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# Curriculum Vitæ

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## 1 Short Curriculum Vitae

### Personal information

Gautier Stauffer  
Born on July 19th, 1976  
French and Swiss citizen.  
<http://pagesperso.g-scop.fr/~stauffeg>



### Education

2011 Habilitation Thesis. School of Mathematics and Computer Science, U. of Bordeaux, France.  
2005 PhD in Applied Mathematics. PhD Supervisor : Tom Liebling. EPFL, Switzerland.  
2000 Master in Computer Science. ISIMA (French Grande Ecole<sup>1</sup>), Clermont-Ferrand, France

### Current position

Since 2012 - Associate Professor of Discrete Math. and Operations Research. Grenoble INP, France  
Associate Member of Inria team REALOPT, Bordeaux, France

### Previous positions

2009 - 2012 Assistant Professor of Applied Mathematics (on an INRIA Chair of Excellence). Univ. of Bordeaux.  
2007 - 2009 IBM Research Staff Member. IBM Zurich Research Lab, Switzerland.  
2006 - 2007 Post-Doctoral Fellow (with Prof. Goemans). MIT, Cambridge USA.

### Visiting positions

2007-12 University of Rome Tor Vergata (Prof. Oriolo). Italy. Visiting researcher. 4 months.  
2011 University of Florence (Prof. Schoen). Italy. Visiting researcher. 4 months  
2010 TU Darmstadt (Prof. Pokutta). Germany. Visiting researcher. 2 weeks.

### Fundings & Fellowships

2015 Mentor Graphics. Collaboration contract 60'000 EUR over 3 years at Grenoble INP  
2013 GALOIS project. Persyval lab 250'000 EUR over 4 years (9 participants)  
2013 AGIR. Grenoble Innovation Recherche 24'000 EUR over 2 years at Grenoble INP  
2009 INRIA Chair of Excellence. INRIA : 125'000 EUR over 5 years at University of Bordeaux  
2006 SNF Postdoctoral Fellowship. Swiss National Fund : 40'000 CHF for one year at MIT  
2003 SNF Doctoral Fellowship. Swiss National Fund : 150'000 CHF over 3 years at EPFL

### Research Network

2016 European Network for Collaboration on Kidney Exchange (COST Action)

### Supervision of graduate students and postdoctoral fellows

Currently advising 3 PhD thesis (50 to 100%) : 1 Industrial (since 2014) and 2 Academic (since 2015 and 2016).  
Scientific Guidance (30 to 50%) to 5 PhD students from MIT(×2)/U. Rome(×2)/Grenoble INP.  
Advisor of 4 Master Students (100%). EPFL(×2)/Grenoble INP(×2)

### Teaching activities

2015 CUSO Summer Seminar 2015. PhD Program. Zinal, Switzerland. 6+6 hours.  
2002 - 2015 EPFL, HEC Geneva, University of Bordeaux & Grenoble INP  
Discrete maths, operations research, combinatorial optimization, network flows, algorithmic, linear algebra, production management, decision process, algorithms, optimization.  
Bachelor & Master students. ~ 1000 hours.

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<sup>1</sup>[https://en.wikipedia.org/wiki/Grandes\\_ecoles](https://en.wikipedia.org/wiki/Grandes_ecoles)

**Organization of scientific meetings**

2010 - present Cargese Workshop in Combinatorial Optimization. Corsica, France.

Together with three colleagues from University of Rome 'Tor Vergata', Free University of Brussels and IASI Rome, we started a series of cutting-edge workshops in combinatorial optimization. The goal of these workshops is to bring together a small group (30-70) of excellent international researchers together with a few leading experts around a hot topic.

**Institutional responsibilities**

2016-... School Board, Ensimag, France (elected)

2015-... Co-head (50%) of Master ROCO (Oper. Research and Comb. Opt.). Grenoble.

2014-... Laboratory Advisory Board, G-Scop, France (elected).

2014-... Financial Manager of the Combinatorial Optimization group, G-Scop, Grenoble, France.

2010-12 Member of the Scientific Council. Institute of Mathematics, Bordeaux

2010-12 Deputy of Project Team REALOPT. INRIA, Bordeaux.

2009-11 Responsible for Student Internships. Master of Applied Math. University of Bordeaux

2008-09 Organizer of Academic Seminars in Inventory Control, IBM Zurich Research Lab

**Commission of trust**

2017<sup>2</sup>-... Odd year organizing committee of Aussois Combinatorial Optimization Workshop<sup>3</sup>

2017-... LAGOS (Latin and American Graph and Opt. Symposium). Scientific Committee.

2015-... Editorial Board, Discrete Optimization<sup>4</sup>

2013-... Reviewer for ANR projects (French Research Agency)

2012-14 PhD thesis committees. Grenoble INP. President (×1) and Evaluator (×1)

2012-13 EURO Excellence in Practice Award. President (×1) and Member of the jury (×1).

Referee for Operations Research, Mathematics of Operations Research, Mathematical Programming, Journal of Computing, SIAM Journal on Discrete Mathematics, Discrete Applied Mathematics, Journal of Combinatorial Theory B, Transportation Research C, RAIRO - Operations Research, Mathematical Methods for Operations Research, Discrete Optimization, International Symposium on Combinatorial Optimization (ISCO), Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), Algorithmica.

**Honors**

2012 Robert Faure 2nd Prize. Early career prize in Operations Research, France (age  $\leq 35$ )

2005 PhD Thesis nominated for best doctoral prize EPFL (among all areas of science).

2000 ISIMA Best Student Prize : Highest GPA in my class.

**Ongoing Industrial Collaborations**

Mentor Graphics (Thèse CIFRE Dehia Ait-Ferhat), Fédération Française de Golf (Thèse Matthieu Guillot), Agence Française de la Biomédecine (Thèse Lucie Pansart).

**Major international collaborations (2 or more joint papers)**

Friedrich Eisenbrand (EPFL), Yuri Faenza (Columbia University), Gianpaolo Oriolo (U. of Rome Tor Vergata), Sebastian Pokutta (Georgia Tech), Paolo Ventura (CNR, Rome).

**Unsuccessful proposals (but valuable experience)**

Submission of an ERC Consolidator Grant in February 2016 (ranked B).

**Career breaks**

September 1 2013 – August 31st 2014 (12 months)

Leave of absence for conducting personal projects : baking, farming, travelling, renovation.

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<sup>2</sup>Handover in January 2017

<sup>3</sup>The 'Mecca' in Combinatorial Optimization <http://www.iasi.cnr.it/aussois/web/index.php/home/>

<sup>4</sup>Best quartile (Q1) in my field of research according to SJR journal ranking

## 2 Publications

### Published

- [1] Luciano Muller Nicoletti, Gautier Stauffer, and Jean-Philippe Vial. An Industrial Cutting Stock Problem. In M. Breton and G. Zaccour, editors, *Decision and Control in Management Science*. kluwer, 2002.
- [2] Thomas Liebling, Gianpaolo Oriolo, Bianca Spille, and Gautier Stauffer. On the Stable Set Polytope of Claw-free and Circulant Graphs. *Mathematical Methods of Operational Research*, 59:25–35, 2004.
- [3] Gautier Stauffer and Thomas Liebling. The Winding Road towards a Characterization of the Stable Set Polytope for Claw-Free Graphs. In *Proceedings of the Latin-American Conference on Combinatorics, Graphs and Applications*, volume 18 of *Electronic Notes in Discrete Mathematics*, pages 213–218. Elsevier, 2004.
- [4] Friedrich Eisenbrand, Gianpaolo Oriolo, Gautier Stauffer, and Paolo Ventura. Circular-one matrices and the stable set polytope of quasi-line graphs. In *Proceedings of the 11th IPCO Conference*, Lecture notes in computer science, pages 291–305. Springer, 2005.
- [5] Friedrich Eisenbrand, Gianpaolo Oriolo, Gautier Stauffer, and Paolo Ventura. The stable set polytope of quasi-line graphs. *Combinatorica*, 28:45–67, 2008.
- [6] Gianpaolo Oriolo, Ugo Pietropaoli, and Gautier Stauffer. A new algorithm for the maximum weighted stable set problem in claw-free graphs. In *Proceedings of the 12th IPCO Conference*, Lecture notes in computer science, pages 77–96. Springer, 2008.
- [7] Gianpaolo Oriolo and Gautier Stauffer. Clique-Circulant for the Stable Set Polytope of Quasi-line Graphs. *Mathematical Programming, Series A*, 115:291–317, 2008.
- [8] Gautier Stauffer. The p-median Polytope of Y-free Graphs: An Application of the Matching Theory. *Operations Research Letters*, 36:351–354, 2008.
- [9] Sebastian Pokutta and Gautier Stauffer. France Telecom Workforce Scheduling problem : A Challenge. *RAIRO Operational Research*, 43:375–386, 2009.
- [10] Yuri Faenza, Gianpaolo Oriolo, and Gautier Stauffer. A  $O(n^3)$  algorithm for the stable set problem in claw-free graphs. In *Proceedings of SODA 2011 Conference*, pages 630–646, 2011.
- [11] Yuri Faenza, Gianpaolo Oriolo, Gautier Stauffer, and Paolo Ventura. Stable Sets in Claw-free Graphs : A Journey Through Algorithms and Polytopes. In Ridha Majhoub, editor, *Progress in Combinatorial Optimization*. 2011.
- [12] Gianpaolo Oriolo, Gautier Stauffer, and Paolo Ventura. Stable set in claw-free graphs: recent achievement and future challenges. *Optima*, 86:1–8, 2011. (invited survey).
- [13] Sebastian Pokutta and Gautier Stauffer. Lower bounds for the Chvátál-Gomory closure in the  $\{0, 1\}$  cube. *Operations Research Letters*, 39:200–203, 2011.
- [14] Gautier Stauffer. The strongly minimal facets of the stable set polytope of quasi-line graphs. *Operations Research Letters*, 39:208–212, 2011.
- [15] Gautier Stauffer, Guillaume Massonnet, Christophe Rapine, and Jean-Philippe Gayon. A simple and fast 2-approximation algorithm for the one warehouse multi-retailer problem. In *Proceedings of SODA 2011 Conference*, pages 67–79, 2011.

- [16] Yuri Faenza, Gianpaolo Oriolo, and Gautier Stauffer. Separating stable sets in claw-free graphs via Padberg-Rao and compact linear programs. In *Proceedings of SODA 2012 Conference*, pages 1298–1308, 2012.
- [17] Gianpaolo Oriolo, Ugo Pietropaoli, and Gautier Stauffer. On the recognition of fuzzy circular interval graphs. *Discrete Mathematics*, 312:1426–1435, 2012.
- [18] Gautier Stauffer. On using the EOQ formula for inventory control in one-warehouse multi-retailers systems. *Naval Research Logistics*, 59:285–297, 2012.
- [19] Flavia Bonomo, Gianpaolo Oriolo, Claudia Snels, and Gautier Stauffer. Minimum clique cover in claw-free perfect graphs and the weak Edmonds-Johnson property. In *Proceedings of IPCO 2013 Conference*, 2013.
- [20] Yuri Faenza, Gianpaolo Oriolo, and Gautier Stauffer. Solving the weighted stable set problem in claw-free graphs via decomposition. *Journal of the ACM*, 61:1–41, 2014.
- [21] Jean-Philippe Gayon, G. Massonnet, Christophe Rapine, and Gautier Stauffer. Constant approximation algorithms for the one warehouse multiple retailers problem with backlog or lost-sales. *European Journal of Operational Research*, 250(1):155–163, 2016.
- [22] Jean-Philippe Gayon, Guillaume Massonnet, Christophe Rapine, and Gautier Stauffer. Fast approximation algorithms for the one-warehouse multi-retailer problem under general cost structures and capacity constraints. *to appear in Mathematics of Operations Research*, 2016.

#### **Submitted**

- [23] Matthieu Guillot and Gautier Stauffer. The Stochastic Shortest Path Problem: A Polyhedral Combinatorics Perspective. Submitted to IPCO 2017.
- [24] Gianpaolo Oriolo and Gautier Stauffer. On the facets of stable set polytopes of circular interval graphs. Submitted to IPCO 2017.
- [25] Gautier Stauffer. Constant factor approximation algorithms for  $k$ -echelon inventory control in pure distribution networks. submitted to *Mathematics of Operations Research*, 2016.

#### **Technical reports / Articles in preparation**

- [26] Dehia Ait Ferhat, Vincent Juliard, Gautier Stauffer, and Andres Torres. Mixed Integer Programming Approaches to the Manufacturing of Vias using DSA technology. in preparation, to be submitted in early 2017.
- [27] Dehia Ait Ferhat, András Sebő, and Gautier Stauffer. Min-Max Relation and Algorithm for the Matching Cover Problem. in preparation, to be submitted in early 2017.
- [28] Yuri Faenza, Gianpaolo Oriolo, and Gautier Stauffer. The stable set polytope of the composition of strips: separation, extended formulations, projection. in preparation, to be submitted in early 2017.
- [29] Lavanya Marla, Eleni Pratsini, Alexander Rikun, and Gautier Stauffer. Robust planning : Insight from Industrial Applications. technical report, last update in 2010.

#### **Thesis**

- [30] Gautier Stauffer. *On the Stable set polytope of claw-free graphs*. Phd thesis, 09 2005.
- [31] Gautier Stauffer. *At Play With Combinatorial Optimization, Integer Programming and Polyhedra*. Habilitation thesis, 11 2011.

### 3 Detailed Curriculum Vitae

#### 3.1 Personal Information

Date and place of Birth: Born July 19th, 1976 in Montbéliard, France  
 Citizenship : Swiss and French citizen  
 Personal Address: 39 rue de la république, 69002 Lyon, France  
 Phone : +33 6 51 02 13 62  
 Email : gautier.stauffer@gmail.com

#### 3.2 Professional Information

Associate Professor (Professeur des Universités)  
 G-SCOP - Grenoble INP  
 Professional Address: 46 avenue Félix Viallet, 38031 Grenoble Cedex 1, France.  
 Phone : +33 4 76 57 43 86  
 Email : gautier.stauffer@grenoble-inp.fr  
 Web page : <http://pagesperso.g-scop.fr/~stauffeg>

Associate Member of Inria team REALOPT, Bordeaux, France

#### 3.3 Professional Experience

- **Associate Professor of Discrete Mathematics and Operations Research**, since 09.2012  
 G-SCOP, Grenoble INP, France

*Projects* : Polyhedral combinatorics, Stable sets, Stochastic shortest path, Inventory control problems, Kidney Exchange, Golf Strategy Optimization, Manufacturing of integrated circuits *Teaching* : Operations Research, Integer Linear Programming, Dynamic programming, Advanced methods in Operations Research, Algorithms. *Responsibility* : Co-head of Master of Operations Research, Combinatorics and Optimization, and Financial manager of the Combinatorial Optimization Group (Group Leader: *Andrá Sebő*).

**NB: On leave of absence from Septembre 2013 to August 2014.**

- **Assistant Professor of Applied Mathematics (with tenure)**, 09.2009 – 08.20012  
 Institute of Mathematics of Bordeaux, University of Bordeaux 1, France.  
**INRIA Chair of Excellence** : 5-years funding for quality of research

*Projects*: Stable set problems and polytopes, Non-linear optimization, Inventory control problems, Robust optimization. *Teaching*: Linear Programming, Network flows, Primal-dual algorithm, Matching. *Responsibility* : Head of internships of Master MIMSE.

- **IBM Full time Researcher (Research Staff Member)** 04.2007 – 09.2009  
 Supply Chain Group, IBM Zurich Research Lab, Switzerland.

*Project Leader for Mathematics of Inventory Control. Projects* : Corporate Portfolio Optimization, On Demand Public Transportation Systems, Robust Optimization, Stable set problems. *Responsibility*: Head of academic seminars.

- **Post-Doctoral Fellow in Applied Mathematics at MIT** 04.2006 – 03.2007  
 Massachusetts Institute of Technology, Cambridge, USA, Research group of Michel Goemans

*Projects* : Roadef Challenge 2007 and Approximation Algorithms for TSP.

- **Lecturer** at HEC Geneva 09.2005 – 12.2005  
 Haute Ecole de Commerce, Geneva, Switzerland.

- **Post-Doc in Applied Mathematics at EPFL** 10.2005 – 03.2006  
 Ecole Polytechnique Fédérale de Lausanne, Switzerland - Research Group of Thomas Lieblich

*Projects* : Stable set problem, Vehicle routing problem. Leakage detection in water distribution systems, Placement of newspaper boxes. *Teaching* : Decision process, Models and simulation in logistic, Linear Algebra.

- **PhD Student in Applied Mathematics at EPFL** 10.2002 – 09.2005  
Ecole Polytechnique Fédérale de Lausanne, Switzerland - Research Group of Thomas Liebling

*Projects* : Stable set problem, Vehicle routing problem. Leakage detection in water distribution systems, Placement of newspaper boxes. *Teaching* : Decision Analysis, Algorithmic, Combinatorial optimization, Optimization.

- **Teaching assistant in Applied Mathematics at EPFL** 11.2001 – 09.2002  
Ecole Polytechnique Fédérale de Lausanne, Switzerland

*Teaching* : Algorithmic, Optimization.

- **Software Engineer** at SIEMENS 12.2000 – 10.2001, Renens, Switzerland
- **Teaching assistant** at HEC Geneva 04.2000 – 11.2000  
Haute Ecole de Commerce, Geneva, Switzerland - Research group of Jean-Philippe-Vial

### Professional training

- May 2009: Venture Plan, VentureLab, Lausanne, Switzerland, 5-days intensive training in Hi-Tech Start-ups Creation
- June 2008: Micro-MBA, IBM Zurich Research Lab, Switzerland, two-weeks intensive training
- March 2003: Postgrad Course in Discrete Choice Analysis, EPFL, Switzerland, 1-week intensive training

### 3.4 Education

- **Habilitation Thesis (Habilitation à Diriger les Recherches)** 11. 2011  
Ecole Doctorale de Mathématiques et Informatique de Bordeaux, France

*At play with combinatorial optimization, integer programming and polyhedra. November 28th, 2011. Examiners* : Prof. François Vandebeck (University of Bordeaux), Prof. Arnaud Pêcher (Université de Bordeaux). *Rewievers* : Michele Conforti (University of Padova, Italy), Prof. Volker Kaibel (University of Magdeburg - Germany), Prof. Ridha Majhoub (University of Paris-Dauphine).

- **PhD in Applied Mathematics EPFL** 10.2002 – 09. 2005  
Ecole Polytechnique Fédérale de Lausanne, Switzerland

*On the stable set polytope of claw-free graphs. September 23rd 2005. Mathematical programming. ROSO (Recherche Opérationnelle Sud-Ouest). Jury President* : Prof. Peter Buser (EPFL). *Rewievers* : Prof. Dominique de Werra (EPFL), Prof. Gianpaolo Oriolo (Università di Roma Tor Vergata), Prof. Leslie E. Trotter (Cornell University - USA). *Advisor* : Prof. Thomas M. Liebling. *Distinction* : Nominated for EPFL Doctorate award

- **Master in Computer Engineering (Diplôme d'Ingénieur and DEA)** 09.1997 – 09. 2000  
ISIMA and University Blaise Pascal, Clermont-Ferrand, France

*Cutting stock and tracking problems. September 2000. Advisor* : Prof. Jean-Philippe Vial (HEC Geneva, Switzerland). *Distinction* : Highest GPA (grade point average) in my class with honors (mention Bien).

- **Two-year University Degree in Maths and Computer Science** 09.1995 – 08. 1997  
University of Besançon, France. highest GPA in my class, with honors (mention Tres Bien)

- **Languages** : French (Native), English (Fluent), German (Intermediate), Italian (Intermediate).

### 3.5 Invited visiting positions

- November 2016 - January 2017 : Institut de Mathématiques de Bordeaux, France. Host : François Vanderbeck. Visiting researcher. 3 months
- July 2016 : EPFL, Switzerland. Host : Yuri Faenza. Visiting researcher. 1 week.
- January 2013 : EPFL, Switzerland. Host : Friedrich Eisenbrand. Visiting researcher. 1 week.
- January-February 2012 : Università di Roma ‘Tor Vergata’, Italy. Host : Gianpaolo Oriolo. Visiting researcher. 2 months
- September-december 2011: Università di Firenze, Italy. Host :Fabio Schoen. Visiting researcher. 4 months
- April 2010: Technische Universität Darmstadt, Germany. Host :Sebastian Pokutta. Visiting researcher. 2 weeks
- March 2009: Università di Roma ‘Tor Vergata’, Italy. Host : Gianpaolo Oriolo. Visiting researcher. 3 weeks
- March 2007: Università di Roma ‘Tor Vergata’, Italy. Host :Gianpaolo Oriolo. Visiting Researcher. 1 month
- March 2005 : Istituto di Analisi dei Sistemi ed Informatica (IASI), Rome, Italy. Hosts : Giovanni Rinaldi and Gianpaolo Oriolo. Visiting Researcher. 1 month.
- August 2004: Max Plank Institute, Saarbrücken, Germany. Host :Fritz Eisenbrand. Visiting Researcher. 2 weeks
- March 2003 : Istituto di Analisi dei Sistemi ed Informatica (IASI), Rome, Italy. Hosts : Giovanni Rinaldi and Gianpaolo Oriolo. Visiting Researcher. 1 month

### 3.6 Program and Scientific Committee

- **Cargèse Workshop on Combinatorial Optimization**

*Yearly meeting since 2010. IESC Cargèse, France. Co-chair of the Workshop with Samuel Fiorini, Gianpaolo Oriolo, Paolo Ventura. International workshop with lectures on advanced topics in Combinatorial Optimization and contributed talks in Combinatorial Optimization. 35 to 70 participants, 3-4 Lecturers, 10-15 speakers. <http://www.iasi.cnr.it/ventura/Cargese15/Overview.html>*

- **Aussois Combinatorial Optimization Workshop (odd years, Handover in 2017)**

*Yearly meeting since 1996. The Workshop aims at putting together senior and young specialists in the field of Discrete Mathematical Optimization to present and discuss their most recent research work in a relaxed and informal atmosphere. about 120 participants. around 40 presentations. <http://www.iasi.cnr.it/aussois/web/index.php>*

- **ADONET mid-term meeting**

*May 2006. EPFL, Lausanne, Switzerland. Scientific Program (50% with Quentin Louveaux). 45 people, 16 speakers. Mid-term meeting for evaluation of the ADONET European program, a 4-year European Funding for Collaborative Research in Discrete Optimization and Networks. <https://www.ads.tuwien.ac.at/adonet/activities.html> (ADONET Activities)*

### 3.7 Scientific Committee

- LAGOS 2017 (Latin and American Graph and Opt. Symposium). <https://lipn.univ-paris13.fr/Lagos2017>
- ROADEF 2017. Congrès Annuel de la Société Française de Recherche Opérationnelle et d’Aide à la Décision. <http://roadef2017.event.univ-lorraine.fr/committees.html>.

### 3.8 Award Committee

- **EURO Excellence in Practice Award EEPA 2012-2013**

*The purpose of the EEPA is to recognize outstanding accomplishments in the practice of Operational Research, attract more application-oriented papers to EURO Conferences, and promote the practice of Operational Research in general. July 2012. Vilnius, Lithuania. Core Member with Michel Bierlaire (President), Luca Gambardella (Core Member), Richard Hartl, Ana Viana. July 2013. Rome, Italy. President with Ton deKok (Core Member), Luca Gambardella (Core Member).*



### 3.9 External Research Fundings

- Mentor Graphics 2015. Collaboration contract 60'000 EUR over 3 years at Grenoble INP
- AGIR 2013. Grenoble Innovation Recherche 24'000 EUR over 2 years at Grenoble INP
- GALOIS project 2013. Persyval lab 250'000 EUR over 4 years (9 participants)
- INRIA Chair of Excellence 2009. INRIA : 125'000 EUR over 5 years at University of Bordeaux
- SNF Postdoctoral Fellowship 2006. Swiss National Fund : 40'000 CHF for one year at MIT
- SNF Doctoral Fellowship 2003. Swiss National Fund : 150'000 CHF over 3 years at EPFL

### 3.10 Industrial collaborations, Technology transfer

#### 3.10.1 Supervision of PhD Thesis in collaboration with the industry

- Kidney Exchange Programs: Models and Algorithms. Collaboration with Agence Française de la Biomédecine since 2016.
- Stochastic shortest path problem and its applications to golf. Collaboration with Fédération Française de Golf since 2015.
- Efficient solution for the manufacturing of vias/contacts using DSA technology. PhD Thesis (Thèse CIFRE) in collaboration with Mentor Graphics since 2014.

#### 3.10.2 Supervision of Bachelor and Master projects in collaboration with the industry

- Case studies for optimal placement of newspaper boxes in the district of Lausanne. In collaboration with the international media group EDIPRESSE, the main editor of newspaper in the french speaking part of Switzerland. 3 Bachelor Projects. 2002-2006.
- Modeling and implementation of algorithms for leakage detection in water distribution network. In collaboration with EauService, the water service in the city of Lausanne. 2 Bachelor projects, 1 Master Project. 2003-2005.
- Development of a software for the dynamic dispatching of service technicians. In collaboration with Siemens. 1 Master Project. 2005

#### 3.10.3 Stand alone optimization softwares

- Software for optimizing game strategy in golf : Implementation of the final version software (100%) in C++. 2015. First prototypes implemented in Matlab and C++ by Matthieu Guillot during his master degree. I am currently working with Fédération Française de Golf to test the software on real data.
- Software for corporate portfolio optimization. Contribution : Prototyping in MATLAB and GAMS (100%) and later, coordination of the software development by Lucien Epiney (Master thesis followed by a short-term contract), 2008. Still in use today.
- Software for workforce scheduling at France Telecom. Contribution : Design and implementation of the software (50% with Sebastian Pokutta) with C++, CPLEX Concert, BOOST Library. 2006.
- Software for an industrial cutting stock problem at a paper mill near Geneva. Contribution : Implementation of the software (100%) with C++, CPLEX Callable Library, ACCPM Library, 2003).

#### 3.10.4 Others

- Development of new algorithms for efficient multi-echelon inventory control jointly with Jean-Philippe Gayon, Guillaume Massonnet and Christophe Rapine. Implementation of those algorithms by Guillaume Massonnet in the IBM software. (2009-2013).
- In charge of the mathematical models from mid-2008 to August 2009 at IBM Zurich Research Lab.
- Development, analysis and implementation (JAVA) of new algorithms for efficient multi-echelon inventory control into the software (mid-2008 to August 2009).
- Participation in the development of IBM AXIO software for multi-echelon inventory control. 2007-2009.

### 3.11 Other Administrative and Organizational activities

- Member of Conseil de l'Ensimag (Elected in october 2016)
- Member of the COST Action Proposal OC-2015-2-20092 : European Network for Collaboration on Kidney Exchange Programmes. 3-year Program, since September 2016.
- Associate Editor of Discrete Optimization journal (since october 2015)

- Co-head (with Marie-Laure Espinouse) of the Master in Operations Research, Combinatorics and Optimization (Master ORCO) from the University of Grenoble (since September 2015).
- Financial manager for the Combinatorial Optimization Group at G-SCOP (since september 2014)
- Member of the Laboratory Council at G-SCOP (elected in october 2014)
- Member of the Scientific Council at the Institute of Mathematics of Bordeaux (2010 – 2012).
- Permanent Representative for INRIA Project Team REALOPT (2009 – 2012)
- Permanent Member of INRIA Project team REALOPT ( 2009 – 2012 ).
- Responsible for Student Internships in the Master of Applied Mathematics MIMSE at University of Bordeaux (2009–2011)
- Responsible for Academic Seminars in Inventory Control at IBM Zurich Research Lab (2008-2009).
- Referee for various journals and conferences : Operations Research, Mathematics of Operations Research, Mathematical Programming, Journal of Computing, SIAM Journal on Discrete Mathematics, Discrete Applied Mathematics, Journal of Combinatorial Theory B, Transportation Research C, RAIRO - Operations Research, Mathematical Methods for Operations Research, Discrete Optimization, International Symposium on Combinatorial Optimization (ISCO), Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX).
- Reviewer of ANR projects.
- Tutor for several students internships, apprenticeship or abroad programs : Rouire (2010), Lemouneau (2011), Maritaz (2012), Laloux (2014), Petit-Roux (2015), Boulanger (2015), Martinez (2016).
- Popularizing : ‘La RO, la clé du processus décisionnel de l’entreprise’. Inside Ensimag. Blog de IEnsimag. May 2013. <http://inside.ensimag.fr/?p=366>
- Popularizing : ‘Quand les maths remplissent les rayons.’ Unithé ou Café. Inria Bordeaux Sud-Ouest. March 2012
- Co-organisation (with Emmanuel Lemaitre) of the transportation day at Ensimag. March 2013. <http://inside.ensimag.fr/?p=100>
- Member of PhD thesis committees : Guillaume Massonnet, 2012 (examinateur), Yohann Benchetritt, 2015 (président).

### 3.12 Teaching

- Production management : HEC Geneva, Switzerland. Teaching Assistant. Master student in Business Administration (MBA). 2000. ~20 students. 10 hours. Models for production management and Simulation tools
- Decision processes: EPFL Lausanne, Switzerland. Teaching Assistant + some lectures. Postgrad students in Business and Technology management. 2003 and 2004. ~30 students. 32 hours. Game theory, Combinatorial games, Online algorithms.
- Modelling and simulation in Logistics: Institut de Management et de Logistique (IML), EPFL Lausanne, Switzerland. Teaching Assistant. Postgrad students. 2005. ~30 Students. 20 hours. Simulation, Discrete choice models
- Decision Analysis: HEC Geneva, Switzerland. Teaching Assistant. Third year bachelor student in Business Management. 2005. ~50 Students. 14 hours. Linear Programming, Integer Programming, Non-linear Programming.
- Linear Algebra: EPFL Lausanne, Switzerland. Lecturer. First year bachelor students in Micro-technics. 2005. ~80 students. 84 hours. Basic Linear Algebra.
- Algorithmics: EPFL Lausanne, Switzerland. Teaching Assistant + some lectures. Bachelor and Master students in Mathematics, Computer science and Communication Systems. 2001,2003,2004. ~50 Students. 92 hours. Advanced data structures and algorithms, quantum computing, randomized algorithms.
- Combinatorics: EPFL Lausanne, Switzerland. Teaching Assistant. Bachelor and Master students in mathematics and computer science. 2003. ~30 Students. 28 hours. Polyhedral Combinatorics, complexity theory.
- Optimization: EPFL Lausanne, Switzerland. Teaching Assistant. Third year Bachelor students in Communication Systems, Electrical Engineering, Mechanical Engineering. 2002,2003,2004. ~50 Students. 112 hours. Linear Programming, graph theory.
- Advanced Linear Programming: University of Bordeaux, France. Lecturer and Teaching Assistant. First year master students in Mathematical and Economical Engineering. 2010. ~10 Students. 29 hours. Revised simplex, column generation.

- Network Flows: University of Bordeaux, France. Lecturer and Teaching Assistant. First year master students in Mathematical and Economical Engineering. 2010,2011,2012. ~10 Students. 59 hours. Shortest path, Max flow, Min cost flow.
- Flow and Combinatorics: University of Bordeaux, France. Lecturer and Teaching Assistant. First year master students in Mathematical and Economical Engineering. 2011. ~10 Students. 29 hours. Primal-dual method, bipartite matching, non-bipartite matching.
- Flow and Combinatorics: ENSEIRB-MATMECA & University of Bordeaux, France. Lecturer and Teaching Assistant. First year master students in Mathematical and Economical Engineering. Second year students at ENSEIRB-MATMECA. 2012. ~35 Students. 29 hours. Approximation algorithms for network design and standard models in OR.
- Advanced Algorithms: ENSIMAG & Grenoble INP, France. Lecturer and Teaching Assistant. Second year students at Ensimag. 2012, 2014, 2015, 2016. ~ 25 Students. 45 hours ( $\times 4$ ). Divide and conquer, dynamic programming, Integer Programming, branch and bound, Heuristics
- Integer Programming: Master ROCO. Grenoble INP / University Joseph Fourier, France. Lecturer. Second year students at Ensimag. 2012, 2014, 2015, 2016. 7 - 18 Students. 27 hours ( $\times 4$ ). Basic concepts, formulations, cutting plane algorithms, branch and cut
- Operations Research: ENSIMAG & Grenoble INP, France. Lecturer and Teaching Assistant. First year students at Ensimag. 2012, 2014, 2015. ~ 70 Students. 90 hours ( $\times 3$ ). Linear Programming, Graph Theory, Zero-Sum Games
- Operations Research: ENSIMAG & Grenoble INP, France. Lecturer. First year students at Ensimag. 2016. ~ 120 Students. 27 hours. Linear Programming, Graph Theory, Zero-Sum Games
- Operations Research: ENSIMAG & Grenoble INP, France. Teaching assistant. First year students at Ensimag. 2016. ~ 60 Students. 36 hours. Linear Programming, Graph Theory, Zero-Sum Games
- Management of Production and Services: ENSIMAG & Grenoble INP, France. Lecturer and Teaching Assistant. Second year students at Ensimag. 2012, 2014. 15-20 Students. 45 hours ( $\times 2$ ). Inventory control, lot sizing, scheduling, transportation and facility location. Network simplex, Lagrangian relaxation, Integer Programming, Dynamic programming, Approximation algorithms.
- Algorithms and Discrete Optimization: ENSIMAG & Grenoble INP, France. Lecturer and Teaching Assistant. First year students at Ensimag. 2014, 2015, 2016. 30-40 Students. 22.5 hours ( $\times 3$ ). Integer programming, Branch and Bound, dynamic programming, Cache Oblivious
- Operations Research: ENSIMAG & Grenoble INP, France. Lecturer. First year students at Ensimag. 2017. ~ 240 Students. 54 hours. Linear Programming, Graph Theory, Zero-Sum Games
- Operations Research: ENSIMAG & Grenoble INP, France. Teaching assistant. First year students at Ensimag. 2017. ~ 120 Students. 72 hours. Linear Programming, Graph Theory, Zero-Sum Games
- Advanced Operations Research: ENSIMAG & Grenoble INP, France. Lecturer and Teaching Assistant. Second year students at Ensimag. 2016, 2017. ~ 15 – 20 Students. 42 hours ( $\times 2$ ). Approximation Algorithms, Integer Programming, Polyhedra, Markov Decision Processes.

### 3.13 Student Supervision

#### 3.13.1 Introduction to Research (Introduction à la Recherche en Laboratoire)

- Development of a Robot Golfer : Vision. Advisor (100%). Hugo Matthias. Second year student Ensimag. 2016. Software for ball and hole detection. Implementation with OpenCV.
- Development of a Robot Golfer: Localisation and mapping. Main advisor (90% with Thierry Fraichard). Sinkyeow Chew. Second year student Ensimag. 2016. Software for localisation and mapping of and on a golf field. Implemented using ROS and VSLAM.
- Development of a Robot Golfer: Kicker. Advisor (100%). Alexandre Caulier. Second year student Ensimag. 2016. Design and control of a kicker to putt a golf ball. Study of the physics and control of solenoids and developement of a prototype robot.
- Q-learning algorithm for golf strategy optimization. Main advisor (80% with Matthieu Guillot). Yassine Yaakoubi. Second year student Ensimag. 2016. Developement of a Q-learning algorithm for strategy optimization in Golf. Computational comparison with other standard methods.
- Optimization of putting strategy in Golf. Lucie Pansart. Ensimag. Advisor (100%). spring 2014. Implementation and resolution with OPL Studio and AMPL of a model for optimizing the putting strategy in golf.

### 3.13.2 Bachelor Thesis

- Algorithm for stable set in claw-free, net-free graphs: Mohamed El Afouani, Mariana Islas. University of Bordeaux. Advisor (100%). spring 2011. Implementation in Python (Networkx Library) of an algorithm for the maximum weighted stable set problem in claw-free, net-free graphs
- Decomposition algorithm for claw-free graphs and matching: Aurélien Dubois, Mailis Rouire. University of Bordeaux. Advisor (100%). spring 2011. Implementation in Python (Networkx Library) of a decomposition algorithm for claw-free graphs and of a reduction from the maximum weighted stable set problem in the composition of strip to the matching problem.
- Implementation and evaluation of Christophides' algorithm for TSP: Gaëlle Conte, Valeria Borodin. University of Bordeaux. Advisor (100%). spring 2010. Implementation in C++ (Lemon Library) of the classic approximation algorithm of Christophides for the symmetric travelling salesman problem when weight satisfy the triangle inequality.
- Disruption management in airline scheduling: a bibliography. Sébastien Buchard, Eric Von Aarburg. EPFL, Lausanne, Switzerland. co-advisor (50% with Antoine Musitelli). winter 2004. Survey of the literature for disruption management in airline scheduling.
- Modelling and analysis of the choice of university for Erasmus students. Eric Von Aarburg. EPFL, Lausanne, Switzerland. co-advisor (50% with Michaël Thémans). winter 2004. Implementation of a survey questionnaire (web interface) to allow student to report on their revealed preferences for exchanges and analysis of determining factors for final choice using discrete choice models.
- Leakage detection in water distribution networks : algorithms. Eric Von Aarburg, Jean-Marc Nicoletti. EPFL, Lausanne, Switzerland. Advisor (100%). spring 2004. Implementation of an algorithm (JAVA) for sectoring a water distribution network by positioning meters. The algorithms are cut-based and rely on an implementation of Gomory-Hu trees.
- Robust models for Optimal placement of News boxes. Naoufal Adlouni Alami. EPFL, Lausanne, Switzerland. Advisor (100%). Spring 2004. Implementation of models (OPL studio) for the optimal placement of news boxes at Edipresse, a international media group located in Lausanne. Integration of solutions into ArcView, a GIS system.
- Combinatorial Games : How to allocate costs between users of a water network. Jacques Ferrez. EPFL, Lausanne, Switzerland. Advisor (100%). winter 2003. Implementation of algorithms (JAVA) for pricing in water distribution systems.
- Leakage detection in water distribution networks : models. Eric Von Aarburg, Jean-Marc Nicoletti. EPFL, Lausanne, Switzerland. Advisor (100%). winter 2003. Modelling of two different problems relating to leakage detection in water distribution systems : sectoring and sensor positioning. Many interactions with EauService, the water distribution service in Lausanne.
- Stable set problem in Claw-free graphs. Oliver Ittig. EPFL, Lausanne, Switzerland. Advisor (100%). winter 2003. Implementation in C++ (using the LEDA Library) of an algorithm by Lovasz-Plummer based on graph reductions and matching.
- Modelling and simulation of a production unit with Promodel. Sarah Betschart, Marielle Pfister. EPFL, Lausanne, Switzerland. co-advisor (50% with Frank Crittin). spring 2003. Evaluation of the performances of a production unit (building small engines). Implementation and simulation of a model with the PROMODEL Software.
- Optimal placement of News boxes: Implementation of p-median and set cover models. Leonhard Vogt, Mireille Moser. EPFL, Lausanne, Switzerland. co-advisor (50% with Frank Crittin). spring 2003. Implementation of p-median and set cover models with OPL Studio to solve a problem of news boxes placement in Lausanne in collaboration with Edipresse, an international media group.
- Optimal placement of News boxes: Modelling. Guillaume Fawer. EPFL, Lausanne, Switzerland. co-advisor (50% with Frank Crittin). winter 2002. Modelling and first implementation (OPL Studio) of a problem of news boxes placement in Lausanne, in collaboration with Edipresse, an international media group.

### 3.13.3 Master Thesis (research)

- Optimization of game strategy in golf. Matthieu Guillot. University of Grenoble (Master ROCO), France. G-SCOP. Advisor (100%). March – July 2014. Implementation of a 3D simulator for golf in Matlab and C++. Implementation of an optimization engine for solving the stochastic shortest path model for strategy optimization (Value Iteration).
- Dual-balancing policies for inventory control. Guillaume Massonnet. University of Grenoble, France. IBM Zurich Research Lab, Switzerland. Advisor (100%). April – August 2009. Analysis and Implementation (JAVA) of the dual-balancing algorithm for (single-echelon) stochastic inventory control. Development of new approximation algorithms for deterministic and stochastic inventory control problems.

- Robust optimization for Corporate portfolio management. Lucien Epiney. EPFL, Lausanne, Switzerland. IBM Zurich Research Lab, Switzerland. Advisor (100%). Winter 2007. Development of a prototype (MATLAB) for optimizing the allocation of sales and marketing budgets between different business unit in a major international company. The models are based on the robust optimization paradigm of Bertsimas and Sim.
- Optimal Routing for Maintenances. Niklaus Eggenberg. EPFL, Lausanne, Switzerland. SIEMENS, Switzerland. Advisor (100%). Winter 2005. Development of a tool for dispatching efficiently and dynamically the daily. routes of different service technicians. Implementation (C++) of a branch and cut algorithm using the COIN-OR Library.
- Modelling and Implementation of Mathematical Approaches for Detecting Leakages in Water Distribution Systems. Sarah Betschart. EPFL, Lausanne, Switzerland. EauService, Lausanne, Switzerland. Advisor (100%). Winter 2004. Development of two different approaches for leakage detection in a water distribution network. Implementation (C++) of a tabu heuristic for one of the approach and implementation (C++) of an integer programming model with CPLEX Concert.

#### 3.13.4 PhD Thesis

- Kidney Echange Programs: Models and Algorithms. Lucie Pansart. University of Grenoble (bourse ministérielle). director (50% with Hadrien Cambazard (25%) and Nicolas Catusse (25%)). Since Octobre 2016 (on going). Development of models and efficient algorithms for supporting kidney exchange programs in Europe. (Ongoing collaboration with Agence Française de la Biomédecine).
- Stochastic shortest path problem and its applications to golf. Matthieu Guillot. University of Grenoble (bourse ministérielle). director (100%). Since September 2015 (on going). Development of new and faster algorithms for the stochastic shortest path problem. Application to optimization of golfers' strategy (ongoing collaboration with Fédération Française de Golf).
- Efficient solutions for the manufacturing of vias/contacts using DSA technology. Dehia Ait-Ferhat. University of Grenoble (bourse CIFRE). director (100%). Since December 2014 (on going). Modelling and developpement of efficient methods for the manufacturing of vias/contacts using DSA technology. Approximation algorithms and Branch and Price.
- Approximations algorithms for inventory control problems. Guillaume Massonnet. University of Grenoble. Scientific guidance (30% with Christophe Rapine and Jean-Philippe Gayon). September 2009 – October 2012. Development of new approximation algorithms for various variants of deterministic and stochastic inventory control problems (capacitated, periodic, lost-sales, back-orders,...). Implementation (C++) and comparison of those algorithms to state-of-the-art solvers on real-world instances. Collaboration with IBM Zurich Research Lab.
- Robust Planning : insight from industrial applications. Lavanya Marla and Alexander Rikun. MIT. Scientific guidance (50% with Eleni Pratsini) of a Chapter of their PhD Thesis. June – September 2009. Implementation and comparison of three different robust modeling approaches (Conditional Value at Risk (CVaR), Chance-constraint programming and Robust Optimization) on three different real-world applications : corporate portfolio optimization, pharmaceutical supply chain design and Airline routing.
- Stable set problem in claw-free graphs. Yuri Faenza. University of Rome Tor Vergata. Scientific guidance (50% with Gianpaolo Oriolo) of two chapters of the PhD Thesis. March 2009 – January 2010. Development of a new algorithm for the maximum weighted stable set problem in claw-free graphs based on structural graph theory. First linear programming formulation for the maximum weighted stable set problem in claw-free graphs (in an extended space). New polynomial time algorithms for the separation problem over the stable set polytope of claw-fre graph.
- Stable set problem in claw-free graphs and recognition of fuzzy circular interval graphs. Ugo Pietropaoli. University of Rome Tor Vergata. Scientific guidance (50% with Gianpaolo Oriolo) of two chapters of the PhD Thesis. January 2007 – April 2008. Development of a new algorithm for the maximum weighted stable set problem in claw-free graphs based on structural graph theory. Development of a recognition algorithm for fuzzy circular interval graphs, a subclass of claw-free graphs.

#### Career development

- Guillaume Massonnet: Assistant Professor, Ecole des Mines de Nantes, France.
- Yuri Faenza: Assistant Professor, Columbia University, USA.
- Lavanya Marla: Assistant Professor, Urbana-Champaign, USA
- Alexander Rikun: Associate, Analysis Group (finance), Boston, USA.
- Ugo Pietropaoli: Senior Researcher, Expedia Italy.

### 3.14 Invited presentations

#### 3.14.1 Plenary Speaker (International Conferences)

- LAGOS 2011. A History of the stable set polytope of Claw-free graphs. March 2011. Bariloche, Argentina

#### 3.14.2 Plenary Speaker (Summer Schools)

- CUSO Summer Seminar 2015. Stochastic Shortest Path Problem : From Golf to Research. June 2015. CUSO PhD Program. Zinal, Switzerland

#### 3.14.3 Invited talks (International Conferences)

- International Workshop on Lot-Sizing. August 2017, Glasgow (Scotland). Constant factor approximation algorithms for k-echelon inventory control in pure distribution networks.
- Aussois 21st Workshop in Combinatorial Optimization. January 2017, Aussois (France). The Stochastic Shortest path problem: a polyhedral perspective
- Workshop on Polyhedral Approaches for Combinatorial Optimization. December 2016, Paris (France). The stochastic Shortest Path Problem.
- NII Shonan Meeting "Graph algorithm and Optimization. March 2011, Tokyo (Japan). An algorithmic decomposition algorithm for claw-free graphs leading to a  $O(n^3)$  algorithm for the weighted stable set problem.
- Symposium On Discrete Algorithm (SODA) January 2011, San-Francisco (USA). A simple and fast 2-approximation for the one warehouse multi-retailer problem.
- Aussois 14th Workshop in Combinatorial Optimization. January 2010, Aussois (France). The hidden matching structure of the composition of strips : a polyhedral perspective.
- Annual Conference of the Italian Operational Research Society (AIRO2009). September 2009, Siena (Italy). An extended characterization of the stable set polytope of claw-free graphs
- Sixth Joint Operations Research Days. Decentralized decision making is close to optimal for one-warehouse multi-retailers systems. September 2008. EPFL, Zwitterland.
- Fifth Joint Operations Research Days. A new algo for the max weighed stable set problem in claw-free graphs. August 2007. Zurich, Zwitterland.
- International Symposium on Mathematical Programming (ISMP) 2006. August 2006, Rio de Janeiro (Brazil). A proof of Pêcher-Wagler conjecture for the stable set polytope of webs
- Third Joint Operations Research Days. The Stable Set Polytope of Claw-free Graphs: light at the end of the tunnel ? September 2005. Zurich, Zwitterland.
- Integer Programming and Combinatorial Optimization (IPCO) XI. June 2005, Berlin (Germany). Circular-one matrices and the stable set polytope of quasi-line graphs
- Aussois 9th Workshop in Combinatorial Optimization. January 2005, Aussois (France). The stable set polytope of quasi-line graphs: A proof of Ben Rebea conjecture.
- Latin American Conference on Combinatorics, Graphs and Algorithms (LACGA). September 2004, Santiago (Chile). The Winding Road towards a Characterization of the Stable Set Polytope for Claw-Free Graphs.
- Aussois 8th Workshop in Combinatorial Optimization. January 2004, Aussois (France). The rank facets of odd-hole dominated quasi-line graphs.
- International Symposium on Mathematical Programming. August 2003, Copenhagen (Danemark). On the stable set polytope of claw-free and circulant graphs

#### 3.14.4 Invited seminars (International)

- Seminar at EPFL (hosted by Friedrich Eisenbrand). The stochastic Shortest Path Problem. May 2017, Lausanne Switzerland.
- Seminar at EPFL (hosted by Friedrich Eisenbrand). Minimum clique cover in claw-free perfect graphs and the weak Edmonds-Johnson property. January 2013, Lausanne Switzerland.
- Seminar at Università di Tor Vergata (hosted by Gianpaolo Oriolo). A simple and fast 2-approximation for the one warehouse multi-retailer problem. February 2012, Roma - Italy.
- Seminar at CORE (hosted by Laurence Wolsey). A simple and fast 2-approximation for the one warehouse multi-retailer problem. November 2010, Louvain-la-Neuve - Belgium.

- Seminar at IBM Zurich Research Lab (hosted by Eleni Pratsini). Managing inventories in Distribution Networks: when consulting practice yields good theoretical approximations. September 2010, Zurich - Switzerland.
- Seminar at TU Darmstadt (hosted by Sebastian Pokutta). The p-median Polytope of Y-free Graphs: An Application of the Matching Theory. April 2010, Darmstadt - Germany.
- Seminar at Università di Tor Vergata (hosted by Gianpaolo Oriolo). The p-median Polytope of Y-free Graphs: An Application of the Matching Theory. June 2009, Roma - Italy.
- Seminar at TU Eindhoven (hosted by Ton de Kok). On using the EOQ formula for inventory control in one-warehouse multi-retailers systems. February 2009, Eindhoven - Netherland.
- IBM DIOS Workshop. Decentralized decision making is close to optimal for one-warehouse multi-retailers systems. September, 2008. Stuttgart, Germany.
- Seminar at IFOR-ETHZ (hosted by Komei Fukuda). A new algorithm for the weighted stable set problem in claw-free graphs. October 2007, Zurich - Switzerland.
- Seminar at EPFL (hosted by Friedrich Eisenbrand). The P-median problem in Y-free graphs: An application of the matching theory. June 2007. Lausanne - Switzerland.
- Seminar at IBM Watson (hosted by John Lee). The stable set polytope of quasi-line graphs. February 2007, New-York - USA.
- Seminar at IBM Zurich Research Lab (hosted by Eleni Pratsini). IP Modelling: Why Polyhedra Matter ? December 2006, Zurich - Switzerland.
- Mittag Seminar - MIT (hosted by Andreas Schultz). The stable set polytope of quasi-line graphs. September 2006, Cambridge - USA.

### 3.14.5 Invited seminars (National)

- Seminar at Labri (hosted by Paul Dorbec). The k-matching cover problem: min-max relation and algorithm. Decembre 2016, Bordeaux.
- Seminar at REALOPT (hosted by François Vanderbeck). The stochastic Shortest Path Problem. November 2016, Bordeaux.
- Seminar at GSCOP. When Fourier-Motzin meets shortest paths (on the way to clique covers in claw-free perfect graphs). April 2013, Grenoble.
- Seminar at ENS Lyon (hosted by Stephan Thomassé). When Fourier-Motzin meets shortest paths (on the way to clique covers in claw-free perfect graphs). November 2012.
- Seminar at Paris 6 (hosted by Ridha Mahjoub). Extended formulations for the design of approximation algorithms : an example in inventory control. March 2012, Paris.
- Seminar at LIF, University of Marseille (hosted by Yann Vaxes). Extended formulations for the design of approximation algorithms : an example in inventory control. April 2012, Marseille.
- Seminar at Labri (hosted by André Raspaud). An algorithmic decomposition of claw-free graphs leading to an  $O(n^3)$ -algorithm for the weighted stable set problem. March 2011. Bordeaux.
- Seminar at LAMSADE (hosted by Bernard Ries). An algorithmic decomposition algorithm for claw-free graphs leading to a  $O(n^3)$  algorithm for the weighted stable set problem. January 2011, Paris.
- Seminar at journées Math-Info. Integer programming as a tool for approximation algorithms: an example in inventory control. July 2010. Bordeaux
- Seminar at Séminaire du Comité de Projet Inria. Inventory Management in Supply Chain: A Simple Approach for Distribution Networks. May 2010. Bordeaux
- Seminar at REALOPT/LABRI (hosted by François Vanderbeck). The hidden matching structure of the composition of strips. March 2010, Bordeaux.
- Seminar at GSCOP (hosted by Andras Sebo). The hidden matching structure of the composition of strips : a polyhedral perspective. February 2010, Grenoble.
- Journée scientifique du Groupe de Travail POC. An extended characterization of the stable set polytope of claw-free graphs. Paris. November 2009
- Seminar at REALOPT, University of Bordeaux (hosted by F. Vanderbeck). On using the EOQ formula for inventory control in one-warehouse multi-retailers systems. March 2009, Bordeaux.
- Seminar at LIF, University of Marseille (hosted by Jean-Francois Maurras). The p-median Polytope of Y-free Graphs: An Application of the Matching Theory. February 2008, Marseille.
- Seminar at Paris - la Sorbonne (hosted by Nicolas Trotignon). The p-median Polytope of Y-free Graphs: An Application of the Matching Theory. January 2008, Paris.

- Seminar at Leibniz-IMAG laboratory (hosted by Andras Sebo). The stable set polytope of quasi-line graphs June 2005, Grenoble.
- Seminar at LIMOS Laboratory (hosted by Ridha Majhoub). The Stable set Polytope of Quasi Line Graphs: a Proof of Ben Rebea's Conjecture. May 2005, Clermont-ferrand.



**3.15 Références**

Prof. Maria Chudnovsky. Mathematics Department. PACM, Princeton University. Email: mchudnov@math.princeton.edu. Phone: +1 609 258-2833

Prof. Friedrich Eisenbrand. EPFL SB MATH AA. MA C1 573. Station 8. CH-1015 Lausanne. Email: Friedrich.Eisenbrand@epfl.ch. Phone: +41 21 693 2560

Dr. Maxim Sviridenko. Director of Research at Yahoo! Inc, New-York - USA. Email : sviri@yahoo-inc.co. Phone: +1 408 349-3300

Prof. Michel Goemans. MIT, Room 2-351. Department of Mathematics. Cambridge, MA 02139 - USA. Email : goemans@math.mit.edu. Phone: +1 617-253-2688

Prof. Thomas M. Lieblich. School of Basic Sciences EPFL. Institute of Mathematics. Office MA A1 417 - Station 8. 1015 Lausanne - Switzerland. Email : thomas.lieblich@epfl.ch. Phone : +41 21 693 2503

Prof. Gianpaolo Oriolo. Dipartimento di Ingegneria dell'Impresa. Università di Tor Vergata. Via del Politecnico, 1. 00133 Rome - Italy. Email : oriolo@disp.uniroma2.it. Phone : +39 06 7259 7797

Dr. Eleni Pratsini. Director of Cognitive IoT Solutions. Zurich Research Laboratory, Zurich, Switzerland. Email : PRA@zurich.ibm.com Phone : +41 79 533 0894

Dr. Andras Sebo (DR CNRS). G-SCOP. 46 av. Félix Viallet. 38000 Grenoble - France. Email : andras.sebo@grenoble-inp.fr. Phone : +33 476 57 48 99