

# Margarita Grushanina

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## Employment History

- 2024 – present █ **Research Associate for Bayesian Statistics and Causal Inference**, Imperial College London, School of Public Health (London, United Kingdom).
- 2014 – 2024 █ **Economist/Quantitative Analyst**, Erste Group Bank AG, Research Department (Vienna, Austria).
- 2011 – 2013 █ **Bank Analyst**, Erste Group Bank AG, International Business Department (Vienna, Austria).
- 2007 – 2011 █ **Data Analyst**, Erste Group Bank AG, Strategic Risk Management Department (Vienna, Austria).
- 2006 █ **Researcher**, United Nations Industrial Development Organisation (UNIDO), Strategic Research and Economics Branch (Vienna, Austria).
- 2005 █ **Intern**, United Nations Industrial Development Organisation (UNIDO), Strategic Research and Economics Branch (Vienna, Austria).
- 2004 – 2005 █ **Lecturer**, Saint Petersburg State University, Department of Economics (Saint Petersburg, Russia).

## Education

- 2018 – 2023 █ **Doctoral programme**, Vienna University of Economics and Business. Institute of Quantitative Economics, Institute of Mathematics and Statistics (Vienna, Austria).  
Advisors: Sylvia Frühwirth-Schnatter and Alfred Stiassny  
Dissertation: *Bayesian Methods for Unsupervised Data Analysis in Application to Data Sets Exhibiting Non-Gaussianity*.
- 2001 – 2004 █ **Candidate of Science (equivalent to PhD)** in Mathematical Methods in Economics, Saint Petersburg State University (Saint Petersburg, Russia).  
Advisor: Galina Chernova
- 1996 – 2001 █ **Diploma studies** in Mathematical Methods in Economics, Saint Petersburg State University (Saint Petersburg, Russia). Grade: with honors.  
Advisor: Andrey Kudryavtsev

## Schools and Trainings

- Jun 2023 █ **Workshop "Causal Inference: Concepts, Tools and Practice"**, Vienna University of Economics and Business (Vienna, Austria).  
Instructors: Susanne Strohmaier, Michael Kammer (Medical University of Vienna)
- Nov 2021 █ **Tutor-Led Hybrid Training Course "Machine Learning Training for Industry"**, Mind Project and Newton Gateway to Mathematics, University of Cambridge (Cambridge, UK).  
Instructor: Simon Walkowiak (UCL and Mind Project)

## Schools and Trainings (continued)

- Aug 2018  **Summer School "Uncertainty Quantification for PDEs: Numerical Analysis and Scientific Computing"**, ETH Zürich (Zürich, Switzerland).  
Instructors: A. Barth (Uni Stuttgart), A. Cohen, G. Migliorati (Sorbonne), H. Harbrecht (Uni Basel), C. Jerez-Hanckes (PUC Santiago), S. Mishra (ETH Zürich), C. Schwab (ETH Zürich), B. Sudret (ETH Zürich).
- Jul 2018  **Summer School "Machine Learning Methods and Data Analytics in Risk and Insurance"**, Vienna University of Technology (Vienna, Austria).  
Instructors: Gareth Peters (Heriot-Watt University), Pavel Shevchenko (Macquarie University).

## Publications

### Publications and preprints

- 1 **Grushanina, M.**, & Frühwirth-Schnatter, S. (2025). Dynamic Mixture of Finite Mixtures of Factor Analysers. *Bayesian Analysis. Advance publication*, 1–30.  doi:10.1214/25-BA1543
- 2 **Grushanina, M.** (2023). A Review of Bayesian Methods for Infinite Factorisations. arXiv: 2309.12990
- 3 **Grushanina, M.**, & Frühwirth-Schnatter, S. (2023). Dynamic mixture of finite mixtures of factor analysers with automatic inference on the number of clusters and factors. arXiv: 2307.07045

### Conference proceedings

- 1 **Grushanina, M.**, & Frühwirth-Schnatter, S. (2021). Bayesian infinite factor models with non-Gaussian factors. In *JSM Proceedings, International Society for Bayesian Analysis (ISBA) Section* (pp. 396–415). Alexandria, VA: American Statistical Association.

### Discussions

- 1 **Grushanina, M.** (2025). Discussion on Sparse Bayesian Factor Analysis When the Number of Factors Is Unknown by S. Frühwirth-Schnatter, D. Hosszejni, and H. F. Lopes. *Bayesian Analysis*, 20(1), pp. 316–318.  doi:10.1214/24-BA1423

## Presentations, Conferences and Seminars

### Invited presentations

- Dec 2024  *Dynamic Mixture of Finite Mixtures of Factor Analysers*, 18th International Joint Conference on Computational and Financial Econometrics (CFE) and Computational and Methodological Statistics (CMStatistics) 2024 (London, UK).
- Oct 2023  *Dynamic Mixture of Finite Mixtures of Factor Analysers with Automatic Inference on the Number of Clusters and Factors*, International Day of Women in Statistics and Data Science (IDWSDS) 2023 (virtual).
- Dec 2022  *Dynamic Mixture of Finite Mixtures of Factor Analysers with Automatic Inference on the Number of Clusters and Factors*, 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics) 2022 (London, UK).

## **Presentations, Conferences and Seminars (continued)**

### **Contributed presentations**

- Dec 2023      *Dynamic Mixture of Finite Mixtures of Factor Analysers with Automatic Inference on the Number of Clusters and Factors*, European Winter Meeting of The Econometric Society (EWMES) 2023 (Manchester, UK).
- Sep 2023      *Dynamic Mixture of Finite Mixtures of Factor Analysers with Automatic Inference on the Number of Clusters and Factors*, European Seminar on Bayesian Econometrics (ESOBE) 2023 (Glasgow, UK).
- Sep 2022      *Dynamic Mixture of Finite Mixtures of Factor Analysers with Automatic Inference on the Number of Clusters and Factors*, European Seminar on Bayesian Econometrics (ESOBE) 2022, Young Researcher Session (Salzburg, Austria).
- Apr 2022      *Mixture of Factor Analysers and Adaptive Telescoping Sampler for Automatic Inference on the Number of Clusters and Factors*, BNP 2022 Networking Workshop (Nicosia, Cyprus).
- Aug 2021      *Bayesian Infinite Factor Models with Non-Gaussian Factors*, Joint Statistical Meetings 2021 (virtual).
- Jul 2021      *Bayesian Infinite Factor Models with Non-Gaussian Factors*, 2021 ISBA World Meeting (virtual).

### **Posters**

- Jul 2024      *Dynamic Mixture of Finite Mixtures of Factor Analysers*, 2024 ISBA World Meeting (Venice, Italy).
- Jun 2022      *Mixture of Factor Analysers and Adaptive Telescoping Sampler for Automatic Inference on the Number of Clusters and Factors*, 2022 ISBA World Meeting (Montreal, Canada).
- Jun 2021      *Bayesian Infinite Factor Models with Non-Gaussian Factors*, 2021 ISBA World Meeting (virtual).

### **Seminars and workshops**

- Nov 2025      *Multi-Subject Factor Regression Biclustering*, 3rd joint workshop TU/WU/ARI, Austrian Academy of Sciences (Vienna, Austria).
- Jan 2025      *Dynamic Mixture of Finite Mixtures of Factor Analysers*, European University at St. Petersburg (EUSP) Research Seminar (virtual).
- Dec 2021      *Bayesian Infinite Factor Models with Non-Gaussian Factors*, Center for Econometrics and Business Analytics (CEBA) Research Seminar (virtual).

## **Teaching**

Insurance Mathematics      Saint Petersburg State University, WS 2004/2005

## **Awards and Funding**

- Jul 2024      **Travel grant**, ISBA 2024 world meeting
- Sep 2022      **Travel grant**, ESOBE 2022 conference
- Apr 2022      **Travel grant**, BNP 2022 networking event
- 1996-2001      **Merit-based scholarship** for undergraduate studies awarded by Saint Petersburg State University

## **Languages**

- English       fluent, native speaker proficiency (Cambridge CPE certificate)
- German       fluent, full proficiency in writing, reading and speaking
- French       advanced (C1), very confident in reading and writing, slightly less in speaking
- Russian       native speaker

## **Computer Skills**

-  R, Python (NumPy, SciPy, sklearn, statsmodels, matplotlib), MATLAB, Stata, Mathematica, L<sup>A</sup>T<sub>E</sub>X

## **Memberships**

Member of the International Society for Bayesian Analysis (ISBA), fellow of the Royal Statistical Society (RSS).