# Maria Grith

Neoma Business School
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## Research Interests

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|---|---|
| **Econometrics** | Financial Econometrics, Time Series, Factor Models, Panel Data |
| **Statistics** | Nonparametric Methods, Functional Data Analysis, Machine Learning |
| **Finance** | Financial Mathematics, Behavioral Finance, and Digital Finance |

## Academic Appointments

**08.2025-present** **Associate Professor**
Neoma Business School, Finance Department

**07.2017-08.2025** **Assistant Professor**
Erasmus University Rotterdam, Econometric Institute

**09.2016-06.2017** **Collaborative Research Center (CRC) 649 Postdoctoral Fellow**
**09.2015-02.2016** **Hilda Geiringer Postdoctoral Fellow**
Humboldt University of Berlin, Ladislaus von Bortkiewicz Chair of Statistics

**03.2016-08.2016** **Postdoctoral Fellow of the Warren Center for Network and Data Sciences**
University of Pennsylvania, Department of Computer and Information Science

**08.2014-08.2015** **Caroline von Humboldt Postdoctoral Fellow**
Humboldt University of Berlin, Ladislaus von Bortkiewicz Chair of Statistics

**03.2014-07.2014** **Visiting Postdoctoral Scholar**
Singapore Management University, Lee Kong Chian School of Business

**09.2013-02.2014** **Postdoctoral Assistant**
Humboldt University of Berlin, Ladislaus von Bortkiewicz Chair of Statistics

## Education

**04.2008-08.2013** **PhD in Economics** (*summa cum laude*)
Humboldt University of Berlin
Thesis: *Dynamics of Risk Attitudes*
Advisors: Prof. Wolfgang K. Härdle and Prof. Thorsten Hens

**09.2005-03.2008** **Master of Science**
Humboldt University of Berlin
Thesis: *Monetary and Fiscal Policy in a Two Country Model with Sticky Prices*
Advisor: Prof. Harald Uhlig

**10.2000-01.2005** **Bachelor equivalent in Economics**
West University of Timisoara
Specialization: *International Economic Relations*

## Publications

**2025** **"Functional Neural Tangent Kernel in Implied Volatility Forecasting: A Nonlinear Functional Autoregression Approach"** with Ying Chen and Hannah L. H. Lai. *Journal of Business & Economic Statistics*

**2018** **"Functional Principal Component Analysis for Derivatives of Multivariate Curves"** with Heiko Wagner, Wolfgang K. Härdle and Alois Kneip. *Statistica Sinica* 28: 2469-2496

**2017** **"Reference-Dependent Preferences and the Empirical Pricing Kernel Puzzle"** with Wolfgang K. Härdle and Volker Krätschmer, *Review of Finance* 21 (1): 269-298

**2013** **"Shape Invariant Modeling of Pricing Kernels and Risk Aversion"** with Wolfgang K. Härdle and Juhyun Park. *Journal of Financial Econometrics* 11(2): 370-399

## Working Papers

**2025** **"Risk Premia in the Bitcoin Market"** with Caio Almeida, Ratmir Miftachov, Zijin Wang. doi.org/10.2139/ssrn.5374295, Revise & resubmit, *Journal of Business & Economic Statistics*

## Work in Progress

**"Spectral Factors in Corporate Bonds Market"** with Twan R. Mulder and Patrick Verwijmeren

**"Oblique Trees for Forecasting Single-Stock Options Implied Volatility Surfaces"** with Ying Chen and Hannah L. H. Lai

**"Common Factors in Large Panels of Option Prices"** with Paolo Santucci de Magistris, Aaron-Stefan Popa and Francesco Violante

**"Group Factors in Single Stock Options"** with Marina Khismatullina and Wendun Wang

**"FuncBART: Bayesian Additive Regression Trees with Splits on Functional Covariates"** with Eoghan O'Neill and Anastasija Tetereva

**"Spectral Networks for Times Series with Scale-specific Factors Adjustment"** with Petre Caraiani

**"Hierarchical Autoencoders for Global Yield Curves: a Nelson-Siegel Approach "** with Aaron Popa and Anastasija Tetereva

**"The Block-Autoregressive Model in Non-Standard Bases"** with Karel de Wit and Dick van Dijk

## Book Chapters

**2011** **"Nonparametric Estimation of Risk-Neutral Densities"** (with Wolfgang K. Härdle and Melanie Schienle) in Jin-Chuan Duan, Wolfgang K. Härdle and James E. Gentle (Eds.), *Handbook of Computational Finance*. Springer, 277-305

**2011** **"Parametric Estimation of Risk Neutral Density Functions"** (with Volker Krätschmer) in Jin-Chuan Duan, Wolfgang K. Härdle and James E. Gentle (Eds.), *Handbook of Computational Finance*. Springer, 253-275

## Research Grants and Scholarships

**2018 - 2022** Research grant: Sustainable Development Goal, Erasmus School of Economics (€240.000). Principle investigator

**2011 - 2014** Research grant from the German Research Foundation (DFG), Humboldt University of Berlin, jointly with the University of Bonn (around €300.000)

**04.2017** Trainee travel grant COST, European Cooperation in Science and Technology

**01.2014-02.2014** HU travel grant: Strategic Partnership with Princeton University, HU Berlin

**04.2012-03.2013** Leibniz Graduate Student travel grant, European Mathematical Society

**08.2011** Elsevier travel award, Bernoulli Society Satellite Meeting, Dublin WSC

**08.2008** Fellowship travel grant: 3rd Nobel Laureate Meeting in Economic Sciences

**04.2007-06.2007** Erasmus study scholarship, Universitat Pompeu Fabra

**09.2005-03.2006** Graduate studies abroad scholarship, Romanian Ministry of Education

**09.2003-07.2004** Erasmus study scholarship, Saarland University

## Affiliations

**2024-present** Institute for Digital Assets (IDA), Research Associate

**2022-present** The Committee for Econometrics in the Association for Social Politics

**2020-2025** Erasmus School of Economics (ESE) Female Network, Coordinator

**2017-2025** Erasmus Research Institute of Management (ERIM), Associate Member

**2017-2019** Tinbergen Institute (TI), Candidate Fellow

**2015-2017** Berlin Economics Research Associates

**2008-2017** Collaborative Research Center 649: Economic Risk, Berlin

**2008-2017** Center for Applied Statistics and Economics, Humboldt University of Berlin

## Service

**Editorial Activity**

**2024-present** Associate Editor for Digital Finance

**Referee Service**

Journal of Financial Econometrics, Statistica Sinica, International Journal of Forecasting, Mathematical Finance, Econometrics and Statistics, Journal of Empirical Finance, Economic Modelling, Journal of Data Science, Statistics, and Visualisation, Swiss Journal of Economics and Statistics

**Departmental Service**

*Neoma Business School*

**2025-present** Research Coordinator of the Area of Excellence Data Science and Business

*Erasmus University Rotterdam*

**2020-2025** Department Representative for the Erasmus Data Service Center

**2019 - 2023** Organizer of the Seminars in Econometrics series

**2018, 2019** Member of the recruitment committee for the Department of Econometrics

## Teaching Experience

**Graduate level**

***Neoma Business School***

**2025 - 2026** Master's thesis in International Finance (14 theses)

**2025 - 2026** Quantitative Methods for Corporate Finance (Lecture), Spring

***Erasmus University Rotterdam***

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| **2017 - 2025** | Master's thesis in Quantitative Finance (118 theses) |
| **2017 - 2024** | Financial Derivatives (Lecture), Winter |
| **2018 - 2024** | Financial Case Studies (Seminar), Winter |
| **2019** | Machine Learning (Reading Group), Summer |

***Bucharest University of Economic Studies***

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| **2018 - 2026** | Financial Management (Short Course), Spring |
| **2017** | Introduction to Financial Derivatives (Short Course), Summer |

***Humboldt University of Berlin***

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| **2009, 2011, 2015** | Multivariate Statistical Analysis I (Lecture), Winter |
| **2010, 2012** | Multivariate Statistical Analysis II (Lecture), Summer |
| **2010, 2014** | Statistics of Financial Markets I (Lecture and tutorial), Winter |
| **2009, 2015** | Statistics of Financial Markets II (Lecture), Summer |
| **2015** | Advanced Methods in Quantitative Finance (Lecture), Summer |
| **2012, 2013** | Numerical Introductory Course (Seminar), Winter |
| **2011** | Non- and Semiparametric Modeling (Lecture), Winter |

***Charles University Prague***

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| **2011** | Introduction to Nonparametric Statistical Methods (Short course), Winter |

***Hertie School of Governance***

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| **2008** | Applied Economic Analysis (Tutorial), Winter, Teaching assistant to Professor Henrik Enderlein |

**Undergraduate level**

***Neoma Business School***

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| **2025 - 2026** | Sustainable Finance & Global Markets (Lecture), Spring |

***Erasmus University Rotterdam***

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| **2017 - 2025** | Bachelor's thesis in Econometrics and Operations Research (82 theses) |
| **2021 - 2023** | Probability Theory, Spring |

***Humboldt University of Berlin***

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|---|---|
| **2011, 2008** | Statistics I (Tutorial), Summer, Teaching assistant to Professor Brenda Lopez-Cabrera and to Dr. Sigbert Klinke |
| **2008** | Statistics II (Tutorial), Winter, Teaching assistant to Professor Ostap Okhrin |

***University of Havana***

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| **2014, 2015** | Introduction to Financial Mathematics (Lecture and Tutorial), Summer Course |

**PhD level**

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| **2026** | *Member of promotion committee*: Frederik Muskens (Erasmus University Rotterdam), Determinants of corporate bond risk and return, Promoters Prof. Guido Baltussen and Prof. Patrick Verwijmeren, Expected to defend January 2026) |
| **2024-2025** | *External referee*: Martin Hronec (Charles University in Prague), Asset Pricing and Portfolio Selection via Machine Learning, Supervisor Prof. Jozef Barunik, Defended 2025 |
| **2022 - 2024** | *External supervisor*: Hannah L. H. Lai (National University of Singapore), Machine Learning in Functional Data, Supervisor Dr. Ying Chen, Defended 2025 |
| **2019 - 2023** | *Supervisor*: Karel de Wit (Erasmus University Rotterdam), Spectral Methods for Time Series, Promoter Prof. Dick van Dijk, Not defended |

## Conference Presentations and Invited Talks

**2026** CIREQ Financial Econometrics, Montreal
Quantitative Finance Seminar, Mathematics, University of Birmingham

**2025** $(EC)^2$ Conference on Panel data methods in finance and economics, Lugano
Financial Econometrics meets Machine Learning (FinEML), Rotterdam
Financial Econometrics Conference (FEC), Hammamet
Society for Financial Econometrics (SoFiE) Annual conference, Paris
Quantitative Finance and Financial Econometrics (QFFE), Marseille
Financial Econometrics, Machine Learning and Big Data, Barcelona
Seminar during Bootcamp Week, EEMCS, Uni Twente
Colloquium on Mathematical Statistics & Stochastic Processes, Uni Hamburg
Financial Risks International Forum, Institut Louis Bachelier, Paris
Working Group on Risk seminar, ESSEC - CREAR, Paris
Research Seminar, Quantitative Methods, CUNEF Univeristy, Madrid
Research Seminar, Econometrics and Statistics, Uni Cologne

**2024** AI in Digital Finance, Online seminars, Institute of Digital Assets
Statistics and Machine Learning in Finance, Seminar series, Oxford
Financial Econometrics Meets Machine Learning, Online seminar series
Frontiers of Functional Data Analysis, IMS/NUS, Singapore
IAAE Annual Conference, Thessaloniki
Society for Financial Econometrics (SoFiE) Annual conference, Rio de Janeiro
Quantitative Finance and Financial Econometrics (QFFE), Marseille
Frontiers in Decentralized Finance (DeFi) workshop, Vienna
Financial Econometrics Conference (FEC), Toulouse
Statistics and Data Science seminar at QMUL, Mathematical Sciences, London
The Meeting of the Committee for Econometrics in Müggelsee, Berlin

**2023** CFE/CSM, Berlin
Seminar in Economics, University of Essex
COMPSTAT, London
Statistics of Machine Learning, Charles University, Prague
IAAE Annual Conference, Oslo
2nd Workshop on High-Dimensional Data Analysis, Madrid

**2022** CFE/CSM, London
Fifteenth Annual Risk Management Conference, Singapore
The Meeting of the Committee for Econometrics, Hegne
Mathematical Statistical Seminar, Weierstrass Institute, Berlin

**2018** The 2nd International Conference on Econometrics and Statistics, Hong Kong
China Meeting of the Econometric Society, Shanghai
Symposium on Financial Engineering and Risk Management, Shanghai
Netherlands Econometric Study Group, Amsterdam
Erasmus Statistics Day, Rotterdam

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| **2017** | Economics, Econometrics & Finance Seminar, University of Groningen |
| | ERMAS, Babes-Bolyai University, Cluj-Napoca |
| | Brown Bag Seminar, Technical University Dresden |
| | Bucharest International Conference on Business Excellence, ASE Bucharest |
| | Vienna-Copenhagen Conference on Financial Econometrics, U. Vienna |
| **2016** | German Statistical Week, University of Augsburg |
| **2015** | Lunch Econometrics Seminar, University of Pennsylvania, Economics Dept. |
| **2014** | Computational and Financial Econometrics Conference, University of Pisa |
| | Jours fixe, Collaborative Research Center 649, Berlin |
| | NUS-Stanford Workshop in Quantitative Finance, NUS |
| **2013** | Princeton-Humboldt Conference, Princeton University |
| | Risk Preferences and Decisions under Uncertainty, CRC 649 Workshop, Berlin |
| **2012** | Texas A&M, Institute for Applied Mathematics and Computational Science |
| | Financial Engineering Seminar, Stevens Institute for Technology |
| | Wilks Statistics Seminar, Princeton University, ORFE |
| | Mathematical Finance Seminar, Columbia University, Department of Statistics |
| | Fall Seminar, Rutgers University, Department of Statistics and Biostatistics |
| | Fall Seminar, Indiana University Bloomington, Economics Department |
| | Märkische Schweiz Summer School on Statistics in Finance and Insurance |
| | Berlin-Dortmund Workshop, Financial Risk Measurement, Kloster Dürbeck |
| | National Taiwan University, Graduate Institute of Statistics |
| | National Chiao Tung University, Institute of Statistics |
| **2011** | Humboldt-Princeton Conference, Humboldt University of Berlin |
| | Statistical Analysis of Financial Data Workshop, Opatija, Croatia |
| | German Statistical Week, Leipzig University |
| | Dynamic Statistical Models, ISI-satellite meeting, University of Copenhagen |
| | Pricing Kernel Puzzle Workshop, University of Konstanz |
| | Frontiers of Finance Conference, University of Warwick |
| **2010** | Symposium on Computational Finance, National University of Singapore |
| **2009** | Romanian-German Symposium on Mathematics, University of Sibiu |

## Academic Visits

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|---|---|
| **04.2018** | University of Pennsylvania, Economics Department |
| **05.2017** | University of Pennsylvania, Economics Department |
| **05.2017-06.2017** | Aarhus University, Department of Economics and Business Economics |
| **10.2015-12.2015** | University of Pennsylvania, Economics Department and CIS Department |
| **09.2015** | Singapore Management University, SKB Institute for Financial Economics |
| **01.2014-02.2014** | Princeton University, Operations Research and Financial Engineering |
| **09.1012-12.2012** | Princeton University, Bendheim Center for Finance |
| **03.2012** | Academia Sinica, Taipei |
| **11.2011** | University of Zurich, Institute for Banking and Finance |
| **04.2010** | Rutgers University, Department of Statistics and Biostatistics |

## Scientific Events Organized

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|---|---|
| **2025** | Financial Econometrics meets Machine Learning (FinEML), Rotterdam |
| **2024** | Financial Econometrics meets Machine Learning (FinEML), Lugano |
| **2023** | Financial Econometrics meets Machine Learning (FinEML), Rotterdam |
| **2019** | Machine Learning for Economics and Econometrics, EI Workshop, Rotterdam |
| **2018** | Machine Learning and Causal Inference, EI Workshop, Rotterdam |
| **2016** | Hilda Geiringer Lecture, Collaborative Research Center 649, Berlin |
| **2013** | Field Days 2013: Experiments Outside the Lab, IZA/WZB Workshop, Berlin |
| | Risk Preferences and Decisions under Uncertainty, CRC 649 Workshop, Berlin |
| **2011** | Humboldt-Princeton Conference, Humboldt University of Berlin |
| **2010** | Distinguished Lecture Series, Humboldt University of Berlin |
| **2008** | Hermann Otto Hirschfeld Lecture, Humboldt University of Berlin |

## Languages

Romanian (native), English (fluent), German (fluent), French (intermediate), Dutch (basic), Italian (basic), Spanish (basic)