

Augustin Cosse

NYU Center for Data Science,
60 5th Ave,
New York, NY 10011, USA
acosse@{math.mit.edu,nyu.edu}

- Research Interests** Convex optimization, machine learning, large scale optimization and big data, compressed sensing, numerical analysis, algorithms and complexity, inverse scattering.
- Employment**
- Ecole Normale Supérieure, Ulm, Paris.**
Postdoctoral Fellow, Nov. 2017 -
Département de Mathématiques et Applications (DMA).
Fondation Sciences Mathématiques de Paris
- New York University, New York, NY.**
Visiting Postdoctoral Fellow, Oct. 2016 - Oct. 2017
Courant Institute of Mathematical Sciences and Center for Data Science.
Francqui Foundation Fellow
- Education**
- The University of Chicago, Chicago, IL.**
Invited student, Sept. 2015 - Sept. 2016
Department of Statistics.
- Harvard University, Cambridge, MA.**
Fellow, Sept. 2014 - July 2015
Institute for Applied Computational Science, School of Engineering.
- Massachusetts Institute of Technology, Cambridge, MA.**
Invited graduate student, Sept. 2013 - Sept. 2014
Imaging and Computing Group, Department of Mathematics.
FNRS travel grant, MISTI grant, MITEI fund
Activities : MIT sailing club, MIT soccer, MIT rowing club, MIT MUN
- Université Catholique de Louvain, Louvain-la-Neuve, Belgium**
PhD in Engineering (EECS and Applied Math.), 2012 - 2016
Image and Signal Processing Group, ICTEAM Institute.
Supervisors : Laurent Demanet, Laurent Jacques
- Ecole Polytechnique de Louvain, Louvain-la-Neuve, Belgium**
M.Eng Mathematical Engineering, 2009 - 2011
2010 - 2011 : *Summa cum laude* (ranked first in mathematical engineering)
2009 - 2010 : *Magna cum laude*
Signal Processing, Modeling and simulation in physics
- Publications**
- Stable rank-one matrix completion is solved by the second round of the Lasserre hierarchy, Augustin Cosse, Laurent Demanet, preprint.
- Inverse scattering via moments relaxation, Augustin Cosse, Laurent Demanet, preprint.
- Blind deconvolution without sparsity, Ali Ahmed, Augustin Cosse, Laurent Demanet, preprint.
- Rank-one matrix completion is solved by the sum-of-squares relaxation of order two, Augustin Cosse, Laurent Demanet, in Proc. IEEE CAMSAP 2015.

A convex approach to blind deconvolution with diverse inputs, Ali Ahmed, Augustin Cosse, Laurent Demanet, in Proc. IEEE CAMSAP 2015.

A short note on rank-2 relaxation for waveform inversion, Augustin Cosse, Stephen D. Shank, Laurent Demanet, in Proc. SEG annual meeting 2015.

Inverse wave scattering via moment relaxation, Augustin Cosse, Laurent Demanet, in Proc. Waves 2015.

Microwave Imaging From Wheel-of-Time Data, Khaldoun Alkhalifeh, Augustin Cosse, Christophe Craeye, Benoit Macq, in Proc. EUCAP 2014.

Diffeomorphic surface-based registration for MR-US fusion in prostate brachytherapy, Augustin Cosse, in Proc. IEEE MELECON 2012.

Awards/Grants	Fondation Sciences Mathématiques de Paris (FSMP) Fellow 2017-2018. Francqui Foundation Fellow 2016-2017 Belgian National Science Foundation Research Fellow, 2014-2016 MISTI (MIT International Science and Technology) Grant, 2013 Belgian National Science Foundation (FNRS) Travel Grant, 2013 Belgian National Science Foundation Research Fellow, 2012-2014 IEEE Region 8 Best Paper Award (3rd place), 2012 IEEE UCL Student Chapter Best Thesis Award, 2011 FFJM, SCM and Véolia award for optimizing a public transport network, 2009
Teaching	Substitute teacher for STAT/MATH37760 (Modern Signal Processing) STAT31100 (Numerical Methods for PDEs) The University of Chicago 2015 - 2016. TA Project in Electronics (UCL, LSM, Graduate) 2011, 2012 TA Engineering Project II (UCL, EPL, Undergraduate) 2012, 2013
Programming	Matlab, Python, C (in the past I coded in Java)
Languages	French : Native English : Fluent (TOEFL 109/120) Dutch : Intermediate
Personal Achievements	Member of MIT Rowing Club, Novice Competitive team. Lowell Textile River Regatta, Mens 4 : silver, Mixed 8 : bronze Chair (WTO) at MIT Model United Nations Conference (MITMUNC IV) Music : 6 years music theory, 9 years classical guitar (Q4-level), Académie de Musique de Court-Saint-Etienne Ski Touring : Spitzhorn, 2807 m (Winter 2012/2013) Running, Hiking : Tour des Combins (Summer 2010), Tour du Mont Blanc (Summer 2009), Pointe de Drône, 2950 m. (Summer 2010), Mount Monadnock (USA, NH, Summer 2014)
Research Stays	Hausdorff Research Institute for Mathematics (HIM), Bonn, Germany, January 2016, Trimester Program on the Mathematics of Signal Processing
Reviewing activities	IEEE, 2013 International Conference on Sampling Theory and Applications