Félix Foutel-Rodier

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Research interests:
Branching processes, random trees, exchangeable processes, age-structured models, population genetics, range expansion, recombination, epidemiology of infectious diseases

Positions

2022–present **Glasstone Research fellow** Univ. of Oxford
Department of Statistics

2021–2022 **Postdoctoral fellow** UQÀM, Montréal
Supervisors: Arthur Charpentier and Hélène Guérin

Education

2018–2021 **Ph.d. in mathematics** Sorbonne Univ. & Collège de France, Paris
Subject: Scaling limits of branching and coalescing models arising in population biology
Supervisors: Amaury Lambert and Emmanuel Schetzer

2018 **ENS Diploma** École Normale Supérieure, Paris
Major: biology; Minor: mathematics

2016–2017 **Master in mathematics** Univ. Pierre et Marie Curie, Paris
2nd year; Specialty: probability theory

2015–2016 **Master in life science** École Normale Supérieure, Paris
1st year; Specialty: ecology & evolutionary biology

2014–2015 **Bachelor in life science** École Normale Supérieure, Paris
Ranked 1st at the national entrance exam in biology

2012–2014 **Classe préparatoire in life science** Lycée Henri 4, Paris

Publications

9. F. Foutel-Rodier*, A. Charpentier, and H. Guérin. *Optimal vaccination policy to prevent endemicity: a stochastic model*.
arxiv preprint, 2023.

8. F. Boenkost, F. Foutel-Rodier, and E. Schertzer. *The genealogy of a nearly critical branching processes in varying environment*.
arxiv preprint, 2022.

7. F. Foutel-Rodier and E. Schertzer. *Convergence of genealogies through spinal decomposition with an application to population genetics*.
Probability Theory and Related Fields (in press), 2023.

6. J.-J. Duchamps, F. Foutel-Rodier, and E. Schertzer. *General epidemiological models: law of large numbers and contact tracing*.
Electronic Journal of Probability (28), 37pp, 2023.

5. F. Foutel-Rodier*, F. Blanquart, P. Courau, P. Czuppon, J.-J. Duchamps, J. Gamblin, É. Kerdoncuff, R. Kulathinal, L. Régnier, L. Vuduc, A. Lambert†, and E. Schertzer†. *From individual-based epidemic model to McKendrick-von Foerster PDEs: a guide to modeling and inferring COVID-19 dynamics*.
Journal of Mathematical Biology (85), 43pp, 2022.

4. F. Foutel-Rodier, A. Lambert, and E. Schertzer. *Exchangeable coalescents, ultrametric spaces, nested interval-partitions: a unifying approach*.
Annals of Applied Probability (31), pp 2046–2090, 2021.

3. F. Bienvenu, J.-J. Duchamps, and F. Foutel-Rodier. *The Moran forest*.
Random Structures & Algorithms (59), pp 155–188, 2021.

2. F. Foutel-Rodier*, A. Etheridge. *The spatial Muller's ratchet: surfing of deleterious mutations during range expansion*.
Theoretical Population Biology (135), pp 19–31, 2020.

1. F. Foutel-Rodier, A. Lambert, and E. Schertzer. *Kingman's coalescent with erosion*.
Electronic Journal of Probability (25), 33pp, 2020.

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* First author; † Last author.

Fundings

2021	Senior Demyship from Magdalen College (college association)
2021	Glasstone Research Fellowship from the University of Oxford (three years independent postdoc funding)
2021	Mathematics for Public Health funding from the Fields Institute (half a year postdoc funding)
2018	Ph.D. scholarship from École Normale supérieure (three years)
2014	Scholarship from École Normale supérieure (four years)

Refereeing service

Theoretical Biology	The American Naturalist, Ecology and Evolution, Journal of Mathematical Biology, Proceedings of the National Academy of Science
Mathematics	Annals of Applied Probability, Journal of Applied Probability, Journal of Mathematical Biology

Miscellaneous

Languages	French: native; English: fluent; Greek, Spanish: basic
Code	Good knowledge of Python and C, familiar with the use of a computer cluster and UNIX-based OSs.