

Guido Germano

Professor of Computational Science, University College London

Programme Director and Admissions Tutor, MSc Computational Finance, UCL

Research Associate, Systemic Risk Centre, London School of Economics and Political Science

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Employment

09/2013– Professor of Computational Science since 10/2021, before then Associate Professor, Dept. of Computer Science, Faculty of Engineering Sciences, University College London, Financial Computing and Analytics Group, www.ucl.ac.uk/computer-science/fca, profiles.ucl.ac.uk/40453-guido-germano

11/2012–09/2013 Research Fellow in Applied Mathematics and Physics, Scuola Normale Superiore, Pisa, Italy, Quantitative Finance Group (Prof. F. Lillo and Prof. S. Marmi)

09/2009–10/2012 Research Fellow in Applied Mathematics (programme “*Rientro dei cervelli*”), Dept. of Economic Sciences and Quantitative Methods, Università del Piemonte Orientale A. Avogadro, Novara, Italy (Prof. G. Fusai); frequent visits at the Dept. of Mathematics, Politecnico di Milano, Italy (Dr. D. Marazzina)

12/2002–12/2013 Head of Computer Simulation Group, Theoretical Physical Chemistry, Philipps-Universität Marburg, Germany: *Hochschuldozent* (C2) until 02/2007, then *Juniorprofessor* (W1), 02–07/2009 Interim Associate Professor (W2), 08/2009–11/2013 30/42 $\approx$ 70% part time

04/2000–12/2002 Research Associate in Theoretical Physics (*Wissenschaftlicher Mitarbeiter*, BAT IIa) with Prof. F. Schmid, Condensed Matter Theory Group, University of Bielefeld, Germany

04/1998–03/2000 Postdoctoral Research Assistant in Theoretical Physics with Prof. M. P. Allen, Molecular Simulation Group, H. H. Wills Physics Laboratory, University of Bristol, UK. In 1999–2000, 3 months visiting the groups of Prof. K. Kremer, MPI for Polymer Research, Mainz, and Prof. K. Binder, Institute of Physics, University of Mainz, on a British Council grant together with Prof. M. P. Allen

01/1998–02/1998 Research Associate with Dr. F. Buda and Prof. M. P. Tosi, INFM-FORUM Theory of Condensed Matter Physics Group, Scuola Normale Superiore, Pisa

10/1994–03/1995 Research Assistant (*Wissensch. Hilfskraft*) with Prof. D. Sondermann, Finance and Stochastics Group, Faculty of Law and Economics, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

Other affiliations and appointments

07/2015– Research Associate, UCL Centre for Blockchain Technologies

09/2013– Research Associate, Systemic Risk Centre, London School of Economics

10/2020–12/2024 External Examiner, MSc Data Science and MSc Human and Social Data Science, Department of Mathematics, University of Sussex

02/1999–03/2000 Tutor, Wills Hall of Residence, University of Bristol

Institutional responsibilities

University College London

04/2021– Departmental Office Space Committee

07/2020– Deputy Programme Director, MSc Financial Risk Management

01/2015– Programme Director and Admissions Tutor, MSc Computational Finance

10/2017–09/2024 Chair, Financial Computing Board of Examiners: MSc Computational Finance, MSc Financial Risk Management (10/2017–), MSc Financial Technology, MSc Emerging Digital Technologies (10/2021–), MRes Financial Computing (10/2017–09/2019, then dormant)

- 09/2016–08/2017** Interim Head of Research Group while the Head was on sabbatical
- 05/2016–09/2017** New Computer Science Building Project Team, in charge of contacts with UCL Estates
- 01/2014–09/2018** Deputy Member of the Management Committee, LSE/UCL Systemic Risk Centre
- 10/2014–10/2015** Programme Director, MSc Financial Risk Management
- 10/2013–10/2015** Admissions Tutor, MSc Financial Risk Management
- 11/2013–09/2023** Selection panels for an associate professor (2021), 11 lecturers (2×2023, 2×2021, 2020, 2019, 2×2017, 2×2015, 2014), 5 lecturers (teaching) (2×2021, 2019, 2016, 2013), 3 associate lecturers (teaching) (2023), 2 research associates (2014, 2013) and 2 admissions assistants (2015, 2013)

The MSc Computational Finance, which I set up in 2015 with Tomaso Aste and have been directing since then, was ranked 2nd in the UK, 6th in Europe and 23rd in the world by [Risk.net's Quant Finance Masters Guide 2023](#). For 2023–24 the MSc CF has earned fees of £1.65 million with 24 home students paying £29,600 each and 22 overseas paying £42,500 each; in spite of the cost, there were 421 applications.

Università del Piemonte Orientale Amedeo Avogadro

- 2011–2012** One of two representatives of research fellows in the Dept. Board (*Consiglio di Dipartimento*)

Philipps-Universität Marburg

- 2010–2012** Project Group “Audit Family-friendly University”, Central Administration
- 2009–2014** Parental Steering Committee, University Nursery
- 2009–2010** Budget Committee and Library Committee, Department of Chemistry
- 2003–2013** Board of Directors, Scientific Center for Materials Research (WZMW)
- 2003–2005** Board of Directors, Institute of Physical Chemistry, until it was merged with the Department

University degrees and qualifications

- 21/12/2005** *Positive Zwischenevaluation der Juniorprofessur* in Physical Chemistry, equivalent to *Habilitation*, Philipps-Universität Marburg
- 20/05/1998** *Dottorato di Ricerca* (PhD) in Chemistry, University of Pisa, specialising in computational chemistry, with projects on quantum/classical molecular simulation supervised by Prof. C. A. Veracini and Prof. P. A. Kollman, University of California, San Francisco, USA, where part of the work was done; another part was done at ICQEM, CNR, Pisa, with Dr. C. Ghio, Dr. G. Alagona and Dr. A. Fortunelli
- 26/02/1996** *Esame di Stato* (Board Certification) as Chartered Chemist, University of Pisa
- 28/04/1994** *Laurea* in Chemistry with 110/110 *e lode* (best), University of Pisa, specialising in theoretical physical chemistry, with a final research project of one year on Fourier-transform solid-state nuclear magnetic resonance spectroscopy supervised by Prof. C. A. Veracini and done with Prof. H.-W. Spiess, Polymer Spectroscopy Group, Max Planck Institute for Polymer Research, Mainz, Germany

Education

- 03/1995–03/1998** Graduate studies in computational chemistry, University of Pisa and University of California, San Francisco; 03/1995–03/1996 part-time collaboration with the consulting company SIT in Pisa on numerical pricing of derivatives
- 10/1994–03/1995** Preliminary year, European Doctoral Program in Quantitative Economics, Rheinische Friedrich-Wilhelms-Universität Bonn, with a project on term structure models of the interest rate supervised by Prof. D. Sondermann and a DAAD / French Government grant to visit the École des Hautes Études en Sciences Sociales, Paris, 10/1995–06/1996; I left because a decision on the funding thereafter was deferred

04/1994–09/1994 Stays at the University of Pisa and the MPI for Polymer Research, Mainz, to complete a paper; internship with SIT (Pisa) on a financial risk management software project for Prometeia (Bologna); refused offers of PhD positions in physical chemistry at MPI for Polymer Research and ETH Zürich

11/1986–04/1994 Undergraduate studies in chemistry, Universities of Pisa (1986–1993) and Mainz (1993–1994), specialising in theoretical physical chemistry; various summer internships and holiday jobs

09/1974–07/1986 Schools in Naples (Italy), Sundern (Germany), San Giuliano Terme (Italy) and Pisa; skipped 5th grade, *Licenza Media* in 1981 with *Ottimo* (best); *Maturità Classica* in 1986 with 60/60 (best), Liceo Classico Statale “Galileo Galilei”, Pisa

Research interests

Computational finance, statistical mechanics and their links; scientific and high-performance computing; mathematical and computational modelling of complex systems, where aggregate behaviour emerges from the interaction between many component parts.

My recent research has been on stochastic processes used in quantitative finance (stochastic volatility models with stochastic interest rates, Lévy processes, continuous-time random walks), their Monte Carlo simulation, parameter estimation and model calibration, and the numerical solution of pricing equations for barrier options and other path-dependent derivatives in Fourier-z or Fourier-Laplace space; moreover machine learning, algorithmic trading, empirical high-frequency data, probability of default, portfolio allocation, sentiment analysis, and agent-based models of the distribution of wealth.

My earlier research was in computational physics and chemistry, specifically molecular simulation and soft condensed matter theory, where I did hybrid quantum-classical models of proteins and ab initio calculations of smaller molecules, then coarse-grained models of liquid crystals with Monte Carlo or domain-decomposition molecular dynamics on massively parallel architectures, including the development of algorithms, code, force-field parameters and molecular graphics. My first paper was on the analysis of data from Fourier-transform magnetic resonance spectroscopy.

Publications

45 refereed scientific papers, 6 submitted manuscripts, 6 other publications. Open-access preprints or reprints are available on [my web page](#), [arXiv \(user germano_g_1\)](#), [SSRN \(user 893955\)](#), [RePEc \(ID pge177\)](#), and institutional repositories: [UCL Profiles/RPS](#), [LSERO](#), etc.

Listed on Web of Science or Scopus: **7** Physical Review E; **3** European Journal of Operational Research, Journal of Chemical Physics; **2** Computer Physics Communications, European Physical Journal B, Molecular Crystals and Liquid Crystals, Quantitative Finance; **1** Annals of Operations Research, Communications in Applied and Industrial Mathematics, Communications in Nonlinear Science and Numerical Simulation, Finance Research Letters, Fractional Calculus and Applied Analysis, Inorganica Chimica Acta, Journal of the American Chemical Society, Journal of Chemical Theory and Computation, Journal of Economic Interaction and Coordination, Journal of Financial Management Markets and Institutions, Journal of Physical Chemistry A, Macromolecular Symposia, Modeling and Simulation in Science Engineering and Technology, Molecular Physics, New Economics Windows, Physica A, Proceedings of Science, Review of Financial Economics, Springer Proceedings in Mathematics & Statistics, Theoretical Chemistry Accounts. Not listed: **4** conference proceedings appeared as chapters in edited books.

Conferences

166 communications to 113 conferences and workshops: 18 invited talks, 70 contributed talks, 78 posters; lecturer at 4 graduate schools; over 10 declined (serious) invitations. Organiser or member of the organising, program or scientific committee of 14 conferences and workshops.

Seminars

53 at universities and research institutes in Germany, Italy, Netherlands, Spain, Switzerland, UK, etc.

Bibliometrics

[Google Scholar user 8zCKUmoAAAAJ](#): 1641 citations, h-index = 21, i10-index = 29

[Web of Science ResearcherID A-8726-2008](#): 1004 citations, h-index = 18

[Scopus Author ID 7102798637](#): 1027 citations, h-index = 18

[ORCID 0000-0003-4441-9842](#)

[AMS MathSciNet Mathematical Reviews Author ID 816044](#) (Erdős number = 4)

[Zentralblatt Mathematik \(zbMATH\) Author ID germano.guido](#)

Teaching

University College London

4. Financial Engineering, 1/2, autumn term, since 2022
3. Probability Theory and Stochastic Processes, autumn term, since 2015
2. Numerical Methods for Finance, autumn term, since 2014
1. Financial Market Modelling and Analysis, 1/3 as deputy of a sick colleague, spring term, 2016

Università del Piemonte Orientale Amedeo Avogadro

1. Finance Laboratory (Introduction to Applied Probability with MATLAB), 1/4 semester, 2010–2011

Philipps-Universität Marburg

9. Physical Chemistry 0 (Classical Thermodynamics, Spectroscopy), 2 semesters, 2009, 2010
8. Statistical Thermodynamics, 2 semesters, 2008–2009, 2011
7. Theoretical Chemistry 1 (Quantum Mechanics 1), 6 semesters, 2006–2012
6. Theoretical Chemistry 3 (Density Functional Theory), 1 semester, 2005–2006
5. Mathematics 3 (Linear Algebra), 2 semesters, 2004–2006, plus exercise class
4. Mathematics 2 (Calculus 2), 6 semesters, 2004–2009, plus exercise class for 4 semesters
3. Mathematics 1 (Calculus 1), 3 semesters, 2003, 2003–2004, 2006–2007, plus exercise class
2. Advanced Physical Chemistry Computer Laboratory, 12 semesters, 2003–2009
1. Theoretical Methods in Biological Chemistry, 1/5 semester, 2003

Universität Bielefeld

3. Computational Biophysics Laboratory, setup of two computer experiments, 1 semester, 2002
2. Theoretical Mechanics exercise class, 1 semester, 2001–2002
1. Statistical Mechanics deputy lecturer and exercise class, 1 semester, 2000–2001

Supervision

2023 Scuola Superiore Sant'Anna, Pisa, Department of Economics: 1 MSc

2020–2023 Politecnico di Milano, Department of Mathematics: 3 MSc

2013–2024 University College London, Department of Computer Science: 2 postdocs, 11 PhD (3 ongoing), 7 MRes, 60 MSc, 7 MEng, 4 BSc

2003–2013 Philipps-Universität Marburg, Department of Chemistry: 3 postdocs, 4 PhD, 2 guest PhD, 1 guest MSc, 1 *Diplom*, 1 BSc, dozens of undergraduate research interns, partner of the Herchel Smith Harvard Undergraduate Science Research Program

Exam panels

2023	Scuola Superiore Sant'Anna, Pisa, Department of Economics: 1 MSc
2021–2023	Indian Institute of Technology (Indian School of Mines), Dhanbad, Dept. of Physics: 3 PhD
2021	Université Catholique de Louvain, Belgium, Department of Economics: 1 PhD
2020–2021	Politecnico di Milano, Department of Mathematics: 2 MSc
2016	Queen Mary, University of London, Department of Mathematics: 1 PhD
2013–2024	University College London, Department of Computer Science: 8 PhD, 12 MRes, 132 MSc, 7 MEng, 13 BSc; Department of Mathematics, 2016: 1 PhD; Department of Mechanical Engineering, 2016: 1 PhD
2012	Università di Pavia, Italy, Department of Pharmaceutical Chemistry: 1 PhD
2011	University of Khartoum, Sudan, Department of Chemistry: 1 MSc
2008	Università di Milano, Department of Physics: 1 PhD
2003–2011	Philipps-Universität Marburg, Department of Chemistry: 1 <i>Habilitation</i> , 9 PhD, 2 <i>Diplom</i> , 1 BSc

Grants and awards

53 grants and 7 awards for a total of almost 3.8 million €, of which almost 2.3 million € as principal investigator, from British Council, Centre Européen de Calcul Atomique et Moléculaire, CINECA, Consiglio Nazionale delle Ricerche, Deutscher Akademischer Austauschdienst, Deutsche Forschungsgemeinschaft, EniChem (1993 laurea thesis prize), ENPAS, Engineering and Physical Sciences Research Council (EPSRC), European Science Foundation, European Union (COMETT, ERASMUS, Euroconference), Fondazione Camaione, Fondazione Cariplo, French Government, Italian Ministry of University and Research, John von Neumann Institute for Computing, Max-Planck-Gesellschaft, Molecular Graphics and Modelling Society (1997 conference award), nVIDIA, Regione Piemonte, Ripple, Società Chimica Italiana, Solvay (1993 Orizzonti study award), University of Pisa (two study awards), etc.

Editor

11/2020–	Mathematics, Section Financial Mathematics
10/2018–	Advances in Complex Systems
10/2013–11/2017	ISRN, Section Probability and Statistics
07/2011–11/2017	ISRN, Section Computational Mathematics
06/2011–03/2016	PLOS ONE

Refused invitations from Financial Statistical Journal (2024), Frontiers in Artificial Intelligence, Section Artificial Intelligence in Finance (2022), Journal of Economic Analysis (2022), AIMS Mathematics (2021), Applied Sciences (2021), Open Journal of Mathematical Sciences (2021), Journal of Mathematics (2017), Open Physics (2015), Scientific World Journal (2013) and 23 others (2014–2024), as well as to act as guest editor for special issues: Contemporary Mathematics (2023), Algorithms (2022), Mathematics (2022, 3×2020, 2019), AIMS Mathematics (2021), Symmetry (2×2020), Journal of Probability and Statistics (2018), Advances in Mathematical Physics (2018, 2016), Journal of Mathematics (2015), etc.

Reviews

Journals 289 manuscripts (not counting revisions) for 72 journals, with the most recent documented on Web of Science and ORCID; 179 further requests. WoS has recognised me as “Top peer reviewer”.

Reviewed: **50** Physical Review E; **28** Physical Review Letters; **12** Journal of Physics A: Mathematical and Theoretical; **10** European Journal of Operational Research, Journal of Computational Chemistry, Open Physics + Central European Journal of Physics, Physica A; **9** Mathematics, Quantitative Finance; **7** Journal of Physics: Condensed Matter, PLOS ONE, Symmetry; **6** Computer Physics Communications, Journal

of Chemical Physics; **5** Modern Physics Letters B, Physical Review B; **4** Advances in Complex Systems, Axioms, Chaos Solitons & Fractals, Communications in Nonlinear Science and Numerical Simulation, Financial Innovation, Frontiers in Artificial Intelligence, Scientific Reports; **3** AIP Advances, Frontiers in Physics, Heliyon, International Journal of Modern Physics B, Journal of Economic Interaction and Coordination; **2** AIMS Mathematics, Algorithms, Digital Signal Processing, Economics E-Journal, Energies, Journal of Physics Communications, Journal of Statistical Mechanics: Theory and Experiment, Physical Review A, Physical Review Applied, Physical Review Research, Physics Letters A; **1** Advances in Mathematical Physics, Annals of Operations Research, Applied Informatics, Applied Mathematics and Computation, Applied Stochastic Models in Business and Industry, Boundary Value Problems, Computational and Applied Mathematics, Decisions in Economics and Finance, Engineering Reports, Entropy, European Physical Journal B, Fractal and Fractional, International Journal of Molecular Sciences, International Journal of Nonlinear Science and Numerical Simulation, Journal of Economic Dynamics and Control, Journal of Molecular Modelling, Journal of Network Theory in Finance, Journal of Statistical Physics, Management Science, Mathematical Problems in Engineering, Mathematics and Financial Economics, North American Journal of Economics and Finance, Numerical Algorithms, Oriental Journal of Chemistry, Physica Scripta, Physical Chemistry Chemical Physics, Proceedings of the Royal Society A, Review of Derivatives Research, Reviews of Modern Physics, Soft Materials, Springer Proceedings in Mathematics and Statistics, SpringerPlus, Sustainability.

Research grant reviews European Commission, Greek Ministry of Education (Archimedes 2 and Thalys 2 programmes), Israeli Ministry of Science and Technology, Russian Foundation for Basic Research, Wellcome Trust DBT (individual values up to 540,000 €). I have received requests also from Czech Science Foundation, Swiss State Secretariat for Education, Research and Innovation, and University of Sharja.

Other reviews AMS MathSciNet Mathematical Reviews 2016–, reviewer number 121256; Times Higher Education Global Academic Reputation Survey 2022–; Advisor to IoP Publishing and member of the IoP Publishing Researcher Insight Group, 2020–; VinFuture Prize Science for Humanity, 2024; Premio Internazionale “Lombardia è Ricerca”, 2020, 2021; Independent Academic for the validation of the new BSc Finance and Technology, School of Engineering and Informatics / Business School, University of Sussex, 2018; Mathematics book list, CRC Press, Taylor and Francis Group, 2016; 7th Conference on Non-integer Order Calculus and its Applications (RRNR 2015), 28–29 August 2015, Szczecin, Poland; etc.

Nobel nominations The Nobel Committee for Chemistry of the Royal Swedish Academy of Science asked me to contribute nominations for 2012. I suggested three computational chemists active in molecular simulation with classical mechanics because ab initio methods had already been awarded in 1998. One year later the Nobel prize was indeed given for computational chemistry, although to the slightly different subsector of mixed quantum-classical simulation. This had been the topic of my PhD 18 years before; shortly thereafter in 2001 my second supervisor, Peter Kollman from the University of California, San Francisco, died suddenly and prematurely of cancer aged 53, and the 2013 Nobel prize went to his competitor from the East Coast.

Shortlists for full professor

4. Chair of Computational Finance, Department of Informatics, King's College London, UK, February 2019, with Carmine Ventre, who was appointed. I applied upon invitation by the Head of Department.
3. Full Professor, Mathematics of Complex Systems, Technische Universiteit Eindhoven, the Netherlands, January 2013, with two others. Nobody had been made an offer yet in June when I accepted the offer from University College London, and the position was still vacant in December. Appointed after readvertisement: Mikko Karttunen.
2. Professor (W3), Simulation Technique and Scientific Computing, Scientific Director of the University IT Centre “ZIMT”, Universität Siegen, Germany, February 2012 (www.zimt.uni-siegen.de); the centre had 35 employees and a yearly budget of about 3 million €. Appointed: Sabine Roller.
1. Professor, Advanced Scientific Computing, Director of the Institute of Computational Science, Facoltà di Informatica, Università della Svizzera italiana, Lugano, Switzerland (www.ics.inf.unisi.ch), April 2008, with four others. Appointed: Rolf Krause.

Associations

2018– [European Mathematical Society \(EMS\)](https://www.emis.de/)

2018– Association for Mathematics Applied to Economic and Social Sciences (AMASES)
2016– Econophysics Network
2015– Engineering Professors Council (EPC)
2014– Computational and Financial Econometrics Network (CFE)
2009– Deutscher Hochschulverband (DHV)
2008– Alumni-Netzwerk der Rheinischen Friedrich-Wilhelms-Universität Bonn
2007–2011 European Physical Society (EPS)
2004– Society for Computational Economics (SCE)
2004– Deutsche Gesellschaft Juniorprofessur — Verein für moderne Karrierewege in der Wissenschaft
2000–2011 Institute of Physics (IoP): Chartered Physicist and Corporate Member
1996– Associazione Dottorandi e Dottori di Ricerca in Italia (ADI), part of Eurodoc:
 co-founder, 1997–1998 president, 1998–2007 auditor

Miscellaneous

Further studies Summer schools and courses on scientific, parallel and high-performance computing (1995, 2003, 2004), financial mathematics (1994, 1995, 1997, 1998, 2001, 2002), and computational physics and chemistry (1995, 1997, 1998, 1999, 2000, 2004).

IT experience MATLAB, Python, C++, C, Fortran; parallel programming esp. with MPI; Unix, Linux, macOS; 1994–2005 system administration of AMD, Apple, DEC, IBM, Intel, SGI and Sun workstations; make, awk, csh, perl; HTML, JavaScript; $\text{\LaTeX}$, MS Office, LibreOffice; Mathematica, Gnuplot, IDL, Grace; molecular simulation programs: GBmega, DL_POLY, AMBER, Gaussian, Chimera, GROMACS, Orac, Sybyl, etc.

Media experience Press, TV and radio interviews (1993, 1997–2004, 2009, 2016), most of which related to science policy because of my involvement with ADI and DGJ: e.g. TV Tokyo, 20/06/2016; Radio RAI1 “Qui Europa”, 20/09/2009; Die Zeit, 02/09/2004; TG RAI1 8pm, 22/06/2002; Il Tirreno, 26/02/1993.

Languages Bilingual German and Italian, fluent English, basic French. Latin and ancient Greek at school.

Born 2 April 1968 in Münster, Germany, citizen of Germany and Italy, settled status in the United Kingdom.

Family Four children: Johannes, Leonhard, Julius and Emilia Germano, born 2008, 2011, 2015 and 2018, with Juliane Schreiber, lawyer and manager of a medical association. Parents: Dr. Giorgio Germano, retired professor of theoretical informatics at the University of Pisa, and Dr. Irmgard Hollmann, retired neuropsychiatrist and psychotherapist. A younger sister, Angela, architect and teacher in Pisa.

Sports Rowing (regularly, won a couple of regattas); biking, swimming, ski, trekking, windsurf (occasionally).

London, 10 January 2024



*Tutto quanto qui dichiarato corrisponde alla verità ai sensi degli articoli 46 e 47 del DPR 445/2000.
 Autorizzo il trattamento dei dati contenuti in questo curriculum vitae compresa la trasmissione a terzi ai sensi della legge 675/1996.*

Appendix

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1 Publications

Selected manuscripts in preparation

4. Jiaqi Liang, Carolyn E. Phelan, Daniele Marazzina, Guido Germano, “Pricing discretely monitored barrier options with stochastic volatility using the Wiener-Hopf method”, 19 pages.
3. Federico Graceffa, Guido Germano, “Consistency of local-stochastic volatility models with respect to price multiplication”, 21 pages.
2. Federico Graceffa, Yiran Cui, Sebastian del Baño Rollin, Guido Germano, “Consistency of local-stochastic volatility models with respect to price inversion”, 24 pages.
1. Daniel Fulger, Guido Germano, “Automatic generation of non-uniform random variates with arbitrary pointwise computable probability densities by tiling”, 20 pages, [arXiv:0902.3088](https://arxiv.org/abs/0902.3088) [cs.MS, math.NA], DOI [10.48550/arXiv.0902.3088](https://doi.org/10.48550/arXiv.0902.3088).

Submitted manuscripts

6. Andreas Koukorinis, Gareth Peters, Guido Germano, “Generative-discriminative machine learning models for high-frequency financial regime classification” *International Journal of Data Science and Analytics*, Submission ID 478556fa-b3d2-4c33-b199-9879036d6aad, 30 pages, 2023.
5. Khalifa Al-Thani, Domenico Mignacca, Gianluca Fusai, Fabio Caccioli, Guido Germano, “Inconsistency of the capital asset pricing model in a multi-currency environment”, *Journal of International Money and Finance*, Manuscript Number JIMF-D-23-00241, 13 pages, 2023, [SSRN 4464635](https://ssrn.com/abstract=4464635), DOI [10.2139/ssrn.4464635](https://doi.org/10.2139/ssrn.4464635).
4. Kemal Kirtac, Guido Germano, “Is there media-sourced hype in SPAC returns?”, *International Review of Economics & Finance*, Manuscript Number IREF-D-23-00769, 38 pages, 2023.
3. Eduard Sariev, Guido Germano, “Probabilistic k -nearest neighbours for the estimation of the corporate probability of default”, *Nature Computational Science*, 24 pages, 2023.
2. Yiran Cui, Sebastian del Baño Rollin, Guido Germano, “Stability of calibration procedures: Fractals in the Black-Scholes model”, *Communications in Mathematical Physics*, 11 pages, 2023, [arXiv:1612.01951](https://arxiv.org/abs/1612.01951) [q-fin.MF], DOI [10.48550/arXiv.1612.01951](https://doi.org/10.48550/arXiv.1612.01951).
1. Guido Germano, Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, “Solution of Wiener-Hopf and Fredholm integral equations by fast Hilbert and Fourier transforms”, *Proceedings of the Royal Society A*, 30 pages, 2022, [arXiv:2106.05326](https://arxiv.org/abs/2106.05326) [math.NA], DOI [10.48550/arXiv.2106.05326](https://doi.org/10.48550/arXiv.2106.05326).

Reviewed journal articles and book chapters

45. Kemal Kirtac, Guido Germano, “Sentiment trading with large language models”, *Finance Research Letters* 62 (B), 105227:1–9, 2024, [10.1016/j.frl.2024.105227](https://doi.org/10.1016/j.frl.2024.105227), [SSRN 4706629](https://ssrn.com/abstract=4706629), [DOI 10.2139/ssrn.4706629](https://doi.org/10.2139/ssrn.4706629).
44. Carolyn E. Phelan, Daniele Marazzina, Guido Germano, “Pricing methods for α -quantile and perpetual early-exercise options based on Spitzer identities”, *Quantitative Finance* 20 (6), 899–918, 2020, [DOI 10.1080/14697688.2020.1718192](https://doi.org/10.1080/14697688.2020.1718192), [arXiv:2106.06030](https://arxiv.org/abs/2106.06030) [q-fin.CP], [SSRN 3378520](https://ssrn.com/abstract=3378520).
43. Eduard Sariev, Guido Germano, “Bayesian regularized artificial neural networks for corporate credit scoring”, *Quantitative Finance* 20 (2), 311–328, 2020, [DOI 10.1080/14697688.2019.1633014](https://doi.org/10.1080/14697688.2019.1633014).
42. Burcu Kapar, Giulia Iori, Giampaolo Gabbi, Guido Germano, “Market microstructure, banks’ behaviour, and interbank spreads: evidence after the crisis”, *Journal of Economic Interaction and Coordination* 15 (1), 283–331, 2020, [DOI 10.1007/s11403-019-00248-3](https://doi.org/10.1007/s11403-019-00248-3), [SSRN 2345185](https://ssrn.com/abstract=2345185).
41. Eduard Sariev, Guido Germano, “An innovative feature selection method for support vector machines and its test on the estimation of the credit risk of default”, *Review of Financial Economics* 37 (3), 404–427, 2019, [DOI 10.1002/rfe.1049](https://doi.org/10.1002/rfe.1049).
40. Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, Guido Germano, “Hilbert transform, spectral filters and option pricing”, *Annals of Operations Research* 282 (1–2), 273–298, 2019, [DOI 10.1007/s10479-018-2881-4](https://doi.org/10.1007/s10479-018-2881-4), [arXiv:1706.09755](https://arxiv.org/abs/1706.09755) [q-fin.CP], [SSRN 2995391](https://ssrn.com/abstract=2995391).
39. Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, Guido Germano, “Fluctuation identities with continuous monitoring and their application to the pricing of barrier options”, *European Journal of Operational Research* 271 (1), 210–223, 2018, [DOI 10.1016/j.ejor.2018.04.016](https://doi.org/10.1016/j.ejor.2018.04.016), [arXiv:1712.00077](https://arxiv.org/abs/1712.00077) [q-fin.CP], [SSRN 3080495](https://ssrn.com/abstract=3080495).
38. Yiran Cui, Sebastian del Baño Rollin, Guido Germano, “Full and fast calibration of the Heston stochastic volatility model”, *European Journal of Operational Research* 263 (2), 625–638, 2017, [DOI 10.1016/j.ejor.2017.05.018](https://doi.org/10.1016/j.ejor.2017.05.018), [arXiv:1511.08718](https://arxiv.org/abs/1511.08718) [q-fin.CP].
37. Gianluca Fusai, Guido Germano, Daniele Marazzina, “Spitzer identity, Wiener-Hopf factorization and pricing of discretely monitored exotic options”, *European Journal of Operational Research* 251 (1), 124–134, 2016, [DOI 10.1016/j.ejor.2015.11.027](https://doi.org/10.1016/j.ejor.2015.11.027) (editor’s choice), [SSRN 2781434](https://ssrn.com/abstract=2781434), [Quaderni del Dipartimento di Matematica del Politecnico di Milano 178](https://www.quaderni.dipartimento-di-matematica.politecnico-di-milano.it/2016/04/27/2781434).
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Dissertations

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1. Guido Germano, "Studio di ordine e dinamica in polimeri liquido-cristallini mediante risonanza magnetica nucleare allo stato solido", Laurea thesis, 138 pages, University of Pisa, 1994.

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2 Conferences

Organisation

14. 9th International Conference on Complexity, Future Information Systems and Risk (Complexis 2024), Angers, France, 28–29 April 2024: member of the program committee; complexis.scitevents.org/?y=2024.
13. 8th International Conference on Complexity, Future Information Systems and Risk (Complexis 2023), Prague, Czech Republic, 22–23 April 2023: member of the program committee; complexis.scitevents.org/?y=2023.
12. 7th International Conference on Complexity, Future Information Systems and Risk (Complexis 2022), online streaming, 23–24 April 2022: member of the program committee; complexis.scitevents.org/?y=2022.

11. 6th International Conference on Complexity, Future Information Systems and Risk (Complexis 2021), online streaming, 24–25 April 2021: member of the program committee; complexis.scitevents.org/?y=2021.
10. 5th International Conference on Complexity, Future Information Systems and Risk (Complexis 2020), planned in Prague, Czech Republic, moved to online streaming, 8–9 May 2020: member of the program committee; complexis.scitevents.org/?y=2020.
9. UCL-Rome Workshop on Stochastic and Partial Differential Equation Methods in Finance and Economics, LUISS, Rome, Italy, 20–22 May 2019: member of the scientific committee with Fausto Gozzi and Carlo Marinelli, webmaster; www.cs.ucl.ac.uk/staff/germano/ucl-rome_workshop.html.
8. 4th International Conference on Complexity, Future Information Systems and Risk (Complexis 2019), Heraklion, Crete, Greece, 2–4 May 2019: member of the program committee; complexis.scitevents.org/?y=2019.
7. 3rd International Conference on Complexity, Future Information Systems and Risk (Complexis 2018), Funchal, Madeira, Portugal, 20–21 March 2018: member of the program committee; complexis.scitevents.org/?y=2018.
6. 2nd International Conference on Complexity, Future Information Systems and Risk (Complexis 2017), Porto, Portugal, 22–24 April 2017: member of the program committee; complexis.scitevents.org/?y=2017.
5. 9th International Conference on Computational and Financial Econometrics (CFE 2015), London, UK, 12–14 December 2015: organiser with Giacomo Livan of the session CO402 “Social media and finance: quantifying social media impact on financial dynamics”, 5 talks; www.cfenetwork.org/CFE2015.
4. 15th Annual Workshop on Economic Heterogeneous Interacting Agents (WEHIA) of the Society for Economic Science with Heterogeneous Interacting Agents (ESHIA), Università del Piemonte Orientale “Amedeo Avogadro”, Alessandria, Italy, 23–25 June 2010: member of the program committee, 45 participants, <https://sites.google.com/site/eshia2010>.
3. 4th Rhein-Main Molecular Modelling Meeting — 4RM⁴, Philipps-University Marburg, Germany, 13 November 2009: sole organiser, 52 participants.
2. Workshop on Heterogeneous Agent Systems and Complex Networks, a satellite meeting to the European Conference on Complex Systems — ECCS 07, TU Dresden, Germany, 4 October 2007: member of the organising committee with Akira Namatame, Yukio Hakashi, Enrico Scalas and Taisei Kaizoji; 30 participants.
1. Workshop on Continuous-Time Random Walks within the Topical Month on Stochastic Analysis and Related Topics (StART), Philipps-University Marburg, Germany, 25 July 2006: organiser with René L. Schilling, 34 participants.

Communications

For oral presentations the speaker is underlined. Invited talks are named as such after the title. Conferences attended only by coauthors are marked with a star.

113. Khalifa Al-Thani, Domenico Mignacca, Gianluca Fusai, Fabio Caccioli, Guido Germano, “Inconsistency of the capital asset pricing model in a multi-currency environment”, Investor EQD — The Global Quantitative Research Forum, Abu Dhabi, 18 April 2024, <https://eqderivatives.com/events/investor-eqd-abu-dhabi-2024>.*
112. Kemal Kirtac, Guido Germano, “Sentiment trading and large language models”, XXV Workshop on Quantitative Finance (QFW 2024), Bologna, Italy, 11–13 April 2024, <https://eventi.unibo.it/qfw2024>.*
111. Jinsong Hao, Guido Germano, “Matrix and vector Heston stochastic volatility models with stochastic interest rates” 5th International Conference on Computational Finance (ICCF 2024) 2–5 April 2024, Amsterdam, www.iccf24.nl.

110. Luca F. Parafioriti, Guido Germano, "Bias correction of the mean-reversion strength in the parameter estimation of the generalized squared Bessel process", 47th Annual Meeting of the Association for Mathematics Applied to Social and Economic Sciences (AMASES), Università di Milano Bicocca, 20–22 September 2023, <https://sites.google.com/view/amases2023>.
109. Kemal Ozan Kirtac, Guido Germano, "Is there media-sourced hype in SPAC returns?", Conference on Natural Language Processing for Social Data Science 2023 (NLP SoDaS 2023), University of Oxford, 28–29 June 2023, www.nlpsodas.org.*
108. (a) Benjamin Loveless, Carolyn E. Phelan, Guido Germano, "Accurate numerical inverse z-transform and its use in the Fourier-z pricing of discretely monitored path-dependent options" (long talk);
 (b) Kemal Ozan Kirtac, Guido Germano, "Is there media-sourced hype in SPAC returns?";
 XXIV Workshop on Quantitative Finance (QFW 2023), Gaeta, Italy, 20–22 April 2023, <https://qfw2023.unicas.it>.
107. (a) Jiaqi Liang, Carolyn E. Phelan, Guido Germano, "Expressions for the joint conditional characteristic function of the Heston stochastic volatility model";
 (b) Benjamin Loveless, Carolyn E. Phelan, Guido Germano, "Accurate numerical inverse z-transform and its use in the Fourier-z pricing of discretely monitored path-dependent options";
 4th International Conference on Computational Finance (ICCF 2022), 6–10 June 2022, Bergische Universität Wuppertal, <https://iccf2022.uni-wuppertal.de>.
106. (a) Eduard Sariev, Guido Germano, "An innovative feature selection method for support vector machines and its test on the estimation of the credit risk of default";
 (b) Andreas Koukorinis, Gareth Peters and Guido Germano, "A comparative study of stylised facts across various markets: explaining common behaviours";
 (c) Benjamin Loveless, Carolyn E. Phelan, Guido Germano, "Numerical inversion of the z-transform with applications to the pricing of discretely monitored exotic options";
 (d) Jiaqi Liang, Carolyn E. Phelan, Daniele Marazzina, Guido Germano, "Pricing of discretely monitored barrier options with stochastic volatility using the Wiener-Hopf method";
 24th Annual Workshop on Economic Science with Heterogeneous Interacting Agents (WEHIA 2019), 24–26 June 2019, City, University of London, www.city.ac.uk/events/conferences/workshop-on-economic-science-with-heterogeneous-interacting-agents.
105. (a) Benjamin H. Loveless, Carolyn E. Phelan, Guido Germano, "Numerical inversion of the z-transform with applications to the pricing of discretely monitored exotic options" (invited);
 (b) Carolyn E. Phelan, Daniele Marazzina, Guido Germano, "Numerical pricing methods for α -quantile and perpetual early-exercise options" (invited);
 UCL-Rome Workshop on Stochastic and Partial Differential Equation Methods in Finance and Economics, LUISS, Rome, Italy, 20–22 May 2019, www.cs.ucl.ac.uk/staff/germano/ucl-rome_workshop.html.
104. (a) Benjamin H. Loveless, Carolyn E. Phelan, Guido Germano, "Numerical inversion of the z-transform with applications to the pricing of discretely monitored exotic options";
 (b) Jiaqi Liang, Carolyn E. Phelan, Daniele Marazzina, Guido Germano, "Pricing of discretely monitored barrier options with stochastic volatility using the Wiener-Hopf method";
 XX Workshop on Quantitative Finance (QFW 2019), ETH Zürich, 23–25 January 2019, <https://people.math.ethz.ch/~jteichma/index.php?content=qfw2019>.
103. (a) Carolyn E. Phelan, Daniele Marazzina, Guido Germano, "Spitzer-based pricing methods for α -quantile and perpetual early-exercise options" (invited);
 (b) Jiaqi Liang, Carolyn E. Phelan, Daniele Marazzina, Guido Germano, "Application of the Wiener-Hopf technique to the pricing of discretely monitored barrier options with stochastic volatility" (invited);
 Section Numerical methods and quantitative finance: new perspectives and applications (NM1), 42nd Annual Meeting of the Association for Mathematics Applied to Social and Economic Sciences (AMASES), Università di Napoli Partenope, 13–15 September 2018, <http://amases2018.uniparthenope.it>.

102. Giampaolo Gabbi, Burcu Kapar, Giulia Iori, Guido Germano, “Market Microstructure, Banks’ Behaviour and Interbank Spreads”, 8th International Conference of the Financial Engineering and Banking Society (FEBS), Rome, 4–6 June 2018, <https://ebs2018.ccmgs.it>.*
101. (a) Federico Graceffa, Yiran Cui, Sebastian Del Baño Rollin, “Consistency of local-stochastic volatility models with respect to spot inversion and multiplication”;
 (b) Carolyn E. Phelan, Daniele Marazzina, Guido Germano, “Pricing methods for perpetual Bermudan and quantile options based on Spitzer identities”;
 (c) Yiran Cui, Sebastian Del Baño Rollin, Guido Germano, “Stability of calibration procedures: fractals in the Black-Scholes model”;
 XIX Workshop on Quantitative Finance (QFW 2018), Università Roma Tre, 24–26 January 2018, <http://disa.uniroma3.it/qfw2018>.
100. (a) Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, Guido Germano, “Numerical pricing of discretely monitored barrier options with Lévy jump processes using the Hilbert transform and spectral filtering” (Minisymposium “Jumps in Finance: modelling, computing and open issues”, invited);
 (b) Yiran Cui, Sebastian Del Baño Rollin, Guido Germano, “Full and fast calibration of the Heston stochastic volatility model” (Thematic session “Optimization and control theory”);
 2nd International Conference on Computational Finance (ICCF2017), Lisbon, 4–8 September 2017, <http://cemapre.iseg.ulisboa.pt/iccf2017>.
99. (a) Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, Guido Germano, “Improvement of numerical option pricing methods based on the Hilbert transform using spectral filtering”;
 (b) Federico Graceffa, Yiran Cui, Sebastian Del Baño Rollin, Guido Germano, “Consistency of local-stochastic volatility models in the FX market with respect to spot inversion and multiplication”;
 (c) Yiran Cui, Sebastian Del Baño Rollin, Guido Germano, “Stability of calibration procedures: fractals in the Black-Scholes model”;
 13th Econophysics Colloquium, Warsaw, Poland, 5–7 July 2017, www.ec2017.org.
98. (a) Carolyn E. Phelan, Daniele Marazzina, Gianluca Fusai, Guido Germano, “Improving the convergence of Fourier-based option pricing using spectral filtering techniques”;
 (b) Yiran Cui, Sebastian Del Baño Rollin, Guido Germano, “Full and fast calibration of the Heston stochastic volatility model”;
 XVIII Workshop on Quantitative Finance, Milan, Italy, 25–27 January 2017, <http://sites.google.com/site/qfw2017>
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 (b) Lucio Idone, Maria E. Boeker, Jessica James, Guido Germano, “Market microstructure and trend-based trading strategies in the foreign exchange market”;
 20th Workshop on Economic Heterogeneous Interacting Agents (WEHIA 2015), 21–23 May 2015, SKEMA Business School, Sophia Antipolis, France, wehia2015.sciencesconf.org.
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(b) Guido Germano, Adrian Gabriel, Edgar Martin, Enrico Scalas, “Velocity and energy distributions in microcanonical ensembles of hard spheres”;
(c) Ulrich Welling, Franz Demmel, Wolf-Christian Pilgrim, Guido Germano, “Partial dynamic structure factors of molten sodium chloride investigated by molecular dynamics simulation”;
CCP5 Annual Meeting “Condensed Phase Simulations: Recent Advances in Theory and Applications” (session for the retirement of Prof. Michael P. Allen), 8–11 September 2014, Harper Adams University, Telford, UK, www.ccp5.ac.uk/events/ccp5_2014.shtml.
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91. Luca Gerardo Giorda, Guido Germano, Enrico Scalas, “Large-scale simulations of synthetic markets”, Workshop on Fractional Calculus, Probability and Non-Local Operators (FCPNLO 2013), Basque Center for Applied Mathematics, Bilbao, Spain, 6–8 November 2013, <http://sites.google.com/site/fcpnlo>.*
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International Conference on Applied Mathematics, Modeling, and Computer Science (AMMCS-2013), Waterloo, Ontario, Canada, 26–30 August 2013, www.ammcs2013.wlu.ca.
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81. Giulia Iori, Mauro Politi, Guido Germano, Giampaolo Gabbi, "Microstructure of the European interbank market e-MID" (invited), School and Workshop on Market Microstructure: Design, Efficiency and Statistical Regularities, SISSA, Trieste, Italy, 21–25 March 2011.*
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 (b) Ulrich Welling, Guido Germano, Ibrahim Al-Lehyani, Michael P. Allen, "Molecular simulations in the nematic-isotropic coexistence region",
 5th Rhein-Main Modeling Meeting, TU Darmstadt, Germany, 7 December 2010.
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75. Mauro Politi, Giulia Iori, Guido Germano, Giampaolo Gabbi, "The overnight interbank market. Simple statistics and facts before and during the credit crisis", 16th International Conference on Computing in Economics and Finance of the Society of Computational Economics, City University London, UK, 15–17 July 2010.
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 (c) Adrian Gabriel, Guido Germano, "Molecular graphics of coarse-grained liquids";
 (d) Ulrich Welling, Giorgio Cinacchi, Guido Germano, "Diffusion of model discotic mesogens studied by molecular dynamics simulation",
 Materialforschungstag Mittelhessen, Philipps-Universität Marburg, Germany, 9 July 2010.
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 (c) Adrian Gabriel, Guido Germano, "Molecular graphics of coarse-grained liquids";
 (d) Ulrich Welling, Giorgio Cinacchi, Guido Germano, "Diffusion of model discotic mesogens studied by molecular dynamics simulation";
 (e) Ulrich Welling, Franz Demmel, Wolf-Christian Pilgrim, Guido Germano, "Collective dynamics in molten alkali halides";

- (f) Guido Germano, Mauro Politi, Enrico Scalas, René L. Schilling, “Stochastic calculus for uncoupled continuous-time random walks”, CCP2010 — Conference on Computational Physics, Norwegian University of Science and Technology, Trondheim, Norway, 23–26 June 2010.
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71. Mauro Politi, Giulia Iori, Guido Germano, Giampaolo Gabbi, “e-MID: electronic Market for Interbank Deposits — An ‘exotic’ example of quote-driven market” (invited), International Workshop on the Economics of Order-Driven Markets (Econophys-Kolkata V), Saha Institute of Nuclear Physics, Kolkata, India, 9–13 March 2010.*
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 (b) Adrian T. Gabriel, Edgar Martin, Guido Germano, “Molecular graphics of coarse-grained fluids”;
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 (d) Guido Germano, Mauro Politi, Enrico Scalas, René L. Schilling, “Continuous-time random walks, fractional calculus and stochastic integrals”;
 (e) Guido Germano, Edgar Martin, Enrico Scalas, “The Ehrenfest urn revisited: Playing the game on a realistic fluid model”,
 4th Rhein-Main Molecular Modelling Meeting — 4RM⁴, Philipps-University Marburg, Germany, 13 November 2009.
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62. Guido Germano, “Agent-based simulations of the distribution of wealth in conservative economies” (invited), Workshop on Kinetic and Macroscopic Modeling for Socio-Economic and Related Problems, Vigevano, Italy, 27–29 November 2008.

61. Enrico Scalas, Guido Germano, Mauro Politi, René L. Schilling, “Stochastic integrals driven by uncoupled continuous-time random walks”, Fractional Differentiation and its Applications — FDA 08, Cankaya University, Ankara, Turkey, 5-7 November 2008.*
60. Guido Germano, Mauro Politi, Daniel Fulger, Enrico Scalas, “Synthetic high-frequency financial time series: Numerical study of free random Wishart-Lévy matrices”, Econophysics Colloquium 2008, Kiel Institute for the World Economy, Germany, 28–30 August 2008.
59. (a) Guido Germano, “Computer simulation of liquid crystals and other complex systems” (invited);
 (b) Ulrich Welling, Franz Demmel, Wolf-Christian Pilgrim, Daniel Fulger, Guido Germano, “Collective dynamics in molten alkali halides”;
 (c) Guido Germano, Daniel Fulger, Enrico Scalas, “Monte Carlo simulation of uncoupled continuous-time random walks yielding a stochastic solution of the space-time fractional diffusion equation”, 1st Annual Conference of the EPSRC Network “Mathematical Challenges of Molecular Dynamics”, University of Warwick, UK, 14–16 July 2008.
58. Guido Germano, “Many-agent simulations of the distribution of wealth in conservative economies” (invited), Workshop on Propagation Mechanisms in Markets, Institute for Scientific Interchange (ISI), Torino, Italy, 10–11 July 2008.
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 (b) Enrico Scalas, Guido Germano, Mauro Politi, “Stochastic integration on uncoupled continuous-time random walks: definition and MC simulations” (Session H11 “Computational finance”, p. 91 Abstract Book, p. 41 Program Book),
 CEF 2008 — 14th International Conference on Computing in Economics and Finance of the Society of Computational Economics, Sorbonne University, Paris, France, 26–28 June 2008.
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53. Guido Germano, “Conservative economies: Monte Carlo simulations” (invited), Workshop on conservative economies, Università del Piemonte Orientale “Amedeo Avogadro”, Alessandria, Italy, 4 June 2008.
52. Guido Germano, Daniel Fulger, Enrico Scalas, “Monte Carlo simulation of uncoupled continuous-time random walks yielding a stochastic solution of the space-time fractional diffusion equation”, International Workshop “Modelling anomalous diffusion and relaxation: From single molecules to the flight of the albatross?”, Institute for Advanced Studies, Hebrew University, Jerusalem, Israel, 23–28 March 2008.
51. (a) Adrian T. Gabriel, Edgar Martin, Guido Germano, “Molecular graphics of convex body fluids”;

- (b) Edgar Martin, Adrian T. Gabriel, Guido Germano, "Molecular dynamics simulation of a model discotic mesogen confined in a cylindrical nanopore",
NIC-Symposium 2008, Forschungszentrum Jülich, Germany, 20–22 February 2008.
50. Daniel Fulger, Enrico Scalas, Guido Germano, "Correlation matrices of continuous-time random walks", Workshop on heterogeneous agent systems and complex networks, organised by Profs. Akira Namatame, Yukio Hayashi, Guido Germano, Enrico Scalas and Taisei Kaizoji as a satellite to the ECCS'07 — European Conference on Complex Systems, TU Dresden, Germany, 4 October 2007.
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(b) Adrian T. Gabriel, Edgar Martin, Guido Germano, "Visualisation of molecules as convex bodies", CCP2007 — Conference on Computational Physics, Brussels, Belgium, 5–8 September 2007.
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46. (a) Guido Germano, Ulrich Gösele, Andreas Greiner, Edgar Martin, Markus Rudisile, Martin Steinhart, Christopher Stillings, Sven Murano, Joachim H. Wendorff, "Discotic liquid crystals and polymers in cylindrical confinement";
(b) Adrian T. Gabriel, Edgar Martin, Guido Germano, "Visualisation of molecules as convex bodies";
(c) Guido Germano, Edgar Martin, Enrico Scalas, "The Ehrenfest urn revisited: Playing the game on a realistic fluid model";
(d) Guido Germano, Adrian Gabriel, "Coarse-grained computer simulation and computer graphics of molecules",
Materialforschungstag Mittelhessen 2007, Schloss Rauischolzhausen, Germany, 6 July 2007.
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44. Adrian T. Gabriel, Edgar Martin, Guido Germano, "Visualisation of molecules as convex bodies", 2nd Rhein-Main Modelling Meeting, Mainz, 15 June 2007.*
43. (a) Guido Germano, Daniel Fulger, Enrico Scalas, "Efficient Monte Carlo simulation of high-frequency financial time series modeled with anomalous diffusion" (Communication 339, Session 19 "Methodological Advances in Finance");
(b) Daniel Fulger, Enrico Scalas, Guido Germano, "Correlation matrices of synthetic continuous time random walks" (Communication 329, Session 57 "Financial Econometrics"),
CEF 2007 — 13th International Conference on Computing in Economics and Finance of the Society of Computational Economics, Montréal, Quebec, Canada, 14–16 June 2007.
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40. Christopher Stillings, Markus Rudisile, Robin Pettau, Edgar Martin, Martin Steinhart, Klaus Kreger, Sven Murano, Guido Germano, Ulrich Gösele, Hans W. Schmidt, Joachim H. Wendorff, "Morphology of discotic LC/polymer nanorods and nanofibers", Chemical Nanotechnology Talks VII, DECHEMA, Frankfurt am Main, Germany, 23–25 October 2006.*

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37. (a) Guido Germano, Enrico Scalas, “Artificial financial markets with continuous-time random walks” (p. 18 Abstract Book);
 (b) Marco Patriarca, Anirban Chakraborti, Guido Germano, “Many-agent models in economic and social sciences” (p. 36 Abstract Book),
 5th International Conference on Applications of Physics in Financial Analysis (APFA5), Institute for Scientific Interchange (ISI), Torino, Italy, 29 June – 1 July 2006.
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 Tag der Physikalischen Chemie, Schloss Rauischholzhausen, Germany, 28 February 2006.
33. Guido Germano, Michael Engel, Enrico Scalas, “City@home: Monte Carlo derivative pricing distributed on networked computers”, Grid in Finance 2006 — 1st International Workshop on Grid Technology for Financial Modeling and Simulation, Palermo, Italy, 3–4 February 2006.
32. Guido Germano, “Molecular dynamics simulation of diffusion in discotic mesophases”, 3. Symposium Juniorprofessur, Hannover, Germany, 13 September 2005.
31. Guido Germano, “Molecular dynamics simulation of diffusion in discotic mesophases”, Scientific kick-off meeting NanoNetzwerk Hessen, TU Darmstadt, Germany, 20 July 2005.
30. Guido Germano, “Molecular dynamics simulation of diffusion in discotic mesophases”, Materialforschungstag Mittelhessen 2005, Schloss Rauischholzhausen, Germany, 24 June 2005.
29. Marco Patriarca, Anirban Chakraborti, Guido Germano, “Influence of the saving propensity on the power-law tail of the wealth distribution”, 10th Annual Workshop on Economic Heterogeneous Interacting Agents (WEHIA 2005), University of Essex, Colchester, UK, 13–15 June 2005.
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27. Guido Germano, Giorgio Cinacchi, “Domain decomposition molecular dynamics simulation of model discotic mesogens”, SC 2004 — High performance computing, networking, and storage conference, Pittsburgh, PA, USA, 6–12 November 2004 (Research Exhibits, Booth Nr. 2441).*
26. Guido Germano, “Structural correlations in financial markets”, First Bonzenfreies Colloquium on Market Dynamics and Quantitative Economics, Alessandria, Italy, 9–10 September 2004.
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 (b) Guido Germano, Michael Engel, "CITY@home: Monte Carlo option pricing distributed on personal computers" (Communication 275, Area "Agent-based modelling, artificial financial markets, statistical mechanics approaches in economics and finance", Session 70 "Poster Session IV"),
 CEF 2004 — 10th International Conference on Computing in Economics and Finance of the Society of Computational Economics, Amsterdam, The Netherlands, 8–10 July 2004.
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 (b) Michael P. Allen, Guido Germano, "Soft spheroid potentials for complex fluid simulations",
 CCP5 Conference 2002: Advances in simulations of molecules and materials, University of Durham, UK, 9–12 September 2002.
20. (a) Michael P. Allen, Guido Germano, "Calculating forces and torques in rigid-molecule liquid crystal simulations";
 (b) Michael P. Allen, Guido Germano, "Simultaneous calculation of the helical pitch and the twist elastic constant in chiral liquid crystals by molecular simulation",
 CCP5 Annual Meeting 2001: Liquids and Liquid Interfaces, University of Warwick, UK, 16–19 September 2001.*
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17. Denis Andrienko, Guido Germano, Michael P. Allen "Computer simulation of topological defects around a colloidal particle or droplet dispersed in a nematic host", Gordon Research Conference on Liquid Crystals, New London, NH, USA, 24–29 June 2001.*
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 Condensed Matter & Materials Physics Conference 2000, Bristol, UK, 19–21 December 2000.*
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 NATO Advanced Research Workshop on Computer Simulation of Defects in Liquid Crystals Including Their Relation to Experiment and Theory, Erice, Italy, 19–23 September 2000.*

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13. Guido Germano, Denis Andrienko, Michael P. Allen, "Computer simulation study of liquid crystal ordering near a colloid particle", IACIS 2000 — The 10th International Conference on Colloid and Interfacial Science, Bristol, UK, 23–28 July 2000 (Poster CDP97).
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11. Giuliano Alagona, Caterina Ghio, Guido Germano, "Stabilità in vacuo ed in soluzione (PCM) di due tautomeri del mirsinone", CHITEL '99 — XXV Congresso Internazionale dei Chimici Teorici di Espressione Latina, Napoli, Italy, 13–18 September 1999 (pp. 61–62 Abstract Book).*
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9. Denis Andrienko, Michael P. Allen, Guido Germano, "Molecular Dynamics Simulations of Liquid Crystals in Confined Geometries", CCP5/SMTG Summer School on Methods in Molecular Simulation, Manchester, UK, 21–29 June 1999.*
8. Guido Germano, Giovanni La Penna, Carlo A. Veracini, Ronald Y. Dong, "MD mesophase simulation with mesogen flexibility", NATO Advanced Study Institute on Advances in the Computer Simulation of Liquid Crystals, Erice, Italy, 11–22 June 1998.
7. Guido Germano, Peter A. Kollman, Giuliano Alagona, Caterina Ghio, "A QM/MM study of the reaction mechanism in mandelate racemase", Model(l)ing '97 — 16th International Meeting of the Molecular Graphics and Modeling Society, Erlangen, Germany, 2–5 September 1997 (pp. 98–99 Abstract Book, MGMS award).
6. Guido Germano, Giovanni La Penna, Carlo A. Veracini, Ronald Y. Dong, "A computationally affordable extended pseudo-atom molecular dynamics simulation that incorporates molecular flexibility", 7th Chianti Workshop on Magnetic Resonance — Electron and Nuclear Relaxation, San Miniato, Italy, 25–31 May 1997 (p. 58 Abstract Book).
5. Guido Germano, Peter A. Kollman, Giuliano Alagona, Caterina Ghio, "A simple QM/MM study of the reaction mechanism in Mandelate Racemase", FORUM/INFM Workshop on Computer Simulations of Systems of Biological Interest, Pisa, Italy, 12–14 May 1997 (p. 7 Abstract Book).
4. Giuliano Alagona, Guido Germano, Caterina Ghio, "Modeling chemical reactions in complex systems", 3° Convegno Nazionale di Informatica Chimica, Napoli, Italy, 27 February – 1 March 1997 (pp. 79–82 Conference Book).
3. Giuliano Alagona, Guido Germano, Caterina Ghio, Peter A. Kollman, "L'importanza della mobilità del campo circostante nel corso delle reazioni enzimatiche", 28° Congresso Nazionale della Divisione di Chimica Fisica della Società Chimica Italiana, Pisa, Italy, 10–14 Feb. 1997 (pp. 130–131 Abstract Book).
2. D. Catalano, G. Germano, C. A. Veracini, "Maximum entropy methods for conformational problems", 26° Congresso Nazionale di Risonanze Magnetiche, Verona, Italy, 28–30 September 1995 (pp. 52–53 Abstract Book).*
1. C. Boeffel, D. Catalano, E. Chiellini, G. Germano, H.W. Spiess, "Studio mediante 2H-NMR dell'ordine orientazionale e della dinamica della catena di un polimero liquido-cristallino a gruppi mesogenici laterali", 1° Congresso della Società Italiana dei Cristalli Liquidi, Amalfi, Italy, 1–4 June 1994 (p. 14 Abstract Book).

Lessons given at graduate schools

4. Lecturer (15 hours) and supervisor of the coding exercises (8 hours), Summer School “Computational Methods in Finance and Economics”, part of the series “Summer School of Mathematics for Economic and Social Sciences”, Centro di Ricerca Matematica Ennio de Giorgi, Pisa, with partial support of the International Doctoral Program in Economics of the Scuola Superiore Sant’Anna, San Miniato, 9–13 September 2024, www.crm.sns.it/event/528.
3. “Fourier methods for the pricing of exotic derivatives”, IEEE-CIFER Spring School in Financial Computing and Analytics, UCL, London, UK, 29–30 March 2014, linked to the IEEE conference Computational Intelligence for Financial Engineering & Economics (CIFER 2014), London, UK, 27–28 March 2014, www.ieee-cifer.org/springschool.html.
2. (a) “Computational methods 2: Basic molecular dynamics in the microcanonical ensemble”,
(b) “Computational methods 1: Introduction to molecular simulation and statistical thermodynamics”,
International PhD School on Nanobiotechnology organised by Profs. N. Hampp and C. Nicolini, Laubach, Germany, 18–23 February 2007.
1. “Molecular dynamics simulations”, 3rd course “Nanobiotechnology”, International Doctorate School of Nanoscience and Nanotechnology organised by Profs. N. Hampp and C. Nicolini, Brixen, Italy, 2–3 October 2006.

Declined invitations to conferences (selection)

I already had another commitment, often exams, or the invitation covered only the registration and accommodation, but not the intercontinental flight (6,10). I missed to update this list after 2018.

11. 7th Conference on Finite Difference Methods: Theory and Applications, Lozenetz, Bulgaria, 11–16 June 2018.
10. Workshop on Econophysics & Sociophysics (Econophys-2015), New Delhi, India, 27 November – 1 December 2015.
9. 2nd International Conference on Mathematical, Computational and Statistical Sciences (MCSS 2014), Gdansk, Poland, 15–17 May 2014.
8. International Workshop on Econophysics and Data Driven Modelling of Market Dynamics (Econophys-Kolkata VIII), Saha Institute of Nuclear Physics, Kolkata, India, 14–17 March 2014.
7. Il futuro open della ricerca: iniziative e progetti per l’accesso aperto ai dati e alla letteratura scientifica, Università del Piemonte Orientale, Vercelli, Italy, 26 October 2012.
6. International Workshop on Econophysics of Systemic Risk and Network Dynamics (Econophys-Kolkata VI), Saha Institute of Nuclear Physics, Kolkata, India, 21–25 October 2011.
5. Workshop on Molecular Dynamics, a part of the Warwick EPSRC Symposium on Challenges in Scientific Computing, Mathematics Institute, University of Warwick, 1–5 June 2009.
4. Talk on Monte Carlo with virtual distributed computing, EGEE (Enabling Grids for E-science) Industry Days “Business Intelligence & Grid Solutions Meet the Finance Sector”, Pisa, Italy, 24–26 Jan 2007.
3. Lesson “Introduction to Molecular Dynamics”, 6th Autumn School of Young Physicists, Kääriku, Estonia, 8–10 October 2004.
2. Plenary talk, section “Statistical Physics and Beyond”, topic “Computational Statistical Physics”, MM04 — Second Mexican Meeting on Mathematical and Experimental Physics, Mexico City, 6–10 Sep 2004.
1. Round table “L’Italia, l’Europa e la ricerca scientifica”, Convegno Associazione Italiana Scienza e Tecnologia delle Macromolecole, Pisa, Italy, 24 September 2003.

Conferences attended without presenting a communication

10. Fintech Workshop on AI, Financial Automation and Market Risk, planned in London, UK, 19 May 2020, moved to a webinar (invited).
9. 2nd International Workshop on P2P Financial Systems, UCL, London, UK, 8–9 September 2016 (invited).
8. 1st International Workshop on P2P Financial Systems, Deutsche Bundesbank, Frankfurt, Germany, 29–30 January 2015 (invited).
7. The growth of firm and countries: distributional properties and economic determinants, Universitas Mercatorum, Rome, Italy, 24–25 October 2013 (invited).
6. COST Chemistry — D3 European workshop “Quantum systems in Chemistry and Physics”, organised by Prof. Roy McWeeny, San Miniato, Italy, 14–17 April 1996.
5. Meeting of the European Doctoral Program (EDP) in Quantitative Economics, Bad Honnef, Germany, April 1995.
4. EDP Jamboree, Louvain, Belgium, December 1994.
3. 7th Annual European Futures Research Symposium, Bonn, Germany, 18–20 September 1994.
2. Workshop “Liquid Crystals and Allied Systems”, Pisa, Italy, 7 April 1994.
1. 14th International Liquid Crystal Conference, Pisa, Italy, 21–26 June 1992.

Attended schools on computational physics and chemistry

6. Winter school “Computational Soft Matter: From Synthetic Polymers to Proteins”, organised by Dr. Norbert Attig, Prof. Kurt Binder, Prof. Helmut Grubmüller and Prof. Kurt Kremer, Bonn, Germany, 29 February – 6 March 2004.
5. Workshop on “Advanced integrators for molecular dynamics simulation”, organised by Prof. Benedict J. Leimkuhler and Prof. Brian B. Laird, CECAM, Lyon, France, 15–17 May 2000.
4. Tutorial “Three days on molecular dynamics and path integrals”, given by Prof. Glenn J. Martyna and Prof. Mark E. Tuckerman, CECAM, Lyon, France, 21–23 June 1999.
3. NATO Advanced Study Institute “Advances in the computer simulation of liquid crystals” by Prof. Claudio Zannoni and Dr. Paolo Pasini, Erice, Italy, 11–22 June 1998.
2. Summer school “Computer simulation of rare events and the dynamics of classical and quantum condensed phase systems”, organised by Prof. Bruce J. Berne, Prof. Giovanni Ciccotti and Prof. David F. Coker, Lerici, Italy, 7–18 July 1997.
1. Summer school “Monte Carlo and molecular dynamics of condensed matter systems”, organised by Prof. Kurt Binder and Prof. Giovanni Ciccotti, Como, Italy, 3–28 July 1995.

Attended schools on scientific, parallel and high-performance computing

3. Course on programming and using the new IBM supercomputer in Jülich, Forschungszentrum Jülich, Germany, 14–16 January 2004.
2. Introduction to parallel programming with MPI and OpenMP, Forschungszentrum Jülich, Germany, 6–10 October 2003.
1. 4th summer school on vector and parallel computing, CINECA, Bologna, Italy, 11–22 September 1995.

Attended school on financial mathematics

1. Cattedra Galileiana 1998 given by Prof. Hans Bühlmann (ETH), 3–26 February 1998, Scuola Normale Superiore, Pisa.

Science policy meetings

20. Venti di ADI, “Le origini dell’ADI”, University of Rome La Sapienza, Italy, 16 June 2018 (invited talk delivered with Skype).
19. 2nd FET2020 Conference “FET and the City” (a conference on the development of *Future and Emerging Technologies*, part of the European Union’s Horizon 2020 Framework Programme for Research and Innovation), Scuola Superiore S. Anna, Pisa, Italy, 30–31 January 2014 (invited); www.fet2020.eu.
18. 6. Symposium der Deutschen Gesellschaft Juniorprofessur: “Strukturierte Karrierepfade an Universitäten?”, Bonn, Germany, 7 October 2013.
17. 4. Symposium Juniorprofessur: “5 Jahre Juniorprofessur — Chancen und Zukunftspotentiale für die Forschung und Lehre in Deutschland”, Bremen, Germany, 12 October 2007.
16. Assemblea generale Associazione Dottorandi e Dottori di Ricerca Italiani — ADI, Bologna, Italy, 14–15 April 2007.
15. CHE/FVJ Workshop zur Zwischenevaluation in der Juniorprofessur, Hannover, Germany, 6 June 2006.
14. Assemblea generale Associazione Dottorandi e Dottori di Ricerca Italiani — ADI, Bologna, Italy, 11–12 March 2006.
13. 6th Eurodoc conference, Bologna, Italy, 9–12 March 2006.
12. 3. Symposium Juniorprofessur, Hannover, Germany, 13 September 2005.
11. 2. Symposium zur Juniorprofessur, Berlin, Germany, 13 October 2004.
10. ThinkTank zur Juniorprofessur, Clausthal-Zellerfeld, Germany, 28 September 2004.
9. 1. Symposium zur Juniorprofessur, Clausthal-Zellerfeld, Germany, 1 July 2004.
8. “Agents for Change” (an invitation-only meeting in the Nobel Forum organised by the European Science Foundation, Science Next Wave and the Karolinska Institute to develop a European action plan for the enhancement of 1. university-industry partnerships in science & engineering and 2. multidisciplinary), Stockholm, Sweden, 24–25 July 2002.
7. 4th meeting of the Postgraduates International Network, Budapest, Hungary, 8–10 March 2002 (1 of the 2 official Italian delegates).
6. 3^a assemblea generale Associazione Dottorandi e Dottori di Ricerca Italiani — ADI, Rome, Italy, 22 June 2001.
5. Convegno Associazione Dottorandi e Dottori di Ricerca Italiani — ADI “Dottorato, innovazione, lavoro. Il valore della ricerca”, Forte dei Marmi, Italy, 6 October 2000.
4. 2^a assemblea generale Associazione Dottorandi e Dottori di Ricerca Italiani — ADI, Bologna, Italy, 1 April 2000.
3. 1^a assemblea generale Associazione Dottorandi e Dottori di Ricerca Italiani — ADI, Certosa di Pontignano, 3–4 October 1998.
2. Workshop SNUR-CGIL “La valutazione nel sistema università”, Pisa, Italy, 21 April 1997.
1. 2^a assemblea Coordinamento Nazionale Dottorandi e Dottori di Ricerca, Pisa, February 1997.

3 Seminars

53. “Fourier-z pricing of discretely monitored path-dependent options and an improved numerical inverse z-transform”, MDPI International Day of Mathematics Webinar, 14 March 2023, <https://sciforum.net/event/MIDoMW2>.

52. "Fourier-z pricing of discretely monitored path-dependent options with an improved numerical inverse z-transform", Stochastic Seminars Series organised by Prof. Saeid Rezakah (Amirkabir University of Technology, Tehran), Prof. Thomas Mikosch (University of Copenhagen) et al., 19 October 2022 (online).
51. "Integral transforms methods and spectral filters for the pricing of exotic options", SEED seminars (Statistics, machine Learning, Data science), Department of Statistics and Data Science, National University of Singapore, 14 December 2018 (online).
50. "Full and fast calibration of the Heston stochastic volatility model", Pontifical Catholic University of Rio de Janeiro, Brazil, 2017 (cancelled).
49. "Fourier transform methods for the numerical pricing of discretely monitored exotic derivatives", Pontifical Catholic University of Rio de Janeiro, Brazil, 2017 (cancelled).
48. "A secure and stable economy", Eight Grand Challenges for UCL Computer Science Research, Department of Computer Science, University College London, UK, 31 March 2017.
47. "Using statistical physics to quantify complexity in socio-economic systems III: Agent-based models for the distribution of wealth / Distribution of functionals of a random process", Monthly Departmental Lunchtime Seminar, Dept. of Computer Science, University College London, UK, 18 November 2015.
46. "Spitzer identities and Wiener-Hopf factorisation through fast Hilbert transform: Application to the pricing of path-dependent derivatives", Turner/Alexander/Polin/Kantsler Group Meeting (Soft Condensed Matter and Biophysics), Department of Physics, University of Warwick, UK, 8 June 2015.
45. "Computational finance: A perspective from physics and engineering", Birkbeck College, London, UK, 29 November 2013.
44. "Agent-based approaches in economics and finance", Centre for Doctoral Training in Financial Computing and Analytics, University College London, UK, 20 November 2013.
43. "Computing in finance: From the analysis of stylized facts to the numerical pricing of exotic derivatives", Department of Computer Science, University College London, UK, 7 June 2013.
42. "Contributions from physics to economics and finance", Energiewirtschaftliches Institut (EWI), Universität zu Köln, 18 April 2013.
41. "Mathematics of complex systems: condensed matter and beyond", Centre for Analysis, Scientific computing and Applications (CASA) and Institute for Complex Molecular Systems (ICMS), Technische Universiteit Eindhoven, Netherlands, 16 January 2013.
40. "Distributions of conserved quantities like energy or wealth in physics and economics", Laboratorio di Economia e Management (LEM), Istituto di Economia, Scuola Superiore di Studi Universitari e Perfezionamento Sant'Anna, Pisa, Italy, 4 December 2012.
39. "Velocity and energy distributions in microcanonical ensembles of hard spheres", Institute of Theoretical Physics (Soft Matter and Biophysics), Georg-August-Universität Göttingen, Germany, 3 July 2012.
38. "Evaluation of discretely monitored path-dependent exotic derivatives", Basque Centre for Applied Mathematics, Bilbao, Spain, 1 March 2012.
37. "Computer simulation of soft condensed matter and other complex systems", Basque Centre for Applied Mathematics, Bilbao, Spain, 28 February 2012.
36. "Computersimulation: Eine moderne Querschnittswissenschaft", Naturwissenschaftlich-Technische Fakultät, Universität Siegen, Germany, 1 February 2012.
35. "Continuous-time random walks and their applications", Laboratorio di Economia e Management (LEM), Istituto di Economia, Scuola Superiore di Studi Universitari e Perfezionamento Sant'Anna, Pisa, Italy, 28 October 2011.
34. "Empirical analysis of the Italian interbank market of overnight lending (e-MID) 1999–2009", Institut für Weltwirtschaft, Kiel, Germany, 18 January 2010.

33. "Continuous-time random walks and space-time fractional diffusion", Bristol Centre for Complexity Sciences, Department of Engineering Mathematics, University of Bristol, UK, 25 November 2008.
32. "Computer simulation of condensed matter and other complex systems", International workshop on modern trends in advanced scientific computing, Università della Svizzera Italiana, Lugano, Switzerland, 28 April 2008.
31. "Efficient Monte Carlo simulation of high-frequency financial time series", Research Center, Deutsche Bundesbank, Frankfurt am Main, Germany, 22 November 2007.
30. "Computersimulation von Flüssigkristallen", Einweihung des Marburger Rechen-Clusters MaRC, Hochschulrechenzentrum, Philipps-Universität Marburg, Germany, 5 July 2006.
29. "Multi-Agenten Modelle der Vermögensverteilung", Forschungs- und Doktorandenkolloquium, Fachbereich Wirtschaftswissenschaften, Philipps-Universität Marburg, Germany, 10 May 2006.
28. "Non-equilibrium simulations of liquid crystals", Theoretical Chemistry / Computer Chemistry Center, University Erlangen-Nürnberg, Germany, 30 May 2005.
27. "Vom Zufall in der Welt der Moleküle und darüber hinaus", Lange Nacht der Chemie, Fachbereich Chemie, Philipps-Universität Marburg, Germany, 7 January 2005.
26. "AG Computersimulation", Vorstellung der Arbeitsgruppen, Institut für Physikalische Chemie, Philipps-Universität Marburg, 22 December 2004.
25. "Introduzione alla dinamica molecolare e al Monte Carlo nella fisica della materia condensata", Dipartimento di Scienze e Tecnologie Avanzate, Università del Piemonte Orientale Amedeo Avogadro, Alessandria, Italy, 10 June 2004.
24. "Computer simulation of liquid crystals under shear", Complex Systems Group seminar, Department of Physics, Philipps-University Marburg, Germany, 23 July 2003.
23. "Von der Schrödingergleichung zur Börse", Inaugural lecture, Department of Chemistry, Philipps-University Marburg, Germany, 7 May 2003.
22. "Simulazioni multiscala di cristalli liquidi", Department of Chemistry, University of Pisa, Italy, 6 March 2003.
21. "Nichtatomistische Computersimulation von Flüssigkristallen: Von einfachen Modellen mit starren stäbchenförmigen Molekülen zu realistischeren Beschreibungen mit Molekularfragmenten", Gemeinsames Seminar "Theoretische Atom-, Molekül- und Laserphysik/ Theoretische Chemie", Universität Bielefeld, Germany, 12 November 2002.
20. "Computersimulation von Flüssigkristallen", Department of Chemistry, University of Konstanz, Germany, 4 November 2002.
19. "Computersimulation zwischen molekularem und atomarem Detail am Beispiel von Flüssigkristallen", Department of Physics, University of Paderborn, Germany, 19 September 2002.
18. "Computersimulation von Flüssigkristallen: Einfache und detaillierte Modelle", Department of Chemistry, Technical University of Darmstadt, Germany, 2 September 2002.
17. "Non-Hamiltonian simulation of anisotropic systems", Condensed Matter Theory Group seminar, Faculty of Physics, University of Bielefeld, Germany, 19 July 2002.
16. "Computersimulation von Flüssigkristallen: Von einfachen Modellen zu realistischeren Beschreibungen", Department of Chemistry, Philipps-University Marburg, Germany, 5 July 2002.
15. "Computersimulation von Flüssigkristallen: Von einfachen Modellen zu realistischeren Beschreibungen", Department of Chemistry, University of Siegen, Germany, 1 July 2002.
14. "Simulation of non equilibrium systems", Condensed Matter Theory Group seminar, Faculty of Physics, University of Bielefeld, Germany, 14 February 2002.
13. "Mechanische Rechenmaschinen", Condensed Matter Theory Group seminar, Faculty of Physics, University of Bielefeld, Germany, 18 October 2001.

12. "Per qualche dollaro in più", Presentation of the book "Cervelli in fuga" (A. Palombini editor, Edizioni Avverbi, Rome 2001, ISBN 88-87328-27-7), University of Rome "La Sapienza", Italy, 22 June 2001.
11. "Quantum/classical simulation of an enzymatic reaction", Condensed Matter Theory Group seminar, Faculty of Physics, University of Bielefeld, Germany, 10 May 2001.
10. "Is C++ really slower than Fortran 77?", Journal Club, H. H. Wills Physics Laboratory, University of Bristol, UK, 2 August 2000.
9. "Issues in object-oriented scientific computing", Condensed Matter Theory Group seminar, Faculty of Physics, University of Bielefeld, Germany, 19 July 2000.
8. "Aspetti tecnici della simulazione tramite dinamica molecolare di sistemi di particelle rigide con simmetria assiale", Theory Group, Department of Chemistry, University of Pisa, Italy, 22 June 2000.
7. "Simulazione al calcolatore di mesofasi nematiche chirali", Department of Chemistry, University of Pisa, Italy, 20 June 2000.
6. "Simulation of calamitic mesogens with axially symmetric rigid bodies", Theory Seminar, H. H. Wills Physics Laboratory, University of Bristol, UK, 8 March 2000.
5. "Il nuovo dottorato di ricerca", 1st ADI Workshop, Certosa di Pontignano, University of Siena, Italy, 3 October 1998.
4. "I problemi del dottorato in Italia", SNUR-CGIL Workshop "La valutazione nel sistema università", La Limonaia, Pisa, Italy, 21 April 1997.
3. "Equazioni differenziali stocastiche, equazione di Fokker-Planck e path integrals", Theory Group, Department of Chemistry, University of Pisa, Italy, 6 May 1996.
2. "Endogenous growth", Literature seminar, European Doctoral Program in Quantitative Economics, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany, January 1995.
1. "²H-Festkörper-NMR-Spektroskopie", Sommerseminar der Abteilung Polymerspektroskopie (Prof. Dr. H.-W. Spiess) des MPI für Polymerforschung Mainz, Sigmundsburg am Rennsteig, Germany, 24 September 1993.

4 Teaching

<i>Term</i>	<i>Course name and number</i>	<i>Hours</i>	<i>ECTS</i>	<i>Students</i>
University College London, Department of Computer Science (postgraduate)				
Autumn 2023	Numerical Methods for Finance (COMP0043)	30	7.5	64
Autumn 2023	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	66
Autumn 2023	Financial Engineering (MECH0092), 1/2	15	3.25	43
Autumn 2022	Numerical Methods for Finance (COMP0043)	30	7.5	45
Autumn 2022	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	56
Autumn 2022	Financial Engineering (MECH0092), 1/2	15	3.25	28
Autumn 2021	Numerical Methods for Finance (COMP0043)	30	7.5	51
Autumn 2021	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	59
Autumn 2020	Numerical Methods for Finance (COMP0043)	30	7.5	95
Autumn 2020	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	108
Autumn 2019	Numerical Methods for Finance (COMP0043)	30	7.5	46
Autumn 2019	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	60
Autumn 2018	Numerical Methods for Finance (COMP0043)	30	7.5	58
Autumn 2018	Probability Theory and Stochastic Processes (COMP0045)	30	7.5	60
Autumn 2017	Numerical Analysis for Finance (COMPG005)	30	7.5	97
Autumn 2017	Stochastic Processes for Finance (COMPG008)	30	7.5	63
Autumn 2016	Numerical Analysis for Finance (COMPG005)	30	7.5	86
Autumn 2016	Stochastic Processes for Finance (COMPG008)	30	7.5	56

Spring 2016	Financial Market Modelling and Analysis (COMPGF04), 1/3	10	2.5	45
Autumn 2015	Numerical Analysis for Finance (COMPG005)	30	7.5	52
Autumn 2015	Stochastic Processes for Finance (COMPG008)	30	7.5	42
Autumn 2014	Numerical Analysis for Finance (COMPG005)	30	7.5	20

Università del Piemonte Orientale, Novara, Dept. of Economics and Quantitative Methods (undergr.)

Winter 2010/11	Finance Laboratory (Introduction to Matlab), 1/4	16	2	8
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Philipps-Universität Marburg, Department of Chemistry (undergraduate and postgraduate)

Winter 2011/12	Theoretical Chemistry 1 (TheoC-1/15900)	42	4	16
Summer 2011	Statistical Thermodynamics (PC-9/15060)	42	4	8
Winter 2010/11	Theoretical Chemistry 1 (TheoC-1/15900)	32	4	8
Summer 2010	Physical Chemistry 0 (PC-0/15060)	28	4	60
Winter 2009/10	Theoretical Chemistry 1 (TheoC-1/15900)	28	4	7
Summer 2009	Introduction to Physical Chemistry (PC-0/15060)	26	4	57
	Mathematics 2 for Chemistry Students (Ma-2/15083)	26	5	116
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	3
Winter 2008/09	Theoretical Chemistry 1 (15501)	28	4	21
	Statistical Thermodynamics (15307)	28	3	25
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	2
Summer 2008	Mathematics 2 for Chemistry Students (15083)	26	5	100
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	3
Winter 2007/08	Theoretical Chemistry 1 (15501)	28	4	17
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	3
Summer 2007	Mathematics 2 for Chemistry Students (15083/7)	26	3	120
	Mathematics 2 exercise class (15088)	13	2	40
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	3
Winter 2006/07	Theoretical Chemistry 1 (15501)	26	3	8
	Mathematics 1 for Chemistry Students (15081)	28	3	83
	Mathematics 1 exercise class (15082)	28	2	20
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	2
Summer 2006	Mathematics 2 for Chemistry Students (15083)	26	3	130
	Mathematics 2 exercise class (15084)	13	1	30
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	6
Winter 2005/06	Theoretical Chemistry 3 (15503)	20	3	7
	Mathematics 3 for Chemistry Students (15085)	28	3	120
	Mathematics 3 exercise class (15086)	14	1	40
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	4
Summer 2005	Mathematics 2 for Chemistry Students (15083)	26	3	120
	Mathematics 2 exercise class (15084)	13	1	60
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	2
Winter 2004/05	Mathematics 3 for Chemistry Students (15085)	32	3	120
	Mathematics 3 exercise class (15086)	10	1	40
	Advanced Physical Chemistry Computer Laboratory (15352)	80	3	4
Summer 2004	Mathematics 2 for Chemistry Students (15083)	30	3	140
	Mathematics 2 exercise class (15084)	12	1	70
Winter 2003/04	Mathematics 1 for Chemistry Students (15080)	28	3	170
	Mathematics 1 exercise class (15081)	24	1	170
	Advanced Physical Chemistry Computer Laboratory (15811)	80	3	2
Summer 2003	Mathematics 1 for Chemistry Students (15080)	26	3	30
	Mathematics 1 exercise class (15081)	13	1	30
	Theoretical Methods in Biological Chemistry (15511), 1/5	2	3	15
	Advanced Physical Chemistry Computer Laboratory (15811)	80	3	1

University of Bielefeld, Faculty of Physics

Summer 2002	Computational Biophysics Laboratory	setup of two computer experiments		
Winter 2001/02	Theoretical Mechanics exercise class	24	2	12
Winter 2000/01	Statistical Mechanics, deputy lecturer	4	6	24

Universities of Pisa, Bonn, Bristol and Bielefeld

1993–2000

Exams, supervision of students, demonstrations for students, prospective students and visiting school classes, organisation of seminars.

5 Supervision

University College London, Department of Computer Science

Postdocs

2. Yu Sun, Mar 2021 – May 2022, “A multifactor stochastic volatility model with stochastic interest rate”.
1. Jiahua Xu, July 2019 – Jan 2020, “De-rippling the price trajectory of XRP”.

PhD Computer Science

11. Khalifa K. Al-Thani, since January 2023: “Long-term asset allocation”.
10. Kemal O. Kirtac, since September 2022: “Financial sentiment and asset returns: an empirical analysis”.
9. Jinsong Hao, since October 2021: “Multidimensional stochastic volatility models with stochastic interest rates”. Job offer by Barclays Investment Banking. models with stochastic interest rates
8. Benjamin Loveless, Oct 2018 – Mar 2023: “Z-transform and machine learning methods for the pricing of discretely monitored path-dependent options”, defended in November 2023 with major corrections. Successive employment: CME Group, London; Crypcentra, London; CFI Labs, Paris; JIT Strategies, Dublin.
7. Jiaqi Liang, Oct 2017 – Sep 2022: “Fourier transform and machine learning methods for the pricing of discretely monitored barrier options”, defended in November 2023 with major corrections. Successive employment: JP Morgan Chase, London; Barclays Investment Banking, London.
6. Andreas Koukorinis, Nov 2013 – Sep 2023, part time while working for JP Morgan Chase, London: “Machine learning for high-frequency financial time series”. Successive employment: GSR.
5. Maria E. Böker, Sep 2014 – Dec 2019: “Scaling and mean reversion in foreign exchange financial time series”, defended in May 2021 with minor corrections.
4. Lucio Idone, Sep 2014 – Feb 2019: “Algorithmic trading strategies in the foreign exchange”, defended in April 2021 with minor corrections. Successive employment: Morgan Stanley, London.
3. Eduard Sariev, Sep 2016 – Nov 2020, part time while working for UBS, London: “Supervised machine learning algorithms for the estimation of the probability of default in corporate credit risk”, defended in Dec 2020 with minor corrections.
2. Carolyn E. Phelan, Sep 2015 – Jun 2018: “Fourier transform methods for the pricing of barrier options and other exotic derivatives”, defended in July 2018 with no corrections. Successive employment: Lecturer (Teaching), then Associate Professor (Teaching), Financial Computing and Analytics Group, Department of Computer Science, University College London.
1. Yiran Cui, Sep 2013 – Dec 2016: “Optimisation methods in finance”, defended in Feb 2017 with minor corrections. Successive employment: Barclays Investment Banking, London.

MRes Financial Computing

7. Benjamin H. Loveless, Sep 2017 – Aug 2018: “Numerical inversion of the z-transform with applications in option pricing”.
6. Federico Graceffa, Sep 2016 – Aug 2017: “Consistency of local-stochastic volatility models in the FX market with respect to spot inversion and multiplication”.

5. Paul-Kilian G. Lamanna, Sep 2014 – Aug 2015: “Model risk in arbitrage-free asset pricing”.
4. Carolyn E. Phelan, Sep 2015 – Aug 2015: “Fourier methods for the pricing of barrier options and other exotic derivatives”.
3. Maria E. Böker, Apr–Aug 2014: “Scaling of log returns in high-frequency foreign exchange data”.
2. Lucio Idone, Sep 2013 – Aug 2014: “The decline and fall of trading rules based on mean reversion”.
1. Michael Kusnetsov, Sep 2013 – Aug 2014: “Parameter evaluation for Lévy alpha-stable and Mittag-Leffler geometric-stable distributions”.

MSc Computational Finance

Jun – Sep 2023: Oliver Denton, Leo-Paul Le Meur, Shijun Luo, Matic Potocnic, Filip Sumkovski, Yishan Liu
 Jun – Sep 2022: Jannis Fierens, Natalia Frolova, Alexandra Gkolia, Jingting Yan
 Jun – Sep 2021: Robert Bagge, Erna Ceka, Melanie Chen, Jinsong Hao, Jonathan Tang, Gryhoriy Yaroshenko, Yuhan Wang
 Jun – Sep 2020: Alfred Booth, Matthew Marr, Teodora Milenkovic, Nikolaos Santo
 Jun – Sep 2019: Fabian Buschmann, Julien Raffaud
 Jun – Sep 2018: Charles Exley, Marta Jakubowska, Antonio Manganelli, Lin Zhao
 Jun – Sep 2017: Tomás Peres Lobão Andrade De Almeida, Yinqin Shen, James Wilson, Jiehong Zhang
 Jun – Sep 2016: Yanlin Zhou

MSc Financial Risk Management

Jun – Sep 2023: Siyi Wang
 Jun – Sep 2021: Lu Lu
 Jun – Sep 2019: Shaoyu Liu
 Jun – Sep 2018: Xenia Galkina
 Jun – Sep 2017: Luca Di Bonaventura
 Jun – Sep 2016: Ashton Coward, Cristiana Dochioiu, Urs Groepl, Simin Huang, Shijing Liang
 Jun – Sep 2015: Mengyang Chen, David Spital, Jonathan Windridge
 Jun – Sep 2014: Xiaoyi Chen, Lingye Kong, Xiaowei Sun, Minne Yang, Zilong Zhang, Yan Zhong

MSc Financial Technology

Jun – Sep 2022: Shai Chaimi

MSc Scientific and Data-Intensive Computing

Jun – Sep 2023: Abhinav Mehrish

MSc Scientific Computing

Jun – Sep 2019: Dylan Scotney

MSc Computational Statistics and Machine Learning

Jun – Sep 2017: William Barnsley

MSc Financial Computing

Jun – Sep 2015: Lei Fu, Asset Nurbakimov

MEng Mathematical Computation

Oct 2020 – May 2021: Joey H. James

Oct 2019 – May 2020: Kamil Zajac

MEng Computer Science

Oct 2023 – Apr 2024: Joe Down

Oct 2019 – May 2020: Ruizhe Zheng

BSc Computer Science

Oct 2022 – May 2023: Yue He

Oct 2021 – May 2022: David Javadinejad

Oct 2020 – May 2021: Eduardo Battistini Parra, IBM Award

Oct 2019 – May 2020: Zong You Chua

Scuola Superiore Sant’Anna, Pisa, Institute of Economics

MSc Economics

Mar 2023 – Sep 2023: Leonardo Filippone

Politecnico di Milano, Department of Mathematics

MSc Mathematical Engineering, Quantitative Finance Track

Oct 2022 – Apr 2023: Maria Grazia Milazzotto

Mar 2021 – Jun 2022: Luca F. Parafioriti

Oct 2020 – Apr 2021: Matteo Paggiaro

Philipps-Universität Marburg, Department of Chemistry

Postdocs

3. Adrian T. Gabriel, Nov 2010 – Jan 2011. Successive employment: Federal Office for Information Security (www.bsi.bund.de), Bonn, Germany, since Feb 2011.
2. Mauro Politi, Oct 2008 – Jun 2009. Successive employments: Société Générale, Paris, since Sep 2011; postdoc, Basque Center for Applied Mathematics, Bilbao, Spain, May–Sep 2011; postdoc with Prof. Taisei Kaizoji, Department of Economics and Business, International Christian University, Mitaka, Tokyo, Japan, Apr 2010 – Mar 2011; postdoc with Prof. Frédéric Abergel, BNP Paribas Chaire de Finance Quantitative, Laboratoire de Mathématiques Appliquées aux Systèmes, Ecole Centrale Paris, France, Jul 2009 – Mar 2010.
1. Marco Patriarca, Jan–Apr 2005. Successive employments: visitor, Institute for Cross-Disciplinary Physics and Complex Systems (IFISC, www.ifisc.uib.es), Universitat de les Illes Balears, Palma de Mallorca, Spain, since 2009; scientist, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia (www.kbfi.ee), since 2007; postdoc, Theoretical Physics, University of Tartu, Estonia, 2006–2007; postdoc with Prof. Peter Hänggi, Lehrstuhl für Theoretische Physik I, Universität Augsburg, Germany, May 2005 – Apr 2006.

PhD Chemistry

4. Ulrich Welling, Jun 2007 – Jul 2011: “Statische und dynamische Eigenschaften komplexer Flüssigkeiten aus Molekulardynamiksimulationen”, (“Static and dynamic properties of complex liquids from molecular dynamics simulations”), defended in Aug 2011 with *magna cum laude* (very good). Successive employment: postdoc with Prof. Marcus Müller, Computational Soft Condensed Matter Group,

Institute of Theoretical Physics, Georg-August-Universität Göttingen, Germany, started in June 2011, then Fraunhofer-Institut für Integrierte Systeme und Bauelementetechnologie IISB, Erlangen, Germany, then Synopsys GmbH, Munich, Germany.

3. Adrian Gabriel, Jun 2005 – Aug 2009: “Molekulardynamik und Molekulargraphik von Modellflüssigkeiten” (“Molecular dynamics and molecular graphics of model liquids”), defended in Dec 2010 with *magna cum laude* (very good). Successive employments: postdoc in my group, starting Nov 2010; NSC, Herborn, Germany, Sep 2009 – Jan 2011 (part-time).
2. Daniel Fulger, Jul 2005 – Dec 2007: “From phenomenological modelling of anomalous diffusion through continuous-time random walks and fractional calculus to correlation analysis of complex systems”, defended in Mar 2009 with *magna cum laude* (very good). Successive employments: Altran, Cologne, Germany, since Jan 2012; TomTom, Berlin, Germany, Jan 2010 – Dec 2011; postdoc with Prof. Sorin Solomon, Institute for Scientific Interchange (www.isi.it), Turin, Italy, and with Prof. Enrico Scalas, Università del Piemonte Orientale Amedeo Avogadro, Alessandria, Italy, plus a British Council grant for short visits to Prof. Giulia Iori, City University London, UK, 2008–2009.
1. Edgar Martin, Nov 2004 – Aug 2008: “Computational physics — From simple to complex systems”, defended in Mar 2009 with *summa cum laude* (outstanding). Successive employment: [Carl Zeiss Industrielle Messtechnik](#), Oberkochen, Germany, since Dec 2012; [High-End Engineering / Sogecclair Aerospace](#), Munich, Germany, Sep 2008 – Nov 2012.

Visiting PhD students

3. Narges Hajikarimian, Department of Pharmaceutical Chemistry, University of Pavia, Italy, Oct 2010 – Jun 2012: “New perspectives in Alzheimer’s disease treatment: Synthesis, characterization and molecular modeling studies of new peptides as mimics of ELAV proteins”.
2. Mauro Politi, Department of Physics, University of Milan, Italy, Nov 2007 – Jul 2008: “The econophysics of high-frequency finance — Analysis and models” (Jul 2008). Successive employment: postdoc in my group.
1. Els Heinsalu, Institute for Theoretical Physics, University of Tartu, Estland, Nov 2004 – Apr 2005: “Normal and anomalously slow diffusion under external fields” (Jul 2008). Current employment: postdoc, Institute for Cross-Disciplinary Physics and Complex Systems (IFISC, www.ifisc.uib.es), Universitat de les Illes Balears, Palma de Mallorca, Spain.

Visiting MSc students

1. Eiman Osman, Department of Chemistry, University of Khartoum, Sudan, Mar – Jul 2010: “Theoretical study of vapor-liquid equilibria of pure substances” (August 2011).

BSc Chemistry

1. Carsten Hoffmann, May – Jul 2009: “Entwicklung eines objektorientierten Molekulardynamikprogramms für Lennard-Jonnes-Flüssigkeiten”, marked 15/15 (best).

Diplom Chemistry

1. Ulrich Welling, Sep 2006 – Mar 2007: “Berechnung des dynamischen Strukturfaktors von flüssigen Alkalihalogeniden (NaCl, NaBr, NaI und KCl) mittels Molekulardynamiksimulation und Vergleich mit Messungen aus Röntgenbeugungsexperimenten”, marked *sehr gut* (very good). Successive employment: PhD in my group.

6 Funding

1. The Philipps-University of Marburg paid only my salary and 4000 € of consumables per year. My initial endowment of 100 000 € and about 55 000 € per year of salaries for my PhD students and postdocs (for details see the section on supervision) were on external funding by federal or regional money.

As an exception, the last year (2010–2011) of my 4th PhD student was paid by the department on a teaching assistantship.

- (a) In 2004 with four colleagues from computational chemistry, computational physics, numerical mathematics, and distributed computing, and with the help of the university's computing centre, we raised 312 750 € with a *Hochschulbauförderungsantrag* to the DFG for a Linux computer cluster worth ca. 775 000 €: 144 nodes with 2 Dual-Core Opterons, 1.6 TB RAM, 40 TB disk, Gb-Ethernet/InfiniBand, 2.5 TFLOPS peak performance.
- (b) In 2003–2008 I obtained CPU time worth 780 840 € from the John von Neumann Institute for Computing, Forschungszentrum Jülich: 12 months on a Cray T3E-1200 until it was shut down in June 2004 and 60 months on the IBM p690 JUMP, Europe's fastest computer in spring 2004. In 2001–2003 with Friederike Schmid while at Universität Bielefeld I obtained CPU time worth 396 512 € from the same source: 24 months on a Cray T3E-600 and a T3E-1200. After 2008 I did not apply for more CPU time because I already had enough on Linux clusters in Marburg and Warwick, on an IBM system in Darmstadt, and on my own workstations. Moreover, my research moved to problems with a smaller CO₂ footprint.
- (c) In 2009–2012 I have been on a homecoming grant for experienced Italian researchers from abroad at Università del Piemonte Orientale in Novara with Gianluca Fusai worth 88 120 € contributed 60% by Regione Piemonte, 25% by Fondazione Cariplo and 15% by other sources.
- (d) In 2011–2013 with Enrico Scalas from the University of Eastern Piedmont in Alessandria and Giulio Bottazzi from Scuola Superiore Sant'Anna in Pisa we obtained a "Research project of national interest" (PRIN) by the Italian Ministry of University and Research (MIUR) of 319 466 €.
- (e) Additionally I obtained, applying alone or with coworkers, 30 minor grants from nVIDIA (for a CUDA Research Center started in 2011), DAAD (2008–2011, for visiting graduate students and for short visits of me and postdocs of mine to colleagues abroad), the British Council (1999 and 2007–2009, for short visits), CECAM (2006 and 2007, for PhD students of mine attending summer or winter schools), the Socrates-Erasmus teaching staff mobility program (2007–2009), MPG, ESF, SCI, CNR, CINECA (to attend conferences or for short visits), etc.; the total is 113 119 €.

The total until 2013 is about 2.44 million €, of which about 1.69 million € as principal investigator. 97.5% of the total was obtained in 2000–2013 and is 3.4 times more than I costed my employers during the same time.

- 2. Also UCL pays only my salary and a few thousand pounds of consumables per year. All my research students (for details see the section on supervision) have been on external funding by EPSRC or other sources. For a full-time PhD (grant, sustainables, fees) UCL charges £115,428 with home fees and £215,688 with overseas fees, plus possibly an overhead. In October 2020 I have obtained an Erasmus+ grant to pay a postdoc for a year. In April 2020 I have obtained an EPSRC DTP CASE PhD grant of 118 512 £ cofunded 1/4 by an industrial partner, Prime Capital Group. In July 2019 I have obtained a grant of 29 970 £ from funds contributed by Ripple to the UCL CBT to pay a postdoc for six months. In February 2018 with Carlo Marinelli and Fausto Gozzi I have obtained from the UCL Regional Partnership Fund about 4 500 £ to organise a workshop at LUISS in Rome. The total so far corresponds to about 1.137 million £, of which 471 600 £ as principal investigator.

7 Awards

- 7. [Editor's choice article](#), European Journal of Operational Research, May 2016.
- 6. MGMS "Model(l)ing '97" conference poster award, 200 £, September 1997.
- 5. EniChem *laurea* thesis prize, 6 000 000 £it, May 1993.
- 4. Solvay "Orizzonti" study merit award, 9 000 000 £it, February 1993.
- 3. University of Pisa study merit award, 370 000 £it, 1987–1988.
- 2. University of Pisa study merit award, 370 000 £it, 1986–1987.
- 1. 4th prize "Poliziano" at the XII "Certamen classicum florentinum", a national translation contest from ancient Greek to Latin, 400 000 £it, May 1986 (at school).

8 Reviews

Revisions of the same manuscript are not counted separately.

Journals by number

289 reviews: see main text.

179 unfulfilled requests: **16** Frontiers in Artificial Intelligence; **14** Modern Physics Letters B; **12** International Journal of Modern Physics B, Open Physics + Central European Journal of Physics; **11** Frontiers in Physics; **9** Axioms; **8** Fractal and Fractional; **7** Mathematics; **6** Symmetry; **5** Journal of Physics A: Mathematical and Theoretical; **4** AIP Advances, Entropy, Financial Innovation, Heliyon; **3** Applied Sciences, Communications in Nonlinear Science and Numerical Simulation, Contemporary Mathematics, Energies, European Journal of Operational Research, Journal of Chemical Physics, PLOS ONE, Processes; **2** Chaos Solitons & Fractals*, Oriental Journal of Chemistry, Stats; **1** Algorithms, Computer Physics Communications, Digital Signal Processing, Economies, European Physical Journal B, Finance Research Letters, Foundations, Fractional Calculus and Applied Analysis, Frontiers in Complex Systems, Future Internet, International Journal of Environmental Research and Public Health, International Research Journal of Agricultural and Soil Science, Journal of Computational Chemistry*, Journal of Economics and International Business Management, Journal of Geophysics Engineering, Journal of Micromechanics and Microengineering, Journal of Open Innovation: Technology Market and Complexity, Journal of Physics Communications, Journal of Physics: Condensed Matter, Journal of Research in International Business and Management, Journal of Risk and Financial Management, Mathematical Biosciences and Engineering, Measurement Science and Technology, Pakistan Journal of Statistics, Physica Scripta, Physics Letters A, Quantitative Finance and Economics, Results in Physics*, Scientific Reports, Sensors, Sustainability, Technologies, Textiles. * Withdrawn by the authors before I completed my review.

Journals by year

2023 17 reviews: Applied Stochastic Models in Business and Industry, Chaos Solitons & Fractals, Computer Physics Communications, Financial Innovation, Fractal and Fractional, Heliyon, 3 Journal of Physics A: Mathematical and Theoretical, Modern Physics Letters B, North American Journal of Economics and Finance, Physical Review B, 3 Physical Review E, Quantitative Finance, Scientific Reports.

39 further requests: AIP Advances, 4 Axioms, Chaos Solitons & Fractals, Contemporary Mathematics, Economies, Financial Innovation, 3 Fractal and Fractional, 4 Frontiers in Artificial Intelligence, Frontiers in Complex Systems, 8 Frontiers in Physics, Heliyon, International Journal of Environmental Research and Public Health, Journal of Risk and Financial Management, Mathematical Biosciences and Engineering, 2 Open Physics, PLOS ONE, Quantitative Finance and Economics, Stats, Sustainability, Symmetry, Technologies.

2022 21 reviews: Chaos Solitons & Fractals, European Journal of Operational Research, Financial Innovation, 3 Frontiers in Artificial Intelligence, 3 Frontiers in Physics, Journal of Economic Interaction and Coordination, Journal of Physics Communications, Open Physics, Physical Review A, Physical Review B, 3 Physical Review E, Physical Review Letters, Quantitative Finance, Sustainability, Symmetry.

18 further requests: Algorithms, Applied Sciences, 2 Financial Innovation, Fractal and Fractional, 3 Frontiers in Artificial Intelligence, 3 Frontiers in Physics, 2 Heliyon, 2 Mathematics, Open Physics, Symmetry, Textiles.

2021 34 reviews: AIMS Mathematics, 2 Chaos Solitons & Fractals, 2 Communications in Nonlinear Science and Numerical Simulation, Decisions in Economics and Finance, Digital Signal Processing, Engineering Reports, 2 European Journal of Operational Research, Financial Innovation, Frontiers in Artificial Intelligence, Heliyon, Journal of Chemical Physics, Journal of Physics Communications, Mathematical Problems in Engineering, Open Physics, Physica A, Physica Scripta, Physical Review Applied, Physical Review B, 6 Physical Review E, Proceedings of the Royal Society A, 2 Quantitative Finance, 3 Symmetry.

28 further requests: AIP Advances, 2 Axioms, 2 Communications in Nonlinear Science and Numerical Simulation, Entropy, European Journal of Operational Research, Financial Innovation, 9 Frontiers in Artificial Intelligence, Foundations, Journal of Open Innovation: Technology Market and Complexity, Journal of Physics Communications, 4 Mathematics, Open Physics, PLOS ONE, Stats, Symmetry.

- 2020** 30 reviews: 2 AIP Advances, Applied Mathematics and Computation, 3 Axioms, Communications in Nonlinear Science and Numerical Simulation, Computational and Applied Mathematics, Financial Innovation, International Journal of Modern Physics B, 2 Journal of Physics A: Mathematical and Theoretical, 2 Journal of Physics: Condensed Matter, 2 Mathematics, 4 Open Physics, Physica A, 3 Physical Review E, Physical Review Letters, 2 Physical Review Research, 2 Scientific Reports, Symmetry.
6 further requests: International Journal of Modern Physics B, Journal of Physics A: Mathematical and Theoretical, Mathematics, Physica Scripta, 2 Symmetry.
- 2019** 27 reviews: AIMS Mathematics, AIP Advances, Axioms, Digital Signal Processing, Entropy, 3 European Journal of Operational Research, Heliyon, Journal of Physics A: Mathematical and Theoretical, Journal of Physics: Condensed Matter, 6 Mathematics, Mathematics and Financial Economics, Physica A, Physical Review Applied, Physical Review B, 3 Physical Review Letters, Quantitative Finance, 2 Symmetry.
10 further requests: Axioms, Entropy, European Journal of Operational Research, Heliyon, International Journal of Modern Physics B, Pakistan Journal of Statistics, 3 Processes, Symmetry.
- 2018** 19 reviews: Algorithms, Computer Physics Communications, 2 European Journal of Operational Research, Journal of Network Theory in Finance, 2 Journal of Physics A: Mathematical and Theoretical, Journal of Statistical Physics, Management Science, Mathematics, Oriental Journal of Chemistry, 4 Physical Review E, PLOS ONE, 2 Physical Review Letters, Quantitative Finance.
8 further requests: Applied Sciences, Finance Research Letters, International Journal of Modern Physics B, Modern Physics Letters B, Measurement Science and Technology, 2 Oriental Journal of Chemistry, Open Physics.
- 2017** 12 reviews: Advances in Complex Systems, Advances in Mathematical Physics, Annals of Operations Research, Journal of Physics A: Mathematical and Theoretical, Journal of Statistical Mechanics: Theory and Experiment, Physica A, 2 Physical Review E, 3 Physical Review Letters, Review of Derivatives Research.
14 further requests: Applied Sciences, European Journal of Operational Research, 2 Energies, Entropy, Fractional Calculus and Applied Analysis, International Journal of Modern Physics B, 2 Journal of Physics A: Mathematical and Theoretical, 2 Modern Physics Letters B, 2 Open Physics, Scientific Reports.
- 2016** 13 reviews: 2 Computer Physics Communication, 2 European Journal of Operational Research, Energies, Journal of Physics: Condensed Matter, 2 Open Physics, 4 Physical Review E, Physica A.
14 further requests: Chaos Solitons & Fractals*, Communications in Nonlinear Science and Numerical Simulation, Energies, Entropy, European Physical Journal B, Future Internet, International Journal of Modern Physics B, Journal of Chemical Physics, 2 Journal of Physics A: Mathematical and Theoretical, Journal of Physics: Condensed Matter, Modern Physics Letters B, 2 Open Physics.
- 2015** 6 reviews: Computer Physics Communications, Physical Review A, 2 Physical Review E, 2 Physical Review Letters.
8 further requests: Axioms, Computer Physics Communications, 2 International Journal of Modern Physics B, 2 Journal of Chemical Physics, Journal of Micromechanics and Microengineering, Open Physics.
- 2014** 14 reviews: Applied Informatics, Central European Journal of Physics, Journal of Chemical Physics, 2 Journal of Physics A: Mathematical and Theoretical, Journal of Physics: Condensed Matter, Journal of Statistical Mechanics: Theory and Experiment, Modern Physics Letters B, 2 PLOS ONE, 2 Physical Review E, Physical Review Letters, Springer Proceedings in Mathematics and Statistics.
10 further requests: Central European Journal of Physics, International Journal of Modern Physics B, International Research Journal of Agricultural and Soil Science, Journal of Economics and International Business Management, Journal of Geophysics Engineering, 4 Modern Physics Letters B, Physics Letters A, Sensors.
- 2013** 13 reviews: Central European Journal of Physics, International Journal of Nonlinear Science and Numerical Simulation, Energies, International Journal of Modern Physics B, Journal of Physics A: Mathematical and Theoretical, Journal of Physics: Condensed Matter, Modern Physics Letters B, 4 Physical Review E, 2 Physical Review Letters.

12 further requests: Central European Journal of Physics, 4 International Journal of Modern Physics B, 6 Modern Physics Letters B, Results in Physics*.

2012 20 reviews: Boundary Value Problems, International Journal of Modern Physics B, 2 Journal of Chemical Physics, Journal of Computational Chemistry, Journal of Physics: Condensed Matter, 2 Modern Physics Letters B, PLOS ONE, Physical Review B, 5 Physical Review E, 2 Physical Review Letters, Quantitative Finance, Reviews of Modern Physics, SpringerPlus.

1 further request: Journal of Research in International Business and Management.

2011 12 reviews: Advances in Complex Systems, Economics E-Journal, Journal of Chemical Physics, Journal of Computational Chemistry, Journal of Economic Interaction and Coordination, 2 PLOS ONE, 2 Physical Review E, 2 Physical Review Letters, Physica A.

1 further request: PLOS ONE.

2010 12 reviews: Advances in Complex Systems, Computer Physics Communications, European Physical Journal B, Physics Letters A, 3 Physical Review E, 3 Physical Review Letters, Physica A, Quantitative Finance.

2009 14 reviews: Economics E-Journal, International Journal of Molecular Sciences, 2 Journal of Computational Chemistry, Numerical Algorithms, PLOS ONE, Physics Letters A, 2 Physical Review E, 4 Physical Review Letters, Quantitative Finance.

2008 10 reviews: Advances in Complex Systems, Communications in Nonlinear Science and Numerical Simulation, Journal of Computational Chemistry, Journal of Economic Interaction and Coordination, 4 Physical Review E, Physical Review Letters, Physica A.

2007 1 review: Physical Review E.

2006 4 reviews: Journal of Computational Chemistry, Journal of Chemical Physics, 2 Physica A.

2005 2 reviews: Journal of Molecular Modelling, Soft Materials.

2004 2 reviews: Journal of Computational Chemistry, Physical Chemistry Chemical Physics.

2003 3 reviews: Journal of Computational Chemistry.

1 further request: Journal of Computational Chemistry*.

* Withdrawn by the authors before I prepared my review.

Other unfulfilled review requests

Book chapter, Handbook of Fractional Calculus with Applications, 2018; book review for Le Point about Andrew Lo, Adaptive Markets, Princeton University Press, 2017; Third International Conference on Computer Science and Application Engineering (CSAE 2019); Conference on Physics, Mathematics and Statistics (ICPMS 2018), www.pmsconf.org; etc.

9 Shortlists

Besides the shortlist positions for professor listed in the main part of my CV, I have been shortlisted also as

11. *Ricercatore a tempo determinato* (temporary lecturer), 3+2 years, Financial Mathematics, Politecnico di Milano, 2012.
10. *Ricercatore a tempo determinato* (temporary lecturer), 3+2 years, Mathematical Physics, Politecnico di Milano, 2012.
9. *Ricercatore a tempo determinato* (temporary lecturer), 3+2 years, Statistics, Università del Piemonte Orientale, Novara, 2012.
8. *Juniorprofessor* (temporary lecturer), 3+3 years, Theoretical Chemistry, TU Darmstadt, 2002.
7. *Juniorprofessor* (temporary lecturer), 3+3 years, Theoretical Chemistry, Universität Konstanz, 2002.

6. *Juniorprofessor* (temporary lecturer), 3+3 years, Theoretical Physics, Universität Paderborn, 2002.
5. *Juniorprofessor* (temporary lecturer), 3+3 years, Theoretical Chemistry, Universität Siegen, 2002.
4. *Ricercatore* (lecturer), Computer Science, Università di Milano, 2002.
3. *Ricercatore* (lecturer), Theoretical Chemistry, ICQEM, CNR, Pisa, 2002.
2. *Ricercatore* (lecturer), Physical Chemistry, Università di Pisa, 1998.
1. *Ricercatore* (lecturer), Physical Chemistry, Università di Trieste, 1997.

I have declined offers as

4. Research associate, 18 months, Theoretical Physics, Univ. del Piemonte Orientale, Alessandria, 2012.
3. Research associate, 2+2 years, Economics, Universität Kiel, 2010.
2. PhD student, Theoretical Chemistry, ETH Zürich, 1994.
1. PhD student, Physical Chemistry, Max-Planck-Institut für Polymerforschung, Mainz, 1994.

10 References

1. Prof. Gianluca Fusai, gianluca.fusai.1@city.ac.uk, www.bayes.city.ac.uk/experts/G.Fusai, Bayes Business School, City, University of London, 106 Bunhill Row, London EC1Y 8TZ, UK, tel. +44 20 7040 8630; gianluca.fusai@unipmn.it, <https://upobook.uniupo.it/gianluca.fusai>, Dipartimento di Studi per l'Economia e l'Impresa, Università del Piemonte Orientale Amedeo Avogadro, Via Ettore Perrone 18, 28100 Novara, Italy, tel. +39 0321 375 312, secretary 302.
2. Prof. Carlo Marinelli, c.marinelli@ucl.ac.uk, www.homepages.ucl.ac.uk/~ucahcm0, Department of Mathematics, University College London, Gower Street, London WC1E 6BT, UK, tel. +44 20 7679 1393.
3. Prof. David P. Newton, d.p.newton@bath.ac.uk, <https://researchportal.bath.ac.uk/en/persons/david-newton>, School of Management, University of Bath, Wessex House, Claverton Down, Bath BA2 7AY, UK, tel. +44 1225 386890.
4. Prof. Johannes Ruf, j.ruf@lse.ac.uk, www.lse.ac.uk/Mathematics/people/Johannes-Ruf, Department of Mathematics, London School of Economics and Political Science, Columbia House, Houghton Street, London WC2A 2AE, UK, tel. +44 20 7955 7620.
5. Prof. Thomas Lux, lux@economics.uni-kiel.de, thomas.lux@ifw-kiel.de, www.gwif.vwl.uni-kiel.de, Lehrstuhl für Geld, Währung und Internationale Finanzmärkte, Institut für Volkswirtschaftslehre, Christian-Alberts-Universität Kiel, Olshausenstraße 40, 24118 Kiel, Germany, tel. +49 431 880 3661.
6. Prof. Fabio Caccioli, f.caccioli@ucl.ac.uk, <https://profiles.ucl.ac.uk/46940-fabio-caccioli>, Department of Computer Science, University College London, Gower Street, London WC1E 6BT, UK, tel. +44 20 3108 7104.
7. Prof. Daniele Marazzina, danielle.marazzina@polimi.it, www.mate.polimi.it/?view=pp&id=265, Dip. di Matematica, Politecnico di Milano, Via Edoardo Bonardi 9, 20133 Milano, tel. +39 02 2399 4630.
8. Prof. Enrico Scalas, enrico.scalas@uniroma1.it, https://corsidilaurea.uniroma1.it/it/users/enricoscalas_uniroma1it, Dipartimento di Scienze Statistiche, Piazzale Aldo Moro 5, Università di Roma La Sapienza, 00185 Roma, Italy, tel. +39 06 4991 0463.
9. Prof. Giulio Bottazzi, bottazzi@ssup.it, <http://cafim.sssup.it/~giulio>, Dipartimento di Economia, Scuola Superiore di Studi Universitari e Perfezionamento Sant'Anna, Piazza Martiri della Libertà 33, 56127 Pisa, Italy, tel. +39 050 883365.
10. Prof. Michael P. Allen (emeritus), m.p.allen@warwick.ac.uk, www2.warwick.ac.uk/fac/sci/physics/staff/academic/allen, Department of Physics and Centre for Scientific Computing, University of Warwick, Coventry CV4 7AL, UK, tel. +44 24 765 23965.

11. Prof. René L. Schilling, rene.schilling@tu-dresden.de, www.math.tu-dresden.de/sto/schilling, Lehrstuhl für Wahrscheinlichkeitstheorie, Institut für Mathematische Stochastik, Fakultät für Mathematik und Naturwissenschaften, TU Dresden, 01062 Dresden, Germany, tel. +49 351 463 35668, secretary 32425.