubert** - Tropical Kraus maps for optimal control of high-dimensional switched systems
- Room A1.134 : Telecom 2** (Invited Session, organized by Eric Gourdin and Walid Ben-Ameur)  
**Francesco De Pellegrini, Lorenzo Maggi, Antonio Massaro, Damien Sucez, Jérémie Leguay and Eitan Altman** - Learning how to segment flows in the dark
- Dimitri Papadimitriou** - Decomposability in Adjustable Robust Optimization
- Fabio D'Andreagiovanni, Rosario Garroppo and Maria Grazia Scutella** - Multiband Robust Optimization for the Green Design of Wireless Local Area Networks
- Amphithéâtre 1 : Game Theory 1** (Invited Session, organized by Miquel Oliu-Barton, on behalf of GdR Jeux)  
**Riccardo Colini-Baldeschi, Roberto Cominetti, Panayotis Mertikopoulos and Marco Scarsini** - The price of anarchy in light and heavy traffic: When is selfish routing bad?
- Xavier Venel and Bruno Ziliotto** - Strong uniform value in gambling houses and Partially Observable Markov Decision Processes
- Heinrich Nax** - Payoff-based dynamics in transferable-utility matching markets
- Bary Pradelsky** - Micro influence and macro dynamics of opinion formation
- Amphithéâtre 2 : Data science for industry 2** (Invited Session, organized by George Hébrail, Michel Prenat and Gilles Stoltz)  
**Themis Palpanas, Niklas Boers, Edouard Mehman and Paul Bonio** - Very Large Time Series Analysis for Predictive Maintenance
- Philippe Besse, Brendan Guillouet and Jean-Michel Loubes** - Destination Prediction by Trajectory Distribution Based Model
- Yann Amice, Mireille Bossy, Djibril Geye, Blainde L'Hévéder, Farès Omari and Denis Talay** - Single and multi-site modeling of temperature fluctuations with a Markov switching model based on coupled meteorological variables. Calibration and application for Metropolitan France
- Claire Vernade, Olivier Cappe and Vianney Perchet** - Stochastic Bandit Models for Delayed Conversions
- Room A1.133 : Leader-Follower problems and optimisation - theory (Equilibrium and Decentralization)**  
**Gemayzel Bouza Allende** - A note on genericity multi-leader-one follower problems
- Wim van Ackooij, Rene Henrion, Alexander Kruger, Welington de Oliveira, Claudia Sagastizabal and Michel Thera** - A DC Programming Approach for Economic Dispatch Problems in a Bilevel Environment
- Didier Aussel** - When quasi-variational inequalities can be solved as variational inequalities: the case of a Radner equilibrium problem
- Room A1.128 : Continuous Optimization for Machine Learning** (Invited Session, organized by Joseph Salmon)  
**Jean-Christophe Pesquet** - A Random Block-Coordinate Douglas-Rachford Splitting Method with Low Computational Complexity for Binary Logistic Regression
- Ahmet Alacaoglu, Volkan Cevher, Olivier Fercoq and Quoc Tran-Dinh** - Smooth Primal-Dual Coordinate Descent Algorithms for Nonsmooth Convex Optimization
- Robert Mansel Gower** - A new look at stochastic variance reduced gradient methods
- Sébastien Gadat and Fabien Panloup** - Non-asymptotic bound for stochastic averaging
- Ana Paula Chorobura, Wim van Ackooij, Claudia Sagastizabal and Hasnaa Zidani** - Energy Management Systems and Demand Response

- Room A1.122 : Numerical Optimal Transport 2** (Invited Session, organized by Marco Cuturi & Gabriel Peyré)  
**Quentin Mérigot, Bo'az Klartag and Filippo Santambrogio** - Numerical resolution through optimization of  $\det D^2u = f(u)$
- Johannes Wimmer and Francis Bach** - Sharp asymptotic and finite-sample rates of convergence of empirical measures in Wasserstein distance
- Nicolas Courty, Rémi Flamary and Bharath Bhushan Dhamodaran** - Toward Large-Scale Domain Adaptation with Optimal Transport Strategies
- Room A1.138 : Optimal control of PDEs and related fields 1** (Invited Session, organized by Axel Kroener, Hasnaa Zidani)  
**Sabine Jecthain and Valeriya Jukina** - Weighted Functional Spaces in Infinite Horizon Optimal Control Problems
- Thomas Brunet, Karl Pflüger and Laurent Brether** - Policy Gradient Feedback Laws for Infinite-dimensional Bilinear Optimal Control Problems
- Yannig Goude, Frédéric Bonnans and Axel Kroener** - Second order optimality conditions in semiconvex setting for bilevel optimal control problems with control bounds and singular arcs
- Room A1.134 : Telecom 3** (Invited Session, organized by Eric Gourdin and Walid Ben-Ameur)  
**Yannig Goude, Frédéric Bonnans and Axel Kroener** - The U-Synchro: Evolutionary Algorithm with Self-Adjusting Mutation Rate
- Jean Bernard Eyraud, Marianne Akian, Mustapha Bouthout, Stéphane Gaubert and Gleb Koshevoy** - Price incentives in mobile data networks: bilevel programming, competitive equilibria and discrete convexity
- Cristina Bazgan, Paul Beaulean and Eric Gourdin** - Relaxation and Rounding for Epidemic Defense
- Mohamed Hassine Naeemouchi, Ridha Mahjoub and Nancy Perrot** - The Proactive Countermeasure Selection Problem: Bilevel Programming and Polyhedral Investigation
- Christophe Rapine, Pierre Gicquel and Safia Kedad-Sidhoum** - Stochastic lot-sizing for remanufacturing: a multi-stage stochastic integer programming approach
- Room A1.128 : Mean field games and applications** (Invited Session, organized by Daniela Tonon, Francisco José Silva Alvarez and Filippo Santambrogio)  
**Maxime Grangereau, Ana Busic, David Beranovic, Simone Di Marino and Luca Nenna** - Quadratic Mean Field Games and Entropy Minimization Problems for Continuous Constrained Control
- Luca Nenna, David Beranovic, Guillemes Sulfar and Simone Di Marino** - Quadratic Mean Field Games and Entropy Minimization.
- Part II: Numerics**
- Charles Bertucci** - Variational inequalities in mean field games
- Amphithéâtre 2 : Optimization and Statistics 1 (theory oriented)**  
**Daniel Davarnia and Gerard Cornuejols** - From estimation to optimization: a journey via shrinkage
- Mathurin Massias, Olivier Fercoq, Alexandre Gramfort and Joseph Salmon** - Generalized Concomitant Multi-Task Lasso for sparse multimodal regression
- Philip Thompson and Roberto I. Oliveira** - Sample average approximation under heavier-tails and stochastic constraints
- Room A1.133 : Stochastic decomposition and dynamic programming (Equilibrium and Decentralization)**  
**Tristan Rigaut, Jean Philippe Chancelier, Pierre Carpentier and Michel De Lara** - Two-Time Scales Stochastic Dynamic Optimization
- Francois Pacaud, Pierre Carpentier, Jean-Philippe Chancelier and Arnaud Lenoir** - Optimization of energy production and transport - A stochastic decomposition approach
- Phillippe Mahey, Jonas Koko, Arnaud Lenoir and Marion Lémy** - Centralized and decentralized strategies for a stochastic energy production planning problem
- Room A1.128 : Risk aversion and markets**  
**Mustafa Pinar** - Robust Bilateral Trade over 0/1 Polytopes
- Georg Pflug, Daniela Escobar and Martin Glanzer** - Incorporating Model Error in the Management of Financial and Electricity Portfolios
- Md Umar Hashmi, Arpan Mukhopadhyay, Ana Busic and Jocelyne Elias** - Optimal Control of Storage under Time Varying Electricity Prices
- Room A1.122 : Numeric and Symbolic Convex Programming for Polynomial Optimization 1** (Invited Session, organized by Victor Magron)  
**Victor Magron, Marcelo Forets and Didier Henrion** - Semidefinite Characterization of Invariant Measures for Polynomial Systems
- Milan Korda, Didier Henrion and Colin Jones** - Convergence rates of moment-sum-of-squares hierarchies for optimal control problems
- Simone Naldi and Daniel Plaumann** - Exact Algorithms: from Semidefinite to Hyperbolic Programming
- Room A1.139 : Operational Research - Lot sizing**  
**Christophe Rapine, Bernard Penz, Céline Gicquel and Aysé Akbalik** - Polynomial time algorithms for the lot-sizing problem under energy constraints
- Franco Quezada, Céline Gicquel and Safia Kedad-Sidhoum** - Stochastic lot-sizing for remanufacturing: a multi-stage stochastic integer programming approach
- Nabil Absi, Christian Artigues, Safia Kedad-Sidhoum, Sandra Ulrich Nguveueu and Omar Saadi** - Complexity Analysis of Lot-Sizing Models for Energy Management
- Room A1.116 : Combinatorial optimization and Mathematical Programming**  
**Yann Briheche, Frederic Barbaresco, Fouad Bennis and Damien Chablat** - Reduction methods for grid cover problem used in radar applications
- Viet Hung Nguyen and Paul Weng** - An Efficient Primal-Dual Algorithm for Fair Combinatorial Optimization Problems
- Youssef Magnouche, Ali Ridha Mahjoub and Sébastien Martin** - The multi-terminal vertex separator problem

• 16:15 – 17:45

- Room A1.140 : Optimal control of PDEs and related fields 2** (Invited Session, organized by Axel Kroener and Hasnaa Zidani)  
**Daria Ghilji and Karl Kunisch** - Theory and numerical practice for optimization problems involving lp-functionals, with p in (0,1]
- Soheil Hajian, Michael Hintermüller and Caroline Löbhard** - A function space based solution method with space-time adaptivity for parabolic optimal control problems with state constraints
- Denis Arzelier, Miaoara M. Joldes, Aude Rondepierre and Romain Serra** - Computing fuel optimal impulsive maneuvers for collision avoidance : an approach by chance-constrained optimization
- Room A1.134 : Semidefinite Programming and applications**  
**Michal Kocvara** - Numerical tools for very large scale topology optimization
- Assalé Adié and Pierre-Loïc Garoche** - Semi-Definite Programs for Discrete-time Piecewise Affine Systems
- Arnaud Lazare, Sourour Elloumi and Amélie Lambert** - Optimisation globale de programmes polynomiaux en variables binaires
- Amphithéâtre 1 :**  
**Game Theory 2** (Invited Session, organized by Miquel Oliu-Barton, on behalf of GdR Jeux)  
**Bruno Ziliotto and Miquel Oliu-Barton** - Constant payoff in zero-sum stochastic games
- Lorenzo Bastianello and Marco Licalzi** - The probability to reach an agreement as a foundation for axiomatic bargaining
- Game Theory 3**  
**Wei Zhao, Yang Sun and Junjie Zhou** - Optimal bridge players among separated networks
- Amphithéâtre 2 : Optimization and Statistics (oriented towards applications)**  
**Arnaud Cadas and Ana Busic** - An online disaggregation algorithm and its application to demand control
- Michel Barlaud, Jean-Baptiste Caillaud and Cyprien Gilet** - Clustering with feature selection in biology
- Adrien Spagnol, Rodolphe Le Riche, Sébastien Da Veiga and Olivier Roustant** - Global sensitivity analysis for optimization with variable selection
- Room A1.133 : Bilevel optimisation (Equilibrium and Decentralization)**  
**Léonard von Niederhäusern, Didier Aussel and Luce Brotcorne** - A trilevel pricing model for demand side management
- Jérôme De Boeck, Martine Labbé, Patrice Marcotte, Etienne Marcotte and Gilles Savard** - Dynamic programming approach for bidding problems on day-ahead markets
- Luce Brotcorne, Fabio D'Andreagiovanni, Jérôme De Boeck and Bernard Fortz** - Unit Commitment under Market Equilibrium Constraints
- Room A1.128 : Batteries in the future energy system**  
**Maxime Grangereau and Emmanuel Gobet** - Optimal management under uncertainty of microgrid equipped with PV panels and battery: resolution using McKean-FBSDE
- Ana Busic, Md Umar Hashmi and Sean Meyn** - Distributed control of a fleet of batteries
- Room A1.122 : Numeric and Symbolic Convex Programming for Polynomial Optimization 2** (Invited Session, organized by Victor Magron)  
**Didier Henrion, Mohab Safey El Din and Eric Schost** - Polynomial optimization tools for answering connectivity queries in real algebraic sets
- Timotei Woff, Sadik Iliman and Mareike Dressler** - A New Approach to Nonnegativity and Polynomial Optimization
- Room A1.139 : Operational Research - Stochastic Optimization**  
**Jesús Rodríguez, Miguel Ángel, Pascal Côté and Guy Desaulniers** - New Formulations for the Generator Maintenance Scheduling in Hydropower Systems
- Thibault Séjourné, Samitha Samaranyake and Siddhartha Banerjee** - Estimating the Loss of Efficiency due to Competition in Mobility on Demand Markets
- Benjamin Lacroix, John McCall and Jérôme Lonchamps** - Using non-parametric statistical tests to compare solutions in evolutionary framework for maintenance schedule optimisation
- Room A1.116 : Unit Commitment - Shortest constrained paths**  
**Markus Kruber, Axel Parmentier and Pascal Benchimol** - Resource constrained shortest path algorithm for EDF short-term thermal production planning problem
- Wim Van Ackooij, Claudia D'Ambrosio, Leo Liberti, Raouia Taktak, Dimitri Thomopoulos and Sonia Toubaline** - Shortest Path Problem variants for the Hydro Unit Commitment Problem
- Rodolphe Griset, Pascale Bendotti, Boris Detienne, Hugo Gevret, Marc Porcheron, Halil Sen and François Vanderbeck** - Nuclear Power Plant Outage Planning: combining Dantzig-Wolfe and Benders decomposition to solve a large-scale industrial stochastic problem

