

Co-Pierre Georg

University of Cape Town
Rondebosch 7701
South Africa

E-Mail: co-pierre.georg@uct.ac.za
co-pierre.georg@bundesbank.de
Web: <http://www.co-georg.de>
Twitter: [@co_georg](https://twitter.com/co_georg)

EMPLOYMENT

	University of Cape Town
Since 01/2018	Associate Professor (with tenure) African Institute of Financial Markets and Risk Management and School of Economics
11/2014 - 12/2017	Senior Lecturer, African Institute of Financial Markets and Risk Management, and School of Economics
06/2013 – 10/2014	Old Mutual Emerging Markets Lecturer, Graduate School of Business
Since 04/2017	Director, UCT Financial Innovation Lab
	Deutsche Bundesbank
Since 06/2012	Research Economist in Banking Supervision and -Regulation (part-time since 06/2013)

ACADEMIC POSITIONS

	Goethe University Frankfurt
Since 06/2014	Research Associate, Excellence Cluster SAFE, House of Finance
	Oxford University
Since 12/2016	Research Associate, Oxford Martin School for the 21st Century (INET)
03/2012-03/2014	Collaborating Research Scholar, Network Cluster, Keble College
	Columbia University
Since 01/2017	Affiliate, Center for Global Legal Transformation

EDUCATION

	Universidad Carlos III de Madrid
10/2011 – 06/2012	Postdoctoral Researcher, Interdisciplinary Group of Complex Systems Research, Departamento de Matemáticas
	Friedrich-Schiller-Universität Jena
05/2008 – 09/2011	PhD in Economics (<i>summa cum laude</i>), Dissertation title: „ <i>Systemic Risk in Interbank Markets</i> “, Supervisor: PD Dr Markus Pasche, Prof Dr Andreas Freytag
	New York University Stern School of Business
02/2011 – 04/2011	Visiting Scholar (Prof Viral V. Acharya, PhD)
	University of Karlsruhe
10/2000 - 12/2005	Diploma in Physics (<i>final mark:1.8</i>), Title of diploma thesis: „ <i>Interference Effects in Vector-boson Fusion</i> “, Supervisor: Prof Dr Dieter Zeppenfeld

VISITING POSITIONS

01/2016-02/2016	Columbia Business School (Decision, Risk, and Operations)
04/2014 –05/2014	Princeton University (Bendheim Center for Finance)
1/2014	Federal Reserve Bank of New York (Money & Payments, Financial Institutions, Capital Markets)
12/2012 – 01/2013	Xiamen University (Wang Yanan Institute)
2012 , 2013	University of Oxford (Saïd Business School)

PROFESSIONAL EXPERIENCE AND CONSULTING

Banco Central do Brazil (**2013**), Bank of Uganda (**2013**), Banque de France (**2011**), South African Reserve Bank (**2015, 2011, 2010**), Deutsche Bundesbank (**2010**)

PUBLICATIONS IN PEER-REVIEWED JOURNALS

1. „*Information Contagion and Systemic Risk*“ (with Toni Ahnert, Bank of Canada), Journal of Financial Stability, ([in press](#))
2. „*Contagious Herding and Endogenous Network Formation in Financial Networks*“ (with Christoph Aymanns, Oxford)), Journal of Banking and Finance 50(1), 273-285, (**2015**)
3. „*Revealing Patterns of Local Species Richness Along Environmental Gradients with a Novel Network Tool*“ (with Mara Baudena, Utrecht, Angel Sanchez, UC3M, Paloma Ruiz-Benito, Stirling, Miguel A. Rodriguez Alcalá, Miguel A. Zavala, Alcalá, and Max Rietkerk, Utrecht); Nature Scientific Reports 5, 11561, (**2015**)
4. „*Complex Derivatives*“ (with Stefano Battiston, Zurich, Guido Caldarelli, IMT Lucca, Robert M. May, Oxford University, and Joseph E. Stiglitz, Columbia University); Nature Physics Vol. 9, No. 3, (**2013**)
5. Georg, Co-Pierre, „*The Effect of the Interbank Network Structure on Contagion and Common Shocks*“, Journal of Banking and Finance 37(7), 2216-2228 (**2013**)

POLICY AND OTHER PUBLICATIONS

1. „*Systemic Risk in the Financial Sector*“, with Ian Goldin, Oxford University, Mike Mariathasan, KU Leuven, and Tiffany Vogel, University of Oxford. In: „*The Butterfly Defect – Globalization and Systemic Risk*“, Ian Goldin and Mike Mariathasan, Princeton University Press (**2013**)
2. Brink, Nicola and Georg, Co-Pierre, „*Note on Systemic Risk in the South African Interbank Market*“, Special Note in the Financial Stability Review, South African Reserve Bank March 2011, (**2011**).

WORKING PAPERS

1. *Fake News in Social Networks* (with Christoph Aymanns, St Gallen and Jakob Foerster, Oxford). Submitted. Available on [SSRN](#)
Abstract:
We model the spread of news as a social learning game on a network. Agents can either endorse or oppose a claim made in a piece of news, which itself may be either true or false. Agents base their decision on a private signal and their neighbors' past actions. Given these inputs, agents follow strategies derived via multi-agent deep reinforcement

learning and receive utility from acting in accordance with the veracity of claims. Our framework yields strategies with agent utility close to a theoretical, Bayes optimal benchmark, while remaining flexible to model re-specification. Optimized strategies allow agents to correctly identify most false claims, when all agents receive unbiased private signals. However, an adversary's attempt to spread fake news by targeting a subset of agents with a biased private signal can be successful. Even more so when the adversary has information about agents' network position or private signal. When agents are aware of the presence of an adversary they re-optimize their strategies in the training stage and the adversary's attack is less effective. Hence, exposing agents to the possibility of fake news can be an effective way to curtail the spread of fake news in social networks. Our results also highlight that information about the users' private beliefs and their social network structure can be extremely valuable to adversaries and should be well protected.

2. *The Importance of Informal Intellectual Collaboration with Central Colleagues*“ (with Daniel Opolot, University of Cape Town, and Michael E. Rose, University of Cape Town). Available on [SSRN](#)

Abstract:

Co-authorship is a form of formal intellectual collaboration in academia and is well researched. But most intellectual collaboration among academics, for example the provision of helpful commentary on a colleague's manuscript, is informal and not well understood. In this paper, we study social network effects in informal intellectual collaboration in financial economics. We reconstruct the social network of financial economics from formal and informal collaboration among financial economists using a novel and unique hand-collected dataset based on all publications in six leading journals in financial economics from 1997-2011. Our hypothesis is that informally collaborating with a colleague who is more central in the social network of financial economics improves the scientific impact of a research article. Treating the assignment of discussants at NBER summer institutes as quasi-natural experiment, we show that an increase in the discussant's eigenvector centrality by about 12.5% from the mean is associated with 2% more citations for an average research article.

3. *„Managing Duration Gaps: The Role of Interbank Markets*“ (with Marcel Bluhm, Xiamen University, and Jan-Pieter Krahnen, Goethe University Frankfurt). Submitted. Available as [Deutsche Bundesbank Discussion Paper 16/2016](#) (2016)

Abstract:

We explore the economics of interbank lending and borrowing, exploiting a comprehensive data set of interbank exposures in Germany over the period 2002-2014. Our findings suggest that interbank borrowing and lending play a significant role in the final allocation of interest rate risk in the economy. A typical bank in our sample holds significant amounts of interbank exposure on both sides of its balance sheet. The average contract length is well above two years, in contrast to the view that interbank markets mainly supply overnight funding liquidity. Based on dynamic panel regressions we find three main results. First, the formation of a bank's interbank book is closely related to the dynamics of the bank's client book. Second, by accessing the interbank market, banks tend to reduce their overall duration gap and their exposure to interest rate risk. Third, the central bank absorbs a significant share of the interest rate risk inherent in the banking system, particularly since the global financial crisis. On the policy level, our findings suggest a role for interbank markets in managing duration gap risk of individual banks as well as the entire banking system. This offers a macro-prudential rationale of expansive or contractive monetary policy.

4. *"A Network View on Interbank Liquidity"* (with Silvia Gabrieli, Banque de France), Banque de France Working Paper 531 / Deutsche Bundesbank Discussion Paper 44 (2014), Submitted. Latest version on [SSRN](#)

Abstract:

The euro area overnight interbank market is best described as a network of over-the-counter lending relationships. We study liquidity reallocation in this interbank network using a novel dataset of all interbank loans settled between European banks. We show the existence of a network-pricing channel in over-the-counter markets: a bank's importance in the interbank network, measured by its centrality, has an economically significant effect on its liquidity provision and access. The effect is stronger for the price of liquidity than for the volume, and stronger for liquidity provision than for liquidity access.

5. *„Mirror, Mirror, on the Wall, Who is the Most Central of Them All?“* (with Michael Rose, University of Cape Town). Available on [SSRN](#) (2015)

Abstract:

In academia, informal collaboration is an integral element in the production of knowledge. We construct the social network of informal collaboration using acknowledgments of 2782 scholarly articles published in six journals in financial economics. We rank financial economists according to their centrality in the social network of informal collaboration and find that central commenters are not necessarily the most central or the most productive authors. We explore the determinants of high centrality rankings using detailed CV data for the most central academics. A PhD from a better-ranked department is associated with a better centrality ranking. Seniority is associated with worse rankings, albeit at a decreasing rate.

6. *„Illiquidity Spirals in Coupled Over-the-Counter Markets“* (with Christoph Aymanns, LSE, and Ben Golub, Harvard). Submitted. Submitted. Available on [SSRN](#) (2016)

Abstract:

We provide a novel explanation for the fragility of liquidity in certain repo and collateral markets. These markets are linked due to a destabilizing spiral between market and funding liquidity. We study how the over-the-counter nature of many repo and collateral markets affects such illiquidity spirals. In particular, we model liquidity provided by intermediaries (banks) as the equilibrium outcome of a static game on two directed networks representing the OTC repo and collateral markets. We show that for a large set of different OTC market structures, there exists an illiquidity spiral such that additional banks withdraw from the markets after an initial exogenous shock renders some banks unable to trade. Furthermore, for certain market structures, we find that liquidity may evaporate abruptly following an exogenous shock. Finally, when one of the two markets is replaced by a centralized exchange, post-shock liquidity is always greater than in the full OTC case.

WORK IN PROGRESS

1. *„The Cape of Good Homes: Foreign Demand and House Prices in Cape Town“* (with Allan Davids, UCT)
2. *„Aggregate Liquidity Risk and Bank Portfolio Choice“* (with Toni Ahnert, Bank of Canada, and Gideon du Rand, Stellenbosch)
3. *„Measuring Regulatory Complexity“* (with Jean-Edouard Colliard, HEC Paris)

AWARDS AND GRANTS

2015	Institut Louis Bachelier Grant for „Measuring Regulatory Complexity“, with Jean-Edouard Colliard, HEC Paris (10.000EUR)
2015	„Quantitative Easing and Financial (In-)Stability“ – Volkswagen Foundation; Principle Investigator: Loriana Pelizzon, Goethe University Frankfurt. (UCT: 138.000EUR of project total: 770.000EUR)
2012	Sustainable Architecture for Finance in Europe – SAFE excellence cluster at Goethe University Frankfurt, with Marcel Bluhm (PI) and Jan-Pieter Krahnen (20.000EUR)
2011	European Central Bank, Lamfalussy Fellowship (10.000EUR)
2011	17 th International Conference on Computing in Economics (CEF2011), San Francisco, Best Student Paper Prize, finalist
2009-2011	Graduate School „Foundations of Global Financial Markets – Stability and Change“, PhD fellowship
2005	
2004	Argonne National Lab, Argonne, IL, Travel Grant Albert-Einstein-Institute Golm, Travel Grant

CONFERENCE PRESENTATIONS (*=scheduled)

2017	German Economists Abroad, Frankfurt; Bundesbank Big Data Conference, Frankfurt; Society for Economic Measurement conference 2017, Cambridge, MA; Central Bank Research Association Boston Policy Workshop, Boston, MA; CEPR Spring Symposium in Financial Economics, Imperial College, London
2016	Bank of England CCBS Workshop, London, MIT Center for Finance and Policy 3rd Annual Conference: <i>"Causes of and Policy Responses to the U.S. Financial Crisis: What Do We Know Now that the Dust Has Settled?"</i> , Boston, MA, Riksbank conference on <i>„Challenges in Interconnected Financial Systems“</i> , Stockholm, European Economic Association Meetings, Geneva, GRI Fields Conference <i>„The Stability of Financial Systems“</i> , Toronto, Federal Reserve <i>„Day Ahead Conference“</i> , San Francisco
2015	Society for the Advancement of Economic Theory 2015, Cambridge, 2nd Annual Society for Economic Measurement Annual Conference, Paris, 24th UMichigan Mitsui Finance/RFS Symposium, Traverse City, FIRS 2015, Reykjavik, 10th Tinbergen Institute Conference, Amsterdam, INET Annual Conference 2015, Paris
2014	INET YSI Europe 2014 Conference, Amsterdam, GKFINM Annual Conference, Jena, DIW/ESMT/Bundesbank Conference on <i>„Achieving Sustainable Financial Stability“</i> , Berlin, <i>„Systemic Risk: Mathematical Modelling and Interdisciplinary Approaches“</i> , Isaac Newton Institute for Mathematical Sciences, Cambridge, 2014 IEA World Congress, Amman
2013	FDIC 13th Annual Bank Research Conference, Arlington, VA, ECB Workshop <i>„Structural Changes in Money Markets“</i> , Frankfurt, UP/SARB/ERSA 3rd Annual Monetary Policy Workshop, Pretoria, Banco Central do Brazil, VIII Financial Stability Seminar, Sao Paulo, European Financial Management Association, Reading, UK, 2nd <i>„Rethinking Economics“</i> Conference, Tübingen, Global Systems Dynamics and Policy Conference, Brussels, <i>„Financial Globalization and Sustainable Finance“</i> , Cape Town, INET 2013 Plenary Conference, Hong Kong, Marie Curie ITN

- Conference on „*Financial Risk Management & Risk Reporting*“, Konstanz
- 2012 RBNZ-UA Conference on „*Stability and Efficiency of Financial Systems*“, Wellington, European Center for Financial Integration Studies, „*Mapping European Economic Governance Rules, Processes and Behaviors*“, Brussels, Ivie Workshop on „*International Banking and Financial Integration*“, Valencia, FDIC 12th Annual Bank Research Conference, Arlington, VA, DFG-NSF Conference on „*Reckoning the Risk of Catastrophe*“, Washington, DC, Latsis Symposium „*Economics on the Move*“, ETH Zurich, International Finance and Banking Society 4th International Conference, Invited Session on Networks, Valencia, „*Financial and Macroeconomic Stability: Challenges Ahead*“, Central Bank of Turkey, Istanbul, UPF-FNA Workshop on „*Financial Networks*“, Barcelona, Institut Louis Bachelier 5th Financial Risks International Forum: „*Systemic Risk*“, Paris
- 2011 RBNZ-ANU-UA Conference: „*Macro Policies after the Crisis*“, Wellington, „*DSGE and beyond – expanding the paradigm in monetary policy research?*“, Narodowy Bank Polski, Warsaw, Biennial Conference of the Economic Society of South Africa 2011, Stellenbosch, VI Annual Seminar on „*Banking, Financial Stability and Risk*“, Banco Central do Brazil, Sao Paulo, Workshop on „*Coping with Crises in Complex Socio-Economic-Systems – 2011*“, Zurich, 17th International Conference on Computing in Economics and Finance, San Francisco, „*Financial Networks Workshop*“, Network Science Center, USMA West Point
- 2009 MAFIN 09, Reykjavik, Poster on „*Central Bank Policy in a Model of Endogenous Money*“

SEMINAR PRESENTATIONS (*=scheduled)

- 2017 Goethe University Frankfurt, Banque de France, Columbia University (Law), UC3M, Copenhagen Business School, University of Zurich, Imperial College Business School
- 2016 London School of Economics (SRC), HEC Paris, Columbia Business School, University of Wisconsin Business School, Georgia Institute of Technology Scheller College of Business, IMF, GMU, Bank of Canada
- 2015 Indiana University Bloomington
- 2014 DIW, Federal Reserve Bank of New York, Stellenbosch University
- 2013 Banca d'Italia, University of Amsterdam, University of Vienna, Banco Central do Brasil, ECB, Bundesbank, University of Zurich, Oxford University Nuffield College
- 2012 US Treasury (Office of Financial Research), IMF, Oxford University Keble College, Schumpeter Seminar Humboldt-University Berlin, Universitat Pompeu Fabra, City University London, University of Leicester, Jaume I Universitat, Banco de España, Universidad Carlos III de Madrid, Oxford University Saïd Business School, Banque de France, Deutsche Bundesbank, Cambridge University Judge School of Business
- 2011 Banque de France, Bank of England, University of Pretoria, South African Reserve Bank, Stellenbosch University, University of Sao Paulo,

	Universidad Carlos III de Madrid, Federal Reserve Bank of Philadelphia, New York University, University Erfurt, University of Jena
2010	University of Leipzig, University of Halle, Deutsche Bundesbank, University of Jena, University of Pretoria, South African Reserve Bank
2009	University of Jena

DISCUSSIONS

2017	FIRS, Wang, Paddrik, and Park, <i>“Bank Networks and Systemic Risk: Evidence from the National Banking Acts”</i>
2015	EBC-DNB Conference, Amsterdam, Kapadia et al., <i>“Taking uncertainty seriously: simplicity versus complexity in financial regulation”</i>
2013	ITN Marie Curie Conference, Horváth and Wagner, <i>„The Disturbing Interaction Between Countercyclical Capital Requirements and Systemic Risk“</i>
2012	Institut Louis Bachelier, Lahmann and Kaserer: <i>„Measuring Systemic Risk and Assessing Systemic Importance in Global and Regional Financial Markets using the ESS-Indicator“</i> and Pausch and Welzel: <i>„Regulation, Credit Transfers with CDS, and Bank Lending“</i>

ACTIVITIES AND MEMBERSHIP

Referee for: Review of Finance, Journal of Financial Intermediation, Journal of Economic Dynamics and Control, Operations Research, Journal of Economic Behaviour and Organization, Journal of Financial Stability, Journal of Banking and Finance, International Journal of Central Banking, Journal of Financial Regulation, BE Journal of Macroeconomics, Journal of Economic Interaction and Control, Review of Development Finance, African Finance Journal, South African Journal of Economics, Computational Economics, Economics in Transition, Emerging Markets Review, Journal of Statistical Mechanics, IEEE Transactions on Knowledge and Data Engineering

Also referee for: National Research Foundation (SA), Swiss National Fund, ECB Working Paper Series, Bank of England Working Paper Series, ERSA Working Paper Series

Academic committee: FIRS 2018

Membership: European Finance Association, Economic Society of South Africa, German Finance Association, German Economic Association, European Economic Association, INET Working Group on Financial Linkages (**2012-2015**)

Conference and Workshop Organization:

1. UCT/ERSA/Imperial/RoF Conference on *“Banking in Emerging Markets”* (Cape Town, **2016**)
2. BIS/DNB/Bundesbank/RoF Conference on *“Global Financial Interconnectedness”* (Basle, **2015**)
3. Bundesbank/IMF/INET Workshop *„Interconnectedness: Building Research Into the Policy Agenda“* (Washington, D.C., **2014**)
4. ERSA Financial Economics Workshop (Cape Town, **2013**, Pretoria, **2014**, Pretoria, **2015**)
5. Bundesbank autumn conference *„Supervising Banks in a Complex Financial System“* (Frankfurt, **2013**)
6. Bundesbank/BCBS Workshop *„Supervising Financial Networks“* (Frankfurt, **2013**)

7. Jena Graduate School annual conference 2011 (PhD Workshop, Jena **2011**)

Other activities:

- 01/2017 - today Member of the board, Phaphama SEDI (NGO promoting small enterprises in Khayelitsha township)

TEACHING

Postdoctoral Students (#: first placement):

1. Suraj Shekhar (PhD Penn State, since 08/2016)
2. Christine Makanza (PhD UCT, since 06/2016)
3. Pawel Fiedor (PhD Krakow, 06/2015 – 06/2016; #: Trainee at European Systemic Risk Board)
4. Hylton Hollander (PhD Stellenbosch, 06/2015 – 01/2016; #: Lecturer at Stellenbosch University)

PhD Students:

1. Allan Davids (MPhil Stellenbosch, main advisor, since 08/2016)
2. Qobolwakhe Dube (MCom, UCT, since 02/2017, co-advisor)
3. Gideon du Rand (MSc Stellenbosch, 04/2015-)
4. Nolwazi Hlophe (MCom Pretoria, main advisor, since 02/2017, part-time; Bank of Swaziland Financial Stability Department)
5. Chernay Johnson (MSc Wits, 02/2017-, co-advisor)
6. Tina Koziol (MBusSc Jena, main advisor, since 04/2016)
7. Esti Kemp (MPhil Pretoria, main advisor, since 04/2016, part-time; SARB Financial Stability Department)
8. Michael Rose (MSc Kiel, main advisor, since 04/2015)

Other Students: 4 MBA Students (UCT GSB, 2013-2014), 1 MComm Students (UCT GSB, 2015), 2 Diploma Students (FSU Jena, 2012)

Teaching

1. Fintech and Cryptocurrencies (MPhil in Data Science of Financial Technology), University of Cape Town, (**2018***)
2. Financial Software Engineering (MPhil in Data Science of Financial Technology), University of Cape Town, (**2018***)
3. Financial Regulation (MCom in Risk Management of Financial Markets), University of Cape Town (**2016, 2017**)
4. Econometrics (MCom in Risk Management of Financial Markets), University of Cape Town (**2016, 2017**)
5. ECO3021S - Quantitative Methods in Economics (Module on Econometrics), University of Cape Town (**2015**)
6. Economics for MBA Students, University of Cape Town Graduate School of Business, (**2014**)
7. Seminar, „*Business Cycle Theory and Policy*“, Friedrich-Schiller-Universität Jena, (**SS 2009**)
8. Teaching Assistant, „*Macroeconomics*“, Friedrich-Schiller-Universität Jena, (**SS 2008**)

Other Teaching: WEHIA 2016 Summer School, Universitat Jaume I, (**2016**), Financial Networks in Emerging Countries, Bank of Uganda, Banco Central do Brazil, (**2013**), Complexity Economics Summer School, IMT Lucca, (**2012**), Workshop, „*Banking and Modern Financial Economics*“, University of Pretoria, (**2011**)

MEDIA APPEARANCES

TV: CNBC Africa, News24.com, Business Day TV

Radio: Talk702.com, Voice of the Cape FM

Newspaper/News Websites: CNN, Business Day, BDLive, Times, Times Live Crain's New York Business, The Conversation, EWN, Independent Online, The Sowetan

COMPUTER SKILLS AND SOFTWARE DEVELOPMENT

Software Development:

central-places.net – Website accompanying our projects on informal collaboration in academia, with Michael Rose (UCT). Available at: <http://www.central-places.net/>

Supervisory Data Explorer – Proprietary visualization software for supervisory financial network data (2015), with Peter Sarlin (RiskLab Finland, Infolytika), Sharat Akhoury (UCT), and Dieter Wang (University of Amsterdam)

NetGen – An open source financial networks cleaning and analysis tool (2014), with Tarik Roukny (ULB). Available at: <http://www.netgen-toolbox.org/>

BlackRhino – An open source financial multi-agent simulation (2013)
Available at: https://github.com/cogeorg/black_rhino

Programming Languages: Python, C++, Java, Perl, Fortran, PHP, JavaScript, Solidity

09/2001 – 07/2003 University of Karlsruhe, Steinbuch Center for Computing, Research Assistant

REFERENCES

Available upon request.