Room A1.139 : Operational Research - Lot sizing
Christophe Rapine, Bernard Penz, Céline Gicquel and Ayse 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 Ngueveu 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
Youcef 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 Ghilli 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, Mioara 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 Adjé 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 Caillau 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, Étienne 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
Ana Paula Chorobura, Wim van Ackooij, Claudia Sagastizábal and Hasnaa Zidani - Energy Management Systems and Demand Response
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 Éric Schost - Polynomial optimization tools for answering connectivity queries in real algebraic sets
Timo de Wolff, Sadik Iliman and Mareike Dressler - A New Approach to Nonnegativity and Polynomial Optimization

Room A1.139 : Operational Research – Stochastic Optimization
Jesús Rodriguez, Miguel Anjos, Pascal Côté and Guy Desaulniers - New Formulations for Generator Maintenance Scheduling in Hydropower Systems
Thibault Séjourné, Samitha Samaranayake and Siddhartha Banerjee - Estimating the Loss of Efficiency due to Competition in Mobility on Demand Markets
Benjamin Lacroix, John McCall and Jérôme Lonchampt - 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 Thomopulos 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

PGMO DAYS 2017 - PROGRAM

GASPARD MONGE PROGRAM FOR OPTIMIZATION, OPERATIONS RESEARCH AND THEIR INTERACTIONS WITH DATA SCIENCES

Monday, November 13th

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, by **Sandrine Charousset**, **Stéphane Gaubert, Georges Hébrail** and **Michel Prenat**.

Tuesday, November 14th

• 09:00-10:30

Room A1.140 : Optimal control and applications to biology (Invited Session, organized by Jean-Baptiste Caillau)
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)
Swapnil 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 Picheny, 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 Arafailova, 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 Hérissé 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 Saucez, 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 Mehlman and Paul Boniol - 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, Blandine 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)
Gemayqzel 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 byJoseph 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

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)
Jonathan Weed and Francis Bach - Sharp asymptotic and finite-sample rates of convergence of empirical measures in Wasserstein distance
Nicolas Courty, Rémi Flamary and Bharath Bhushan Damodoran - Toward Large-Scale Domain Adaptation with Optimal Transport Strategies

Room A1.139 : Operational Research - Heuristics
Carola Doerr - Boosting Discrete Optimization Heuristics through Non-Static Parameter Choices}---A Survey of Empirical and Theoretical Results
Benjamin Doerr, Huu Phuoc Le, Regis Makhmara and Ta Duy Nguyen - Fast Genetic Algorithms
Benjamin Doerr, Christian Gießen, Carsten Witt and Jing Yang - The (1+λ)~Evolutionary Algorithm with Self-Adjusting Mutation Rate
Eduardo Carvalho Pinto and Carola Doerr - Towards a More Practice-Aware Theory for Evolutionary Algorithms

Room A1.116 :
Complexity and graphs
Bruno Escoffier - Stability versus Optimality in Optimization over Time
Cristina Bazgan, Sonia Toubaline and Daniel Vanderpooten - Most Critical Elements for Optimization Problems
Algorithms Evaluation
Phillipe Sampaio, Nikolaus Hansen, Dimo Brockhoff, Anne Auger and Asma Atamna - A Methodology for Building Scalable Test Problems for Continuous Constrained Optimization
Spyros Angelopoulos, Marc Renault and Pascal Schweitzer - Stochastic dominance and the bijective ratio of online algorithms

• 14h15 – 15h45

Room A1.140 : Optimal control of PDEs and related fields 1 (Invited Session, organized by Axel Kroener, Hasnaa Zidani)
Sabine Pickenhain and Valeriya Lykina - Weighted Functional Spaces in Infinite Horizon Optimal Control Problems
Tobias Breiten, Karl Kunisch and Laurent Pfeiffer - Polynomial Feedback Laws for Infinite-Dimensional Bilinear Optimal Control Problems
Maria Soledad Aronna, J. Frédéric Bonnans and Axel Kroner - Second order optimality conditions in semigroup setting for bilinear optimal control problems with control bounds and singular arcs

Room A1.134 : Telecom 3 (Invited Session, organized by Eric Gourdin and Walid Ben-Ameur)
Jean Bernard Eytard, Marianne Akian, Mustapha Bouhtou, Stephane Gaubert and Gleb Koshevoy - Price incentives in mobile data networks: bilevel programming, competitive equilibria and discrete convexity
Cristina Bazgan, Paul Beaujean and Eric Gourdin - Relaxation and Rouding for Epidemic Defense
Mohamed Yassine Naghmouchi, Ridha Mahjoub and Nancy Perrot - The Proactive Countermeasure Selection Problem: Bilevel Programming and Polyhedral Investigation

Amphithéâtre 1 : Mean field games and applications 2 (Invited Session, organized by Daniela Tonon, Francisco José Silva Alvarez and Filippo Santambrogio)
Guillaume Carlier, Jean-David Benamou, Simone Di Marino and Luca Nenna - Quadratic Mean Field Games and Entropy Minimization. Part I: Theory
Luca Nenna, Jean-David Benamou, Guillaume Carlier 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)
Danial 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
François Pacaud, Pierre Carpentier, Jean-Philippe Chancelier and Arnaud Lenoir - Optimization of energy production and transport - A stochastic decomposition approach
Philippe Mahey, Jonas Koko, Arnaud Lenoir and Marion Lémery - 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