



François GLINEUR

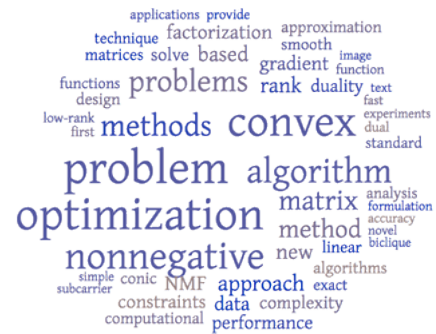
UCL / CORE

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Born on 2/10/1974. Belgian citizen, married, two children.

PROFESSIONAL APPOINTMENTS

- 2011– Full-time professor at *École Polytechnique de Louvain (EPL), Université Catholique de Louvain (UCL)*. Member of the ICTEAM Institute and affiliated to IMMAQ Institute, attached to *Center for Operations Research and Econometrics*
- 2002–2011 Full-time assistant professor at *École Polytechnique de Louvain, Université Catholique de Louvain* (permanent since October 2005)
- 2001–2002 Post-doctoral researcher at *Fonds National de la Recherche Scientifique*, attached to *Mathematics and Operations Research* department at *Faculté Polytechnique de Mons* (now *Université de Mons*) ; post-doctoral stay in the lab of prof. Tamás TERLAKY at *McMaster University, Hamilton* (Canada)

EDUCATION

- 1997–2001 Research Fellow at the *Fonds National de la Recherche Scientifique, Faculté Polytechnique de Mons* (now *Université de Mons*). *PhD in applied sciences* under the supervision of profs. Jacques TEGHEM and Tamás TERLAKY.
- 1992–1997 *Computer Science and Management Engineering degree* at *Université de Mons & Engineering degree* at *Ecole Supérieure d'Electricité* (Paris) (T.I.M.E. dual degree)

SUMMARY OF TEACHING ACTIVITIES

- Currently teaching seven courses and projects at all stages of the EPL engineering programs (introductory bachelor, major/minor bachelor, common and elective master level courses)
- Supervision of more than forty master theses in mathematical engineering
- Involvement in doctoral courses at UCL and outside of UCL

SUMMARY OF RESEARCH ACTIVITIES

- Main research topic in optimization: convex modeling and algorithm, applications in engineering; second area of expertise in numerical linear algebra: nonnegative matrix factorization; more than 50 peer-reviewed publications (1348 citations, h-index 19)
- Supervision of nine doctoral theses (including two ongoing)
- Research contracts: 10 FNRS/FRIA grants, one EOS (2018), one ARC (2014), several IAPs ; with industry: two FIRST (2008/11) and one Doctiris (2012) grants, a BioWin (WR) project (2017)

SUMMARY OF SERVICE ACTIVITIES

- Vice-dean of the *École Polytechnique de Louvain* since 2016
- Organization of workshops and conferences, including ORBEL30 in Louvain-la-Neuve (January 2016, 130 participants), the Convex and Nonsmooth optimization cluster at ICCOPT (July 2013), BFG'09 in Leuven (September 2009, 250 participants) and ORBEL19 in Louvain-la-Neuve (January 2005, 125 participants)
- Program director for the mathematical engineering degrees between 2006 and 2012, vice-head of the mathematical engineering division between 2012 and 2015 and in 2017
- Calculus examiner for the entrance exam between 2007 and 2011

List of publications

(see complete list of publications in separate file)

Thesis supervision

1. Robert CHARES, Cones and Interior-Point Algorithms for Structured Convex Optimization involving Powers and Exponentials (2005-2009)
2. Nicolas GILLIS, Nonnegative Matrix Factorization, Complexity, Algorithms, Applications (2007-2011)
3. Jonathan DENIES, Development and implementation of topology optimization methods for the design of electromagnetic devices with multi-physics coupling (with B. Dehez and H. Ben Ahmed, ENS Cachan, 2008-2013)
4. Olivier DEVOLDER, Exactness, Inexactness and Stochasticity in First-order Methods for Large-scale Convex Optimization (with Y. Nesterov, 2009-2013)
5. Arnaud LATIERS, Dynamic demand response as provider of ancillary services (with E. De Jaeger, 2012-2016)
6. Adrien TAYLOR, Control and optimization of networked systems with poorly understood couplings (with J. Hendrickx, 2012-2017)
7. Benoît MARTIN, Autonomous microgrids for rural electrification: joint investment planning of power generation and distribution through convex optimization (with E. De Jaeger, 2013-2018)
8. Julien DEWEZ, Nonnegative Rank and Extended Formulations (2013-)
9. Boris DEHEM, Predictive maintenance for proton therapy machines (2017-)

(Recent) Invitations to conferences and seminars (excerpt)

1. Invited speaker at the *Optimization for Learning workshop 2018* (Pontificia Universidad Católica de Chile, Santiago), Performance estimation of first-order methods, January 2018
2. Invited speaker at the *University of Trier colloquium*, Performance estimation of first-order methods, May 2017
3. Invited speaker at the Phi-Tab workshop, Telecom ParisTech (Paris), Performance estimation of first-order methods for composite convex optimization, September 2016
4. *CentER Operations Research seminar* (Tilburg university), Performance estimation of first-order methods for (composite) convex optimization, January 2016
5. Invited speaker at the *Optimization and Big Data workshop 2015*, Smooth Strongly Convex Interpolation and Exact Worst-case Performance of First-order Methods, May 2015
6. *ERGO Seminar* (University of Edinburgh), Computing lower and upper bounds on the extension complexity of polytopes, May 2015
7. Speaker at Dagstuhl seminar 15082 (by invitation) Limitations of Convex Programming: Lower Bounds on Extended Formulations and Factorization Ranks, Wadern, Germany, February 15-20 2015, *A geometric lower bound for the nonnegative rank*
8. Speaker at the Fifth Cargese Workshop In Combinatorial Optimization (by invitation), IESC, France, September 12 2014, *Computing upper and lower bounds on the nonnegative rank*
9. *MIT-LIDS seminar*, June 3rd 2013, Second-order cone representations of positive semidefinite cones
10. Invited speaker at one-day conference on Selected Topics in Optimization at University of Mons, April 15 2013, *Towards an optimal method for convex optimization using an inexact first-order oracle*
11. Invited speaker at 4th SDP days, workshop at CWI Amsterdam, March 21-22 2013, *Second-order cone representations of positive semidefinite cones*

12. Speaker at Dagstuhl seminar 13082 (by invitation) Communication Complexity, Linear Optimization, and lower bounds for the nonnegative rank of matrices, Wadern, Germany, February 17-22 2013, *A geometric lower bound for the nonnegative rank*
13. *MIT-LIDS seminar*, November 28th 2012, Towards an optimal method for convex optimization using an inexact first-order oracle
14. Invited speaker at HPOPT2012, 12th International Workshop on High Performance Optimization: Algorithmic convexity and applications, Delft (The Netherlands), June 20-22 2012

Research grants, contracts and conventions, research networks (excerpt)

1. EOS (Excellence of Science) grant awarded by F.R.S.-FNRS on the topic *Structured Low-Rank Matrix/Tensor Approximation Numerical Optimization-Based Algorithms and Applications*, 2018-2021 (with P.A. ABSIL, L. DE LATHAUWER, B. DE MOOR, N. GILLIS, M. ISHTEVA, I. MARKOVSKY, P. PATRINOS, M. VAN BAREL)
2. BioWin (Région Wallonne) grant on the topic *Application of « Big data » digital technologies in the healthcare sector*, with IBA company, 2017-2019 (with B. MACQ and R. JUNGERS)
3. ARC (Action de Recherche Concertée) grant on the topic *Mining and Optimization of Big Data Models - Developing and Applying Efficient Algorithms for Very Large-Scale Structured Models*, 2014-2019 (as “porte-parole” promotor, with P.A. ABSIL, V. BLONDEL, J.-C. DELVENNE, R. LAMBIOTTE, Y. NESTEROV)
4. (as supervisor) *Chargé de Recherches F.N.R.S. grant (postdoctoral researcher)* for Nicolas GILLIS (October 2012-September 2015, resigned October 2013)
5. (as supervisor) DOCTIRIS grant from Région de Bruxelles-Capitale to fund doctoral student Arnaud LATIERS (February 2012-September 2016, co-promotor Emmanuel De Jaeger), with industrial partner ELIA
6. Member of the Marie Curie Initial Training Network on Mixed Integer Nonlinear Optimization (MINO, n. 316647), 2012-2016
7. WBI grant supporting travel and collaboration with Romanian Academy of Sciences (with Ion NECOARA) on the topic Huge-scale sparse optimization: theory, algorithms and applications, 2011-2013
8. MIT-Belgium - Université catholique de Louvain Seed Fund to fund collaboration with Prof. Parrilo (MIT) on the topic Nonnegative, Positive Semidefinite and Cone Ranks: Algebraic, Geometric, and Complexity Aspects (2011-2013)
9. (as supervisor) *Chargé de Recherches F.N.R.S. grant (postdoctoral researcher)* for Paschalis TSIAFLAKIS (co-promotor Luc VANDENDORPE, October 2011-September 2014, declined)
10. (as supervisor) *Françqui Intercommunity scientific collaborator grant (postdoctoral researcher)* for Paschalis TSIAFLAKIS (January-July 2011)
11. FIRST-Entreprise (Région wallonne) project on the topic « Modelling and solving optimization problems in energy utility systems » with BELSIM s.a. (funding for researcher Damien GÉRARD, September 2011-August 2012)
12. Consulting contracts with OPTIMOR HRM CONSULTANTS company (August 2007, July 2010 and October 2010)
13. (as supervisor) *Aspirant F.N.R.S. grant (doctoral researcher)* funding the PhD of Olivier DEVOLDER (October 2009-September 2013)
14. *Tournesol* grant (Hubert Curien partnership, C.G.R.I.), on the topic Optimization over positive polynomials: numerical aspects (2009-2010, with P. VAN DOOREN) ; French partner LAAS (Laboratoire d’Architecture and d’Analyse des Systèmes, Toulouse, with D. HENRION and J. LASSERRE)

15. FIRST-Entreprise (Région wallonne) project on the topic « Robopt – Robust optimization » with SAMTECH s.a. (two-year funding for postdoctoral researcher Samih ZEIN, 2008-2010)
16. (as supervisor) *Aspirant F.R.I.A. (doctoral researcher)* funding the PhD of Jonathan DENIES (October 2008-September 2012, with B. DEHEZ)
17. FSR UCL grant funding the PhD of J. DENIES (with B. Dehez, 15 months, 2008)
18. (as supervisor) *Aspirant F.N.R.S. (doctoral researcher)* funding the PhD of Nicolas GILLIS (October 2007-September 2011)
19. (as supervisor) *Aspirant F.R.I.A. (doctoral researcher)* funding the PhD of Robert CHARES (October 2006-September 2009)
20. Member du Marie Curie Initial Training Network on Algorithmic Discrete Optimization (ADONET, n. 504438), 2004-2007
21. FSR UCL grant funding the PhD of R. CHARES (15 months, 2003, postponed to 2005)

Conference and seminar organization (excerpt)

- Co-organizer of the IMMAQ/ICTEAM/EPL/SC *Doctorat Honoris Causa in Data Science* ceremony, sponsor of prof. Stephen BOYD, May 18 2017
- Co-organizer (with J. LOUVEAUX) of the 36th WIC Symposium on Information Theory in the Benelux and 5th joint WIC/IEEE SP Symposium on Information Theory and Signal Processing in the Benelux, May 19-20 2016
- Co-organizer (program chair) of the ORBEL30 conference (chair M. QUEYRANNE), 30th Conference on Quantitative Methods for Decision Making, annual meeting of the Belgian Operations Research society, 28-29 January 2016 at Université catholique de Louvain (80 speakers, 130 participants)
- Chair (with P. RICHTARIK) of cluster on « Convex and Nonsmooth optimization » (more than 60 talks scheduled) at ICCOPT 2013, Fourth International Conference on Continuous Optimization, Lisbon, July 27-August 1st 2013
- Co-organizer of BFG09 (chair M. DIEHL), 14th Belgian-French-German Conference on Optimization, Leuven, September 14-18 2009 (more than 250 participants)
- Organizer (chair) of the Optimization and Engineering workshop (with Y. CRAMA, E. LOUTE and A. SARTENAER), 24 May 2006 at Université catholique de Louvain (40 participants)
- Co-chair of the ORBEL19 conference (with B. FORTZ), 19th Conference on Quantitative Methods for Decision Making, annual meeting of the Belgian Operations Research society, 27- 28 January 2005 at Université catholique de Louvain (70 speakers, 125 participants)

Awards and recognition

1. (as supervisor) *2016 Robert Sinave award* for Arnaud LATIERS's PhD thesis (by Belgian Electricity society SRBE to the best PhD thesis in 2014-2016)
2. (as supervisor) *2014 Alston S. Householder award* for Nicolas GILLIS's PhD thesis (best PhD dissertation in numerical linear algebra in 2011-2013)
3. (as supervisor) *2014 ICTEAM thesis award* for Olivier DEVOLDER's PhD thesis (best PhD thesis defended within the ICTEAM institute)
4. (as supervisor) *2013 ORBEL award* for Sophie MARQUAND and Cyrille LEFÈVRE (awarded by Belgian Operations Research society to the best master thesis)
5. (as supervisor) *2012 ICTEAM thesis award* for Nicolas GILLIS (best PhD thesis defended within the ICTEAM institute)
6. (as supervisor) First prize in *S.C.M.-FFJM mathematical modelling contest* La conception d'un réseau de bus (2009) awarded to a team of students (INMA1375 course)

7. (as supervisor) *2008 ORBEL award* for Nicolas GILLIS's PhD thesis (awarded by Belgian Operations Research society to best master thesis in Belgium)
8. *Richard Stiévenart award* for the best master thesis defense, *Université de Mons* (June 1997)

Doctoral courses (invited lecturer, excerpt)

- Algorithmic Convex Optimization (with Y. Nesterov), SOCN Graduate School in Systems Optimization Control and Networks, UCL, October 2016 (15 hours, more than 40 participants)
- Convex optimization Why ? What ? How ?, eVITA Winter School on eScience on Optimization, SINTEF, Norway, 11-16 January 2009
- Introduction to continuous optimization, doctoral course within the IAP *Inverse problems and optimization in low frequency electromagnetism*, ULg, March 2008
- Convex Optimization – models and methods, *SOCN Graduate School in Systems Optimization Control and Networks*, UCL, November-December 2006

Participation to doctoral thesis committees

(member of more than 30 juries, at UCL, in Belgium and abroad)