John Fernley

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Employment

Eötvös Loránd University
Class Tutor *2024*
Teaching, writing exercise sheets and writing exams for "Probability and Statistics".

Alfréd Rényi Institute of Mathematics
Research Fellow (Tudományos Munkatárs) *2023-2024*
With Balázs Gerencsér in the NDRI project "Smart random walks and smart new links".

ENS de Lyon
Research Fellow (Chercheur en Probabilités et Statistiques) *2021-2022*
With Emmanuel Jacob in the *Unité de Mathématiques Pures et Appliquées*.

University of Bath
Casual Teaching Assistant *2017–2020*
Problems classes for "Probability 2B" over multiple years, and various exam marking.

University of Oxford Department of Statistics
Research Intern *2015*
With Alison Etheridge, funded by an LMS Undergraduate Research Bursary.

University of York Cross-disciplinary Centre for Systems Analysis
Research Intern *2014*
With Andreas Heinemeyer in the Stockholm Environment Institute.

Education

University of Bath SAMBa
PhD *2017–2020*
Jointly supervised by Peter Mörters and Marcel Ortgiese in the Prob-L@B Research Centre.

University of Bath SAMBa
MRes *2016–2017*
Courses and dissertation as well as Integrative Think Tanks collaborating with industry.

University of Oxford
MMath *2012–2016*
Awarded two annual scholarships from tutors Colin McDiarmid and Paul Dellar.

Publications

[1] J. Fernley, *Discursive voter models on the supercritical scale-free network*, SIAM Journal on Discrete Mathematics, 38 (2024), pp. 1285–1314.

[2] J. Fernley and E. Jacob, *A universal right tail upper bound for supercritical galton–watson processes with bounded offspring*, Statistics & Probability Letters, 209 (2024), p. 110082.

[3] J. Fernley and M. Ortgiese, *Voter models on subcritical scale-free random graphs*, Random Structures & Algorithms, 62 (2023), pp. 376–429.

Preprints

[4] J. Fernley, *The phase transition of the voter model on dynamic scale-free networks*, to appear on arXiv.

[5] J. Fernley and B. Gerencsér, *Simultaneous cutoff on the multitype configuration model*, arXiv preprint arXiv:2403.11213, (2024).

[6] J. Fernley and E. Jacob, *Targeted immunisation thresholds for the contact process on power-law trees*, preprint arXiv:2312.04438, (2023).

[7] J. Fernley, P. Mörters, and M. Ortgiese, *The contact process on a graph adapting to the infection*, preprint arXiv:2312.06251, (2023).

Talks at conferences

Particle systems in random environments. *Goethe University Frankfurt*, invited, 2024.

Bernoulli-IMS 11th world congress in probability and statistics. *Ruhr University Bochum*, 2024.

Discrete probability days. *Autonomous University of Barcelona*, 2023.

Recent trends in spatial stochastic processes. *Eindhoven University of Technology*, 2022.

Drafting workshop in discrete mathematics and probability. *Alfréd Rényi Institute of M.*, 2022.

Workshop on geometric random graph models and percolation. *Zoom*, 2021.

Spatial networks and percolation. *Oberwolfach Research Institute for Mathematics*, 2021.

Spring school: Complex networks. *Technical University of Darmstadt*, 2020.

Exploring limits in light and wave transmissions. *University of Bath*, 2020.

SAMBa summer conference. *University of Bath*, 2019.

Random structures: from the discrete to the continuous. *University of Bath*, 2019.

Research students' conference. *University of Sheffield*, 2018.

ONS & CEDIC paraguay. *University of Bath*, 2018.

Spin systems: Discrete and continuous spring school. *Technical University of Darmstadt*, 2018.

Measuring and predicting the natural environment. *University of Bath*, 2018.

Sensing and complex flows. *University of Bath*, 2017.

Chemical dispersion and effectiveness. *University of Bath*, 2017.

Probabilistic approaches in mathematical physics. *Basque Center of Applied Mathematics*, 2017.

References

- Balázs Gerencsér — gerencser.balazs@renyi.hu
- Emmanuel Jacob — emmanuel.jacob@ens-lyon.fr
- Peter Mörters — moerters@math.uni-koeln.de