Ian **Flint**

Currently looking for opportunities in the Cambridge area (UK).

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Education

Telecom ParisTech / Paris VI — *Paris, France*

PhD — *2010–2013*

- Subject: Stochastic analysis of general point processes
- Advisor: Prof. Laurent Decreusefond

Université Paris VII — *Paris, France*

Master's degree in stochastic modelling: "Statistics and stochastic models in finance" — *2010*

Telecom ParisTech — *Paris, France*

Engineering degree (French "grande école") — *2007–2010*

Experience

Nanyang Technological University — *Singapore*

Research fellow — *2014–2018*

- Principal investigator: Professor Nicolas Privault
- Duties included teaching & grading assignments, writing grant proposals

Research interests

Point process theory; stochastic modelling; stochastic analysis; Stein's method; functional analysis.

Publications

- "A Clark-Ocone formula for temporal point processes, and applications", I. Flint and G.L. Torrisi, *Annals of Probability*, 45(5), 2017
- "Analysis of Heterogenous Wireless Networks With Poisson Hard-Core Point Process", I. Flint, H.-B. Kong, N. Privault, P. Wang, and D. Niyato, *IEEE Transactions on Wireless Communications*, 16(11), 2017
- "Wireless Energy Harvesting Sensor Networks: Boolean-Poisson Modeling and Analysis", I. Flint, H.-B. Kong, N. Privault, P. Wang, and D. Niyato, *IEEE Transactions on Wireless Communications*, 16(11), 2017
- "Exact Performance Analysis of Ambient RF Energy Harvesting Wireless Sensor Networks With Ginibre Point Process", H.-B. Kong, I. Flint, D. Niyato, P. Wang and N. Privault, *IEEE Journal on Selected Areas in Communications*, 34(12), 2016
- "Self-Sustainable Communications with RF Energy Harvesting: Ginibre Point Process Modeling and Analysis", I. Flint, X. Lu, N. Privault, D. Niyato and P. Wang, *IEEE Journal on Selected Areas in Communications*, 34(5), 2016
- "Performance Analysis of Ambient RF Energy Harvesting with Repulsive Point Process Modeling", I. Flint, X. Lu, N. Privault, D. Niyato and P. Wang, *IEEE Transactions on Wireless Communications*, 14(10), 2015
- "Stochastic dynamics of determinantal processes by integration by parts", I. Flint, N. Privault and G.L. Torrisi, *Commununications on Stochastic Analysis*, 9, 2015
- "A note on the simulation of the Ginibre point process", L. Decreusefond, I. Flint and A. Vergne, *Journal of Applied Probability*, 52(4), Dec. 2015
- "Moment formulae for general point processes", L. Decreusefond and I. Flint, *Journal of Functional Analysis*, 352(4), Apr. 2014

Other writings

Proceedings

"Wireless Caching Helper Networks: Ginibre Point Process Modeling and Analysis", H.-B. Kong, I. Flint, P. Wang, D. Niyato and N. Privault, accepted at IEEE International Conference on Communications (ICC), 2018

"On the Performance of Wireless Energy Harvesting Networks in a Boolean-Poisson Model", H.-B. Kong, I. Flint, D. Niyato, P. Wang and N. Privault, IEEE International Conference on Communications (ICC), 2016

"Performance Analysis of Simultaneous Wireless Information and Power Transfer with Ambient RF Energy Harvesting", X. Lu, I. Flint, D. Niyato, N. Privault and P. Wang, in IEEE Wireless Communications and Networking Conference (WCNC), 2015

"Performance Analysis of Ambient RF Energy Harvesting: A Stochastic Geometry Approach", I. Flint, X. Lu, N. Privault, D. Niyato and P. Wang, in Proceedings of IEEE GLOBECOM, Austin, TX, USA, 8-12 December 2014

"Homology based algorithm for disaster recovery in wireless networks", A. Vergne, I. Flint, L. Decreusefond and P. Martins, in SpaSWiN 2014, Hammamet, Tunisia, 12–16 May 2014

"Disaster Recovery in Wireless Networks: A Homology-Based Algorithm", A. Vergne, I. Flint, L. Decreusefond and P. Martins, in ICT 2014, Lisbon, Portugal, 4–7 May 2014

Preprints

"Bounds in total variation distance for Markov chains and random walks", I. Flint, N. Privault and G. L. Torrisi (submitted)

"Functional inequalities for marked point processes", I. Flint, N. Privault and G. L. Torrisi (submitted)

"On the computation of coverage probabilities in non-Poissonian Boolean models", I. Flint, N. Privault (submitted)

"Fog Radio Access Networks: Ginibre Point Process Modeling and Analysis", H.-B. Kong, I. Flint, P. Wang, D. Niyato, and N. Privault (minor revision after submission to *Transactions on Wireless Communications*)

Book chapter

"Determinantal point processes", a survey written with L. Decreusefond, N. Privault and G. L. Torrisi, in *Stochastic analysis for Poisson point processes: Malliavin calculus, Wiener-Itô chaos expansions and stochastic geometry*, Springer-Verlag, 2016

Teaching activities

2010–2013	**Introduction to probability (tutorials),** ∼20h	*Telecom Paristech*
	Stochastic calculus (lectures & tutorials), ∼100h	*Telecom Paristech*
	Monte-Carlo methods, American options (lectures & lab work), ∼20h	*Telecom Paristech*
	Study of a scientific paper and implementation in C (projects), ∼50h	*Telecom Paristech*
2014–2017	**Point process theory (lectures & tutorials),** ∼50h	*NTU*
	Linear algebra and multivariable calculus (tutorials), ∼50h	*NTU*
	Probability & Statistics (tutorials), ∼20h	*NTU*

Skills

Programming

C++ (including modern C++, with experience in some personal side projects)

Matlab (the supporting simulations in my published work are often implemented in Matlab)

R (used as a teaching tool)

Languages

French (native), English (fluent), German/Italian (basic)