

# Benjamin A. Robinson

## Academic Employment

- 2024–2030 **Postdoc Assistant**, *Department of Statistics, University of Klagenfurt, Austria*.  
Working in the Stochastic Processes group.
- 2020–2024 **Postdoc**, *Faculty of Mathematics, University of Vienna, Austria*.  
Employed in the Mathematical Finance and Stochastic Analysis group of Mathias Beiglböck and Walter Schachermayer. Funded by the Austrian Science Fund (FWF) [10.55776/Y782], [10.55776/P35519], [10.55776/P34743].
- 2020 **Research Associate**, *Institute for Mathematical Innovation, University of Bath, UK*.  
Conducted research on mathematical and statistical aspects of interdisciplinary and industrial projects, collaborating with academics from varied fields and external partners.
- 2020 **Research Assistant**, *Department of Psychology, University of Bath, UK*.  
Provided data analysis, modelling and programming expertise to a collaborative project with NHS RUH Bath on sustainable transport — EPSRC *Reimagining Recruitment* grant EP/S012168/1.

## Education

- 2020 **PhD in Statistical Applied Mathematics**, *University of Bath, UK*.  
*Stochastic Control Problems for Multidimensional Martingales*, supervised by Alexander Cox. Funded by EPSRC Centre for Doctoral Training in Statistical Applied Mathematics at Bath (SAMBa) EP/L015684/1. Member of leading probability research group Prob-L@b.
- 2016 **MRes in Statistical Applied Mathematics**, *Distinction, University of Bath, UK*.  
Masters Dissertation: *Constrained Optimal Stopping Problems*, supervised by Alexander Cox.
- 2015 **MSci in Mathematics**, *First Class, University of Bristol, UK*.  
Masters Dissertation: *Ergodicity of Stochastic Processes and the Markov Chain Central Limit Theorem*, supervised by Márton Balázs.

## Publications

- [1] Gudmund Pammer, Benjamin A. Robinson, and Walter Schachermayer. A regularized Kellerer theorem in arbitrary dimension. *Annals of Applied Probability*, 35(2):749–778, 2025.
- [2] Alexander M. G. Cox and Benjamin A. Robinson. SDEs with no strong solution arising from a problem of stochastic control. *Electronic Journal of Probability*, 28:1–24, 2023.
- [3] Alexander M.G. Cox and Benjamin A. Robinson. Optimal control of martingales in a radially symmetric environment. *Stochastic Processes and their Applications*, 159:149–198, 2023.
- [4] Benjamin A. Robinson and Michaela Szölgényi. Bicausal optimal transport for SDEs with irregular coefficients. *arXiv:2403.09941*, 2024.
- [5] Julio Backhoff-Veraguas, Sigrid Källblad, and Benjamin A. Robinson. Adapted Wasserstein distance between the laws of SDEs. *Stochastic Processes and their Applications*, 2025. Accepted for publication. *arXiv:2209.03243*.

## Supervision

- Present **PhD Statistics**, *University of Klagenfurt*, Alexander Söllinger (with Michaela Szölgényi and Stefan Thonhauser).
- 2024 **MSc Mathematics**, *University of Vienna*, Ralf Stoiber (with Julio Backhoff-Veraguas), The Skorokhod Embedding Problem and its Financial Applications.

---

## Teaching

- 2024 Winter **Stochastics for Engineers**, *Bachelor, Department of Statistics, University of Klagenfurt*.  
Lecturer — Delivering lectures and exercise classes, coordinating teaching, preparing material.
- 2024 Summer **Stochastic Processes**, *Master, Department of Statistics, University of Klagenfurt*.  
Lecturer — Delivering lectures and exercise classes, preparing course material.
- Methodology 2: Statistics**, *Bachelor, Department of Statistics, University of Klagenfurt*.  
Teaching Assistant (TA) — Delivering exercise classes and preparing exercise sheets.
- 2023 Winter **Stochastics for Engineers**, *Bachelor, Department of Statistics, University of Klagenfurt*.  
Teaching Assistant — Delivering online exercise classes and preparing exercise sheets.
- 2019 Winter **Mathematics and Statistics**, *Mathematics Resource Centre (MASH), University of Bath*.  
Senior Peer Tutor — Leading a team of tutors, running drop-in sessions for first year mathematics undergraduates, providing mathematical and statistical support at drop-in sessions for all disciplines.
- 2016 Winter **Financial Derivatives**, *Master, School of Management, University of Bath, TA*.
- 2015–2019 **Analysis 1, Probability 1, Analysis 2**, *Bachelor, Department of Mathematical Sciences, University of Bath, TA*.
- 2015 Summer **Statistics 1**, *Bachelor, School of Mathematics, University of Bristol, TA*.  
**Linear Algebra 1B**, *Bachelor, School of Mathematics, University of Bristol, TA*.
- 2014 Winter **Probability 1**, *Bachelor, School of Mathematics, University of Bristol, TA*.  
**Linear Algebra 1A**, *Bachelor, School of Mathematics, University of Bristol, TA*.

---

## Outreach Activities

- Feb 2025 **Workshop for Schools**, *Universität Klagenfurt*.  
*Der Ton macht die Musik — Workshop on mathematics in music*

---

## Invited Seminar and Conference Talks

- Dec 2024 **Rough Analysis and Stochastic Dynamics Seminar**, *TU Berlin*.  
A regularized Kellerer theorem in arbitrary dimension
- Feb 2024 **Probability Seminar**, *University of Leeds, UK*.  
Bicausal optimal transport for SDEs with irregular coefficients
- Nov 2023 **Vienna Probability Seminar**, *Institute of Science and Technology, Austria*.  
A regularized Kellerer theorem in arbitrary dimension
- Jun 2023 **SIAM Conference on Financial Mathematics and Engineering**, *Philadelphia, USA*,  
Minisymposium *Optimal Transport*.  
An adapted distance between laws of SDEs
- May 2023 **AAU Doctoral Seminar**, *Universität Klagenfurt, Austria*.  
Distances between stochastic processes
- Apr 2021 **Vienna Seminar in Mathematical Finance and Probability**, *Vienna*.  
Optimal control of martingales in a radially symmetric environment
- Jun 2020 **Internal Probability Seminar**, *University of Bath (Online)*.  
Optimal control of martingales in a radially symmetric environment and an SDE with no strong solution
- Apr 2020 **Probability Seminar**, *University of Manchester*, Cancelled.

---

## Contributed Conference Talks

- Mar 2025 **German Probability and Statistics Days**, *Dresden, Germany*.  
A regularized Kellerer theorem in arbitrary dimension
- Sep 2024 **Numerical analysis and applications of SDEs**, *Będlewo Conference Centre, Poland*.  
Bicausal optimal transport between the laws of SDEs
- Sep 2024 **12<sup>th</sup> Austrian Stochastic Days**, *University of Innsbruck, Austria*.  
Bicausal optimal transport for SDEs with irregular coefficients
- Jun 2024 **Klagenfurt–Berlin Workshop on Multiple Perspectives in Optimization**, *University of Klagenfurt, Austria*.  
Bicausal optimal transport for SDEs with irregular coefficients

- Jan 2024 **Stochastic and Deterministic Analysis for Irregular Models**, *CIRM, France*.  
Bicausal optimal transport for SDEs with irregular coefficients
- Sep 2023 **11<sup>th</sup> Austrian Stochastic Days**, *University of Klagenfurt, Austria*.  
A regularized Kellerer theorem in arbitrary dimension
- May 2023 **Mathematical Finance and Stochastics**, *San Sebastian, Spain*.  
A regularized Kellerer theorem in arbitrary dimension
- Mar 2023 **German Probability and Statistics Days**, *Essen, Germany*.  
Adapted Wasserstein distance between the laws of SDEs
- Sep 2022 **10<sup>th</sup> Austrian Stochastic Days**, *University of Vienna, Austria*.  
Adapted Wasserstein distance between the laws of SDEs
- July 2022 **PIMS-IFDS-NSF Summer School on Optimal Transport**, *University of Washington, Seattle, USA*.  
Bicausal transport between laws of SDEs
- May 2022 **Stochastic Games and Martingale Optimal Transport**, *Università degli Studi di Milano, Italy*.  
A regularized Kellerer theorem in arbitrary dimension
- Aug 2020 **Bernoulli-IMS One World Symposium**, *Online*.  
Optimal control of martingales in a radially symmetric environment
- Jan 2020 **Winter School on Theory and Practice of Optimal Stopping and Free Boundary Problems**, *University of Leeds, UK*.  
An SDE with no strong solution arising from the stochastic control of martingales in a radially symmetric environment
- Apr 2019 **Stochastic Control and Games under Ambiguity**, *University of Leeds*.  
Optimal control of martingales in a radially symmetric environment
- Jun 2017 **BUC-VIII: Stochastic Optimal Control**, *CIMAT, Mexico*.  
Stochastic optimal control problems related to martingale optimal transport

## Poster Presentations

- Jan 2024 **21<sup>st</sup> Winter School on Mathematical Finance**, *Soesterberg, The Netherlands*.  
Bicausal optimal transport for SDEs with irregular coefficients
- Jan 2023 **20<sup>th</sup> Winter School on Mathematical Finance**, *Soesterberg, The Netherlands*.  
Adapted Wasserstein distance between the laws of SDEs
- Sep 2017 **Conference on Stochastic Control, Ambiguity and Games**, *University of Leeds*.  
Stochastic optimal control problems related to martingale optimal transport

## Workshops and Schools

- Sep 2024 **Numerical analysis and applications of SDEs**, *Będlewo Conference Centre, Poland*.
- Jan 2024 **21<sup>st</sup> Winter School on Mathematical Finance**, *Soesterberg, The Netherlands*.
- Jan 2024 **Stochastic and Deterministic Analysis for Irregular Models**, *CIRM, France*.
- Jan 2023 **20<sup>th</sup> Winter School on Mathematical Finance**, *Soesterberg, The Netherlands*.
- July 2022 **PIMS-IFDS-NSF Summer School on Optimal Transport**, *University of Washington, Seattle, USA*.
- Jan 2020 **Winter School on Theory and Practice of Optimal Stopping and Free Boundary Problems**, *University of Leeds, UK*.
- Jul 2018 **Hausdorff School: Optimal Transport Meets Economic Theory**, *Hausdorff Centre for Mathematics, Universität Bonn, Germany*.
- Sep 2017 **Workshop on Martingale Optimal Transport**, *University of Oxford*.
- Jun 2017 **BUC-VIII: Stochastic Optimal Control**, *CIMAT, Mexico*.

## Industrial Research Projects

Participated in five workshops at University of Bath, UK. Collaborated with industrial partners to formulate mathematical problems from applied challenges, presenting outcomes orally and in research proposals.

- Jan 2019 **Optimal Stopping for Early Drought Detection**, *Willis Towers Watson*, ITT9.  
Investigated analytical and numerical properties of optimal stopping problems for time series climate data to minimise expected detection time, constraining probability of false alarm.
- Jun 2017 **Bayesian Inference on Nuclear Magnetic Resonance**, *Schlumberger*, ITT6.  
Adapted C code for Bayesian inference with atomic priors in order to estimate relaxation times for nuclear magnetic resonance in rocks and to quantify the uncertainty.
- Jan 2017 **Modelling Dermal Absorption of Chemicals**, *Syngenta*, ITT5.  
Investigated application of random walk models to describe the absorption of chemical particles through the inhomogeneous media of human skin and leaves of plants.
- Jun 2016 **Optimising the Drug Development Process**, *AstraZeneca*, ITT4.  
Designed a Bayesian decision framework for the end-to-end drug development process and investigated the application of measure-valued optimal stopping to adaptive clinical trials.
- Jan 2016 **Developing a Model for Sea Ice**, *Met Office*, ITT3.  
Reconstructed historical sea ice concentrations using a Bayesian hierarchical model, incorporating latent Gaussian random fields, implemented in R-INLA.

## Grants and Awards

- 2025 **Submitted Grant Proposal: FWF 1000 Ideen**, *FWF (Austrian Science Fund)*.
- 2024 **Scientific Research Network of The Research Foundation Flanders Travel Grant**.  
Grant to attend *21<sup>st</sup> Winter School on Mathematical Finance*
- 2024 **Centre international de rencontres mathématiques (CIRM) Travel Grant**.  
Grant to attend research school *Stochastic and Deterministic Analysis for Irregular Models*
- 2023 **Scientific Research Network of The Research Foundation Flanders Travel Grant**.  
Grant to attend *20<sup>th</sup> Winter School on Mathematical Finance*
- 2019 **University of Leeds Travel Grant**.  
Grant to attend *2<sup>nd</sup> Leeds Conference on Stochastic Control and Games under Ambiguity*
- 2018 **Hausdorff Centre for Mathematics Travel Grant**.  
Grant to attend *Hausdorff School: Optimal Transport Meets Economic Theory*
- 2017–2018 **Grants for SIAM UKIE National Student Chapter Conference**, 6,350 GBP.  
Successfully applied for grants to organise this national conference from SIAM; the IMA; the University of Bath Doctoral College, Institute for Mathematical Innovation, Dept. Math. Sci.
- 2017 **SIAM Student Chapter Certificate of Recognition**, *University of Bath*.
- 2015 **Howell Peregrine Prize for Best Undergraduate Project**, *University of Bristol*.

## Academic Service

- Jul 2024 **Minisymposium Organiser — 12<sup>th</sup> Bachelier World Congress**, *Rio de Janeiro, Brazil*.
- May 2024 **Hiring Committee**, *Assistant Professor, Department of Statistics, University of Klagenfurt*.
- 2022–present **Referee**, *Annals of Applied Probability, Mathematics of Operations Research, SIAM Journal on Mathematical Finance, Stochastic Analysis and Applications*.
- Jun 2018 **Organiser of SIAM UKIE National Student Chapter Conference**, *University of Bath*.
- 2017–2018 **Organiser of Postgraduate Seminar Series**, *Dept. Math. Sciences, University of Bath*.
- Jun 2017 **Organiser of SAMBa Summer Conference**, *University of Bath*.
- Mar 2017 **Organiser of Bath SIAM-IMA Student Conference**, *University of Bath*.
- 2016–2018 **Treasurer of University of Bath SIAM-IMA Student Chapter**, *University of Bath*.

## Programming and Languages

Python, R, MATLAB, Fortran, C, HTML, CSS, SQL  
English (Native), German (C1.1), French (B2)