Tarik Roukny

Warmoesberg 26,
1000 Brussel, Belgium
tarik.roukny[at]kuleuven[dot]be

Finance, Technology, Regulation
Systemic Risk, Market Design, Platforms

Academic Employment

2018 - now	KU Leuven, Faculty of Economics and Business Assistant Professor of Finance (tenure-track)
2016 - 2018	Massachusetts Institute of Technology, Media Lab Postdoctoral Research Associate

Education

2006-2016	Université Libre de Bruxelles, École Polytechnique Ph.D. in Engineering and Technology Sciences (2016) M.Sc. in Computer Science Engineering (2011) B.Sc. in Engineering and Applied Sciences (2009)
2015 (Spring)	Stanford University, Department of Economics Visiting Scholar (Prof. Matthew O. Jackson)
2014 (Fall)	University of Cambridge, Isaac Newton Institute *Systemic Risk Program* (Prof. Fernando Vega-Redondo and Prof. Rama Cont)
2014 (Spring)	University of Oxford, Said Business School Wiener-Anspach Fellow (Dr. Felix Reed-Tsochas)
2010 – 2011	Universidad Politècnica Madrid, Department of Artificial Intelligence Erasmus Exchange

Other Experience

2019 (now)	National Bank of Belgium Visiting Researcher
2018 (Fall)	European Systemic Risk Board Visiting Financial Stability Expert
2016 (Summer)	European Systemic Risk Board Consultant
2015 (Fall)	European Central Bank Trainee Program (Dr. Tuomas Peltonen)
2013 - 2015	Deutsche Bundesbank, Department of Research External Researcher
2013 (Spring)	Deutsche Bundesbank, Department of Research Internship (Dr. Co-Pierre Georg)

Short-term Visits

2017	European Systemic Risk Board
2016	Dep. Banking and Finance - University of Zurich (Dr. Marco D'Errico), De Nederlandsche Bank (Prof. Iman van Lelyveld)
2015	De Nederlandsche Bank (Prof. Iman van Lelyveld), National Spanish Tax Agency (Dr. Ignacio Gonzales)
2014	Banco de Mexico (Dr. Serafin Martinez-Jaramillo), Financial Networks Analytics (FNA) (Dr. Kimmo Soramaki), Dep. Banking and Finance - University of Zurich (Prof. Stefano Battiston)
2013	INET - University of Oxford (Prof. Doyne J. Farmer)
2012	IMT Lucca (Prof. Guido Caldarelli), Chair of System Design - ETH Zurich (Prof. Stefano Battiston)

Peer-Reviewed Publications

2020	*Compressing Over-the-Counter Markets* with Marco D'Errico (ESRB) *Operations Research*, Accepted **ESRB Ieke van den Burg Prize 2017** **ECMI Best Paper 2020**
2020	*Generalists and Specialists in the Credit Market* with Daniel Fricke (UCL - LSE - Deutsche Bundesbank) *Journal of Banking and Finance*, Volume 112, 105335
2018	*Interconnectedness as a Source of Uncertainty in Systemic Risk* with Stefano Battiston (UZH) and Joseph E. Stiglitz (Columbia University) *Journal of Financial Stability*, Volume 35, 93-106
2016	*The Price of Complexity in Financial Networks* with Stefano Battiston (UZH), Guido Caldarelli (IMT), Robert May (Oxford University) and Joseph E. Stiglitz (Columbia University) *Proceedings of the National Academy of Science (PNAS)*, 2016 113 (36) 10031-10036
2013	*Default Cascades in Complex Networks: Topology and Systemic Risk* with Hugues Bersini (ULB), Hugues Pirotte (ULB), Guido Caldarelli (IMT Lucca) & Stefano Battiston (ETH Zurich) *Scientific Reports*, Nature Group, Volume 3: 2013

Working/Submitted Papers

2020	*Banking Barriers to the Green Economy* *Available upon request* with Hans Degryse (KUL) and Joris Tielens (NBB)
2019	*Vertically Disintegrated Platforms* *Available at SSRN 3507355* with Christoph Aymanns (LSE) and Mathias Dewatripont (ULB)
2019	*Financial Wealth and Early Career Mobility* *Available upon request* with Milan van den Heuvel (UGhent), Jan Ryckebush (UGhent) and Koen Schoors (UGhent)

Other Publications

2018	*Compressing OTC Markets - Policy Brief* *Research Bulletin*, MIT Golub Center for Finance and Policy, 04/2018
2016	*Shedding lights on dark markets: first insights from the new EU-wide OTC derivative dataset* with Jorge Abad (CEMFI), Inaki Aldasoro (BIS), Christoph Aymanns (LSE), Marco D'Errico (UZH), Linda Fache Rousova (ECB), Peter Hoffman (ECB) and Sam Langfield (ESRB) *Occasional Paper No. 11/16*, European Systemic Risk Board
2014	*A Network Analysis of the Evolution the German Interbank Market* with Co-Pierre Georg (Deutsche Bundesbank) & Stefano Battiston (UZH) *Discussion Paper*, Deutsche Bundesbank, no 22/2014

Awards and Grants

2020	Best Paper Award - European Capital Markets Institute (ECMI)
2019	Best Teaching Award - Faculty of Economics and Business, KU Leuven
2019	National Bank of Belgium initiative on Climate Change (30k EUR)
2018	Seed Research Grant, KU Leuven (100k EUR)
2017	Young Research Initiative Fellow, United Nations Trade and Development Conference
2017	Winner of the ESRB Ieke van den Burg Prize 2017
2016	Visiting Expert Grant, European Central Bank (ECB)
2015	US Visiting Grant, Belgian National Science Foundation (FRS-FNRS)
2014	Isaac Newton Fellowship, INI Program Systemic Risk, Cambridge University
2014	Project Support Grant, Wiener Anspach Foundation, Oxford University
2013-2015	Visiting Fellowship, Deutsche Bundesbank

2012-2016	Belgian National Science Foundation (FRS-FNRS) Fellowship
2011-2012	Seed Financing Doctoral Grant, National Bank of Belgium

Other Training

12/2016	"*Econometrics of Networks*" CORE, Univeristé Catholique de Louvain'
07/2013	"*Modeling and Policy Design for Financial Crises*" WEHIA, University of Reykjavik
07/2013	"*International School on Network Science*" NetSci, Technical University of Denmark, Copenhaguen
10/2012	"*Complex Financial Networks*" FOC - CRISIS, IMT Lucca

Academic Activities

Teaching	*Modern Banking and Financial Technology* Master of Business Administration - Spring 2020 *KU Leuven, Faculty of Economics and Business* *Banking* Master of Business Administration - Spring 2019 *KU Leuven, Faculty of Economics and Business* *Principles of Scientific Programming* Master of Quantitative Finance - Fall 2014 *Solvay Brussels School of Economics and Management*
Referee	Management Science (Informs), Operations Research (Informs), Journal of Banking and Finance (Elsevier), Journal of Financial Stability (Elsevier), European Central Bank Working Paper Series, Journal of Network Theory and Finance (Risk), Scientific Reports (Nature Group), Journal of Complex Networks (Oxford), Plos ONE (PLoS), EPJ Data Science (Springer), Physica A (Elsevier), Advances in Complex Systems
Conference Organisation	GraphNet Seminars at ULB (Brussels), Deutsche Bundesbank Conference on Networks 2013 (Frankfurt), BENet 2014 (Brussels), BESC 2014 (Shanghai), BESC 2015 (Nanjing), Network Models and Stress-testing - CEMLA 2015 (Mexico), Regulatory Dataframeworks Workshop - ESRB (Frankfurt), Network Models and Stress-testing - CEMLA 2017 (Mexico), Postdoc Seminar Series at MIT Media Lab (Boston), Cryptovalley Conference (Zug), Complex Networks 2018 (Cambridge), 4th Benelux Banking Research Day (Brussels)
Seminars	KUL Finance Seminar Fall 2019, Spring 2020 (Leuven), Belgium Finance Research Seminar (in collaboration with National Bank of Belgium) (Brussels)

Conferences and Seminars

2020	American Economic Association Annual Meeting (San Diego), 13th Digital Economics Conference (Toulouse), Regulation Finance Conference - The Impact of Post-Crisis Regulation on Financial Markets (Philadelphia), KU Leuven - Brownbag Seminar (Leuven), the Twenty-First ACM Conference on Economics and Computation EC'2020 (Budapest), Central Bank Research Association Annual Meeting (London), The Second New York Fed Research Conference on FinTech (New York City), 11th Biennial Conference of the National Bank of Belgium (Brussels), MIT Digital Currency Initiative Seminar (Boston), 3rd Toronto FinTech Conference (Toronto), ECMI Annual Conference, INFORMS Annual Conference (Maryland), European Banking Authority Policy Research Workshop - New technologies in the banking sector: impacts, risks and opportunities (Paris), *Louvain Economics of Digitization Seminar (Louvain-la-Neuve), *The Nederlandsche Bank (Amsterdam), *13th Financial Risks International Forum (Paris), *First Edinburgh Conference on the Economics of Financial Technology (Edinburg), *10th International Conference of the Financial Engineering and Banking Society (Chania)

2019	Consob-Bocconi Baffi-Carefin meeting (Milan), Swiss Society for FinancialMarket Research (Zurich), Spring Meeting of Young Economists (Brussels), International Banking, Economics and Finance Association (San Francisco), 5th International Conference on Computational Social Science (Amsterdam), Peer-to-Peer Financial System Workshop - European Central Bank (Frankfurt), The International Sociological Association Research Committee 28 Summer Meeting (Princeton), The Royal Academy of Science (Brussels), University of Antwerp, Digital currencies, central banks and the blockchain: policy implications - BIS, CEBRA and ONB (Vienna), Social Mobility joint conference AMSE - Banque de France - CEPR (Paris), AI Belgium PhD School Seminar (Brussels), 6th Annual Payments Canada and Bank of Canada Joint Payments Research Symposium (Ottawa), Finance seminar - Vrije Universteit Amsterdam (Amsterdam)
2018	Joint Expert Group in Interconnectedness - ESRB/ECB (Frankfurt), Belgian Finance Research Forum (Brussels), CompleNet 2018 (Boston), Finance lunch Seminar - MIT Sloan, Solvay Brussels School of Economics and Management (Brussels)
2017	United Nations Conference on Trade and Development (Geneva), ESRB 2nd Annual Conference (Frankfurt), Workshop on Measurements and Control of Systemic Risk (Montreal), Conference on Complex Systems 2017 (Cancun), SIAM Network Workshop (Pittsburgh), International Conference on Network Science 2017 (Indianapolis), International Banking, Economics and Finance Association 2017 (San Diego), Joint Expert Group in Interconnectedness - ESRB/ECB (Frankfurt), First Conference of Financial Networks and Sustainability (Zurich), American Economic Association 2017 Annual Meeting (Chicago), Finance Seminar - University of St. Gallen, LIDS Seminar - MIT, Financial Mathematics Seminar - Worcester Polytecnic School, Institute for Data, Systems and Society (IDSS) - MIT, Chair of Mathematical Finance - Imperial Colledge London, NaXys Seminar - University of Namur, Media Lab - MIT, Faculty of Business and Economics - KU Leuven
2016	BeNet 2016 (Louvain-La-Neuve), Systemic Risk in Derivatives Markets - Systemic Risk Center (London), IFABS 2016 (Barcelona), Joint Expert Group in Interconnectedness - ESRB/ECB (Frankfurt), Belgian Research Financial Forum (Brussels), Interaction Seminar - GREQAM Université of Aix-Marseille (Marseille), ESRB Seminar - European Central Bank (Frankfurt), Research Seminar - The Nederlandsche Bank (Amsterdam), CeNDEF- University of Amsterdam (Amsterdam), CORE - Université Catholique de Louvain (Louvain-la-Neuve), Department of Economics - University of Ghent (Ghent), CeReFIM - University of Namur (Namur), Departement of Banking and Finance - University of Zurich (Zurich)
2015	Joint Expert Group in Interconnectedness - ESRB/ECB (Frankfurt), Stress Testing For Financial Stability - CEMLA/University of Zurich (Mexico), Systemic Risk Analytics - ESRB/Bank of Finland (Helsinki), Endogenous Networks and Equilibrium Dynamics - Banque de France (Paris), Media Lab - Massachusetts Institute of Technology (Boston), Department of Economics - Ghent University (Ghent), Emile Bernheim Centre - Université Libre de Bruxelles (Brussels), Department of Economics - Stanford University (Stanford)
2014	Network Analysis and Financial Stability Issues - CEMLA (Mexico), ECCS 2014 (Lucca), Global System Science Meeting (Lucca), Eco**2 Symposium - London School of Economics (London), Isaac Newton Institute - University of Cambridge (Cambridge), NaXys - Université de Namur (Namur), Financial Complex Systems (FiXS) - Université Catholique de Louvain (Louvain-la-Neuve), INET - Oxford University (Oxford), Paris School of Economics (PSE) - Unversité Paris Sorbonne-Panthéon (Paris)
2013	Workshop on Financial Networks - Deutsche Bundesbank (Frankfurt), IFABS 2103 (Nottingham), WEHIA 2013 (Reykjavik), Second GSS Conference (Brussels), Networks of Networks - NetSci 2013 (Copenhagen), Network Approaches to Interbank Markets (Castellon), DG-Market - European Commission (Brussels), INET - Oxford University (Oxford), IB2 - ULB and VUB (Brussels), ECARES - Solvay Brussels School of Economics and Management (Brussels)
2012	Modelling Financial Systems - Latsis Symposium (Zurich), Data-driven Modelling of Contagion Processes - ECCS 2012 (Brussels)

Conference Discussions

07/2019	*Regulation automata: using the blockchain to efficiently supervise financial markets* (Raphael Auer - BIS) Peer-to-Peer Financial System Workshop - European Central Bank, Frankfurt

06/2019 *Lighting up the Dark: Liquidity in the German Corporate Bond Market* (Yalin Gunduz - Deutsched Bundesbank)
International Banking, Economics and Finance Association (IBEFA), San Francisco

03/2019 *Information Sharing and Bank Risk-Taking Behavior* (Beni Kouevi-Gath - ECARES, ULB)
Spring Meeting of Young Economists, Brussels

06/2017 *CDS market structure and systemic risk* (Iman van Lelyveld - De Nederlandsche Bank)
Session on Understanding Derivative Markets Using Trade Repository Data
International Banking, Economics and Finance Association (IBEFA), San Diego

05/2014 *Mandatory Disclosure and Financial Contagion* (Gadi Barlevy - Chicago Fed)
Interconnectedness: Building Bridges between Policy and Research
International Monetary Fund (IMF) Conference, Washington DC

10/2013 *Taking Uncertainty Seriously: Simplicity versus Complexity in Financial Regulation* (Sujit Kapadia - Bank of England)
Banking Regulation in Complex Financial Systems
Deutsche Bundesbank Conference, Frankfurt

Computer Skills

C, C++, JAVA, HTML, CSS, PHP, SQL, MATLAB, R, Python, STATA, Qt, OpenGL, LISP, Perl, Bash, MS Office, Latex, Django, Git, Bootstrap

Software Development

NetGen (http://www.netgen-toolbox.net)
Open source software that cleans and analyzes raw data on financial networks. Aimed at helping policy makers and academics in analysing markets through the lens of data mining and network theory

Languages

French (native), English (fluent), Spanish (fluent), Dutch (basic), Arabic (basic)

last update: November 2020