

# Luca Mingarelli, PhD

**Economist**, European Central Bank  
Securities & Financial Market Data division  
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My [website](#) and [professional page](#)

**Research interests** – Empirical banking and financial institutions  
– Interconnectedness and systemic risk transmission

**Policy Experience** 4-years experience in DG Macroprudential Policy and Financial Stability. Produced internal notes and reports for DGMF senior management, ECB vice-president, ESRB General Board, SRB General Board. Regular analytical input and drafting for ECB Financial Stability Review. Experience in leading and managing small teams.

**Employment**  
**European Central Bank:** Economist, 2023-Present  
**European Central Bank:** Financial Stability Expert, 2020-2023  
**European Central Bank:** PhD Trainee, 2019-2020  
**Imperial College London:** Research Fellow, 2018

**Consultancy** CVING, JinnCapital, Outsmart Insight, BAE Systems, ABACE Group (2014-2022).

**Education**  
**Imperial College London**  
Ph.D., Mathematics, 2014-2018.  
MRes, Mathematical Sciences, 2013-2014.  
**King's College London**  
MSc, Theoretical Physics, 2012-2013 .  
**Università di Bologna**  
BSc, Physics, 2009-2012 (*cum laude*).

**Teaching**  
**DG-MF, European Central Bank**  
(2019-2023) Taught courses on micro-structural and network models of financial contagion, python, git, big data, and high-performance computing.  
**Department of Mathematics, Imperial College London**  
(2014-2018) Graduate teaching assistant in: Probability and Statistics, Statistical Modelling, Time Series, Analysis, Mathematical Methods I and II, Differential Equations, Mechanics, Python, Matlab, Maple, Computing in C++, Mathematics and Physics courses for the Chemistry, Physics, and Aerospace departments.

**Technical Skills** Big Data, Python, R, C++, UNIX, Matlab, Mathematica, Maple, Git, SQL, PySpark, Hadoop

**Software dev.** [bindata](#), [CryptPandas](#), [PyOracleClient](#), [mtalg](#), Connectors (ECB internal), ecbttools (ECB internal), epic (ECB internal)

**Big Data Experience** Experience with the following datasets: AnaCredit, SHS-S, SHS-G, EMIR, MMSR, SFTDS, COREP, FINREP, RIAD, ROSSI, GLEIF, CSDB, Trade data, iBACH, Orbis, Moody's Credit Edge, Urgentem, Moody's 427, ISS

## Current Research and Working Papers

**Financial contagion and resolution strategies**, with P. Bochmann, L. Kuitunen, J. Metzler, M. Montagna, and M. Spaeth;

**Synthetic financial networks: granular data for the broader public** (*forthcoming*)

**Correlated default events and systemic risk**, with G. Fukker, A. Grassi, and M. Sydow (*forthcoming*)

**Dawn of the (Half) Dead: The Twisted World of Zombie Identification**, with B. Ravanetti, T. Shakir, and J. Wendelborn; *ECB Working Paper Series, No 2743*, 2022

**Contagion from market price impact: a price-at-risk perspective**, with G. Fukker, M. Kaijser, and M. Sydow; *ECB Working Paper Series, No 2692*, 2022

**Euro Area banks' sensitivity to changes in carbon price**, with M. Belloni, and F. Kuik; *ECB Working Paper Series, No 2654*, 2022

**Shock amplification in an interconnected financial system of banks and investment funds**, with M. Sydow, A. Schilte, G. Covi, M. Deipenbrock, L. Del Vecchio, P. Fiedor, G. Fukker, M. Gehrend, R. Gourdel, A. Grassi, B. Hilberg, M. Kaijser, G. Kaoudis, M. Montagna, T. Piquard, D. Salakhova, N. Tente, *ECB Working Paper Series, No 2581*, 2021;

## Policy Publications

**Key linkages between banks and non-bank financial institutions**, with E. Franceschi, M. Grodzicki, B. Kagerer, C. Kaufmann, F. Lenoci, C. Pancaro, and R. Senner, *ECB Financial Stability Review*, 2023;

**The macroprudential challenge of climate change**, with ECB/ESRB Project Team on climate risk monitoring, *ECB and ESRB Report*, 2022;

**Price-at-risk: systemic risk from price-impact induced contagion**, with G. Fukker, M. Kaijser, and M. Sydow; *SUERF Policy Brief, No 466*, 2022

**Can banks weather the green transition? The financial risks of increasingly stringent climate policies**, with M. Belloni and F. Kuik; *SUERF Policy Brief, No 345*, 2022

**Climate-related risk and financial stability**, with ECB/ESRB Project Team on climate risk monitoring, *ECB Report* and *ESRB Report*, 2021;

**Corporate zombification: post-pandemic risks in the euro area**, with T. Helmersson, B. Mosk, A. Pietsch, B. Ravanetti, T. Shakir, and J. Wendelborn, *ECB Financial Stability Review*, 2021;

**EA system-wide scenario analysis of large scale corporate bond downgrades**, with A. Bouveret, C. Christophersen, G. Coppins, M. Ferrari, C. Fricke, C. Graciani, S. Hack, P. Jakubik, M. Kaijser, M. Ludwig, A. Monzon, S. Pasqualini, D. Pérez, E. Rancoita, E. Schaanning, M. Sydow, A. Vinci, *ESRB Technical Notes*, 2020;

**Euro area banks' sensitivity to corporate decarbonisation**, with M. Belloni, R.M. Porcel, and P. Radulova, *ECB Financial Stability Review*, 2020;

**Assessing the systemic footprint of euro area banks**, with M. Adam, P. Bochmann, M. Grodzicki, M. Montagna, C. Rodriguez d'Acri, and M. Spaggiari, *ECB Financial Stability Review*, 2019;

Journal Publications	<p><b>Exotic vortex lattices in binary repulsive superfluids</b>, with Ryan Barnett, <i>Physical Review Letters</i>, 2019, (<a href="#">arXiv</a>);</p> <p><b>Vortex lattices in binary mixtures of repulsive superfluids</b>, with Eric Keaveny, Ryan Barnett, <i>Physical Review A</i>, 2018, (<a href="#">arXiv</a>);</p> <p><b>Simulating infinite vortex lattices in superfluids</b>, with Eric Keaveny, Ryan Barnett, <i>IOP-Journal of Physics: Condensed Matter</i>, 2016, (<a href="#">arXiv</a>); featured on <a href="#">JPhys+</a>;</p>	
Fellowships	Mentor @ <a href="#">LeadTheFuture</a> (2021-Present)	
Awards and other experiences	<p>Member of Mathematics Research committee (Imperial College, 2014-2017)</p> <p>Member of Teaching Strategy committee (Imperial College, 2013-2017)</p> <p>Representative of Mathematics PhD students (Imperial College, 2014-2017)</p> <p>APS Travel grant (New Orleans, 2017)</p> <p><a href="#">HAIRS</a> Grant for MBP-SQS Conference (Cape Town, 2016)</p> <p>Global Fellow at Massachusetts Institute of Technology (Boston, 2015)</p> <p>International School of Physics Grant (Varenna, 2014)</p> <p>King's Leadership Award (King's College London, 2013)</p>	
Conferences and Seminars	<ul style="list-style-type: none"> <li>• <a href="#">Corporate distress: Scale, Causes, and Consequences</a> (Invited speaker) — SNB and SIAW-HSG Workshop, Zurich 2023</li> <li>• <a href="#">Monetary Economics and International Finance Summer School</a> — University of Oxford, 2022</li> <li>• <a href="#">Systemic Risk and Stress Testing</a> — University of Chicago, 2022</li> <li>• Climate related risks and financial stability (Invited Lecturer) — University of Torino, Torino 2022</li> <li>• <a href="#">Workshop on Non-Viable Zombie Companies</a> (Panelist) — Joint Vienna Institute, Vienna 2021</li> <li>• <a href="#">Conference on Systemic Risk Analytics</a> — Bank of Finland and European Systemic Risk Board joint conference, Helsinki, 2021</li> <li>• <a href="#">Climate Risk Academy</a> — European University Institute, Florence, 2021</li> <li>• Random Matrix Theory and Networks — Max Planck Institute, Dresden, 2021</li> <li>• Economics &amp; Complex Systems Journal Club (Invited speaker) — École Polytechnique, Paris, 2020</li> <li>• Joint ECB-Oxford Workshop on Financial Interconnectedness (Organiser) — Frankfurt am Main 2020</li> <li>• <a href="#">INET Complexity Economics Seminar</a> (Invited speaker) — Oxford 2019</li> <li>• <a href="#">APS March Meeting</a> — New Orleans 2017</li> <li>• <a href="#">Joint Quantum Center, Multicomponent Atomic Condensates and Rotational Dynamics</a> — Newcastle 2016</li> <li>• <a href="#">Theory of Condensed Matter Group Annual Meeting</a> — Warwick 2016</li> <li>• <a href="#">Many-body physics in Synthetic Quantum Systems</a> — Stellenbosch 2016</li> <li>• <a href="#">Quantum Matter at Ultralow Temperature</a> — Varenna 2014</li> </ul>	
References	<p><b>Paul Hiebert</b>  Head of Division  European Central Bank  <a href="mailto:paul.hiebert@ecb.europa.eu">paul.hiebert@ecb.europa.eu</a></p>	<p><b>Costanza Rodriguez d'Acri</b>  Deputy Head of Division  European Central Bank  <a href="mailto:costanza.rodriguez@ecb.europa.eu">costanza.rodriguez@ecb.europa.eu</a></p>