

Benoît Corsini

Researcher Fellow at the National University of Singapore

Academic Role



Research Fellow, National University of Singapore.
Departmental position, supervised by Rongfeng Sun.

Jul. 2025 - Now
(0 Month)



PostDoc, Eindhoven University of Technology.
NETWORKS PostDoc, supervised by Remco van der Hofstad.

Aug. 2022 - Aug. 2024
(2 Years)

Education



Doctor of Philosophy, McGill University.
Constructive methods for random permutations and random trees,
supervised by Louigi Addario-Berry.

2017 - 2022



Master of Advanced Studies (Part III), University of Cambridge.

2016 - 2017



Diplôme d'Ingénieur, École Polytechnique.

2013 - 2016



Classes Préparatoires, Lycée Condorcet.

2010 - 2013

Experience



Research Intern, Element AI.
Mitacs internship, working on anomaly detection in graphs
using *Graph Neural Networks* (GNN).

Feb. 2020 - Sep. 2020
(8 Months)



Data Science Intern, University of Berkeley.
Internship jointly with a French start-up (*Occi*, now *WeWard*),
studying movements of clients in a superstore.









Mar. 2016 - Jul. 2016
(4 Months)



Assistant Teacher, Lycée Lachenal.
Assistant teacher in a high-school and post-secondary institution.

Oct. 2013 - Mar. 2014
(6 Months)





Research

	Local limit of Prim's algorithm, <i>with R. Gündlach and R. van der Hofstad</i> , preprint.	2025+
	Finding minimum spanning trees via local improvements, <i>with L. Addario-Berry and J. Barrett</i> , preprint.	2025+
	Continuous-time Mallows processes, preprint.	2025+
	Binary search trees of permuton samples, <i>with V. Dubach and V. Féray</i> , published in <i>Advances in Applied Mathematics</i> .	Jan. 2025
	Limits of Mallows trees, published in the <i>Electronic Journal of Probability</i> .	Jul. 2024
	Similarity of structures in popular music, published in the <i>Journal of New Music Research</i> .	May. 2024
	The height of record-biased trees, published in <i>Random Structures and Algorithms</i> .	May. 2023
	The height of Mallows trees, <i>with L. Addario-Berry</i> , published in the <i>Annals of Probability</i> .	Sep. 2021









Honours and Awards

	Scholarship for Outstanding PhD candidates, Institut des Sciences Mathématiques (ISM).	Oct. 2021
	Outstanding Teaching Assistant Award, <i>Introduction to Stochastic Processes</i> , McGill University.	Jun. 2021
	Carl-Herz Prize, Institut des Sciences Mathématiques (ISM).	May 2021
	Alexis & Charles Pelletier Fellowship, McGill University.	Apr. 2021
	Mitacs Accelerate Fellowship, <i>with Element AI</i> , Mitacs.	Feb. 2020
	Outstanding Investment, École Polytechnique.	Oct. 2015

Teaching

	Linear Algebra for Computing, National University of Singapore.	Jan. 2026 - Apr. 2026
	Probability, National University of Singapore.	Aug. 2025 - Nov. 2025
	Probability and Statistics, Eindhoven University of Technology.	Nov. 2023 - Jan. 2024
	Probability and Statistics (<i>jointly with M. Gösgens</i>), Eindhoven University of Technology.	Sep. 2023 - Oct. 2023

Teaching Assistantship

	Calculus and Probability Theory, Eindhoven University of Technology.	Sep. 2023 - Oct. 2023
	Programing and Modelling, Eindhoven University of Technology.	Feb. 2023 - Mar. 2023
	Longitudinal Data Analysis, Eindhoven University of Technology.	Sep. 2022 - Oct. 2022
	Introduction to Stochastic Processes, McGill University (<i>received a Teaching Assistant Award</i>).	Jan. 2021 - Apr. 2021
	Discrete Structures, McGill University.	Sep. 2019 - Dec. 2019
	Probability, McGill University.	Sep. 2018 - Dec. 2018
	Principles of Statistics 2, McGill University.	Jan. 2018 - Apr. 2018
	Calculus 2, McGill University.	Sep. 2017 - Dec. 2017

Supervision

	Aron van Veldhuizen (<i>Bachelor</i>), “Using random graphs to model the network of countries”.	Jan. 2023 - Jul. 2023
---	---	-----------------------

Events Organized



YEP XIX: Interplay between local and global graph structures,
organized with Bas Lodewijks and Clara Stegehuis.

Mar. 2024

Research Visits



McGill University,
visit to Louigi Addario-Berry (one month).

May 2024



Institut Élie Cartan,
visit to Valentin Féray and Mathilde Bouvel (one week).

May 2023

Extra Curricular



Organizing Member of MathPark,
monthly presentations for undergraduate students.

2022 - 2023



PhD Member of the Committee of Graduate Affairs,
committee discussing future directions of the department.

2019 - 2022



Graduate Student Seminar Organizer,
weekly presentations from graduate students of the department.

2019 - 2020



Maths en Jeans Tutor,
monthly tutoring sessions of high-school students.

2018 - 2019



Delegate of Student Section,
making the link between the students and the administration.

2014 - 2016

Other Projects



Participating in the Summer of Math Exposition,
an outlook of my participation in the SoME 2024 written for the *Networks Pages*.

Sep. 2024



Randomly playing chess,
video produced for the *Summer of Math Exposition 2024*.

Aug. 2024



J. Snow, P. Buffay, and M. Scott are in a network, what do they see?,
popularization article written for the *Networks Pages*.

Sep. 2023



Personal Moods - Grenu,
full album, written, recorded, and mixed myself.

Nov. 2021



Self-supervised anomaly detection in static attributed graphs,
with P.A. Noël, D. Vázquez, and P. Taslakian, unpublished scientific article.

Aug. 2021







Events and Talks (2025)

Local limit of Prim’s algorithm Probability Seminar,
National University of Singapore, Singapore, Singapore.









2025



Events and Talks (2022 - 2024)

		2024
Limite locale des arbres de Mallows	Séminaire de Probabilités, <i>Paris-Saclay University</i> , Paris, France.	
	Journées MathSTIC, <i>Sorbonne University</i> , Paris, France.	
The permuton tree	Italian Meeting on Probability and Mathematical Statistics, <i>Sapienza Università di Roma</i> , Rome, Italy.	
Local limit of Mallows trees	Training Week, <i>NETWORKS</i> , Asperen, Netherlands.	
Modèles aléatoires d'arbres binaires de recherche	Séminaire de Probabilités, <i>Sorbonne University</i> , Paris, France.	
	YEP XIX: Interplay between local and global graph structures, <i>Eindhoven University of Technology</i> , Eindhoven, Netherlands.	
Local weighted optimizations and open problems	Probability and Dynamics Seminar, <i>University of Victoria</i> , Online.	
		2023
	Training Week, <i>NETWORKS</i> , Asperen, Netherlands.	
Random models of binary search trees	Conference on Stochastic Processes and their Applications, <i>University of Lisbon</i> , Lisbon, Portugal.	
Mallows processes and the expanded hypercube	Permutation Patterns, <i>University of Burgundy</i> , Dijon, France.	
Modèles aléatoires d'arbres binaires de recherche	Séminaire Probabilités et Statistique, <i>University of Lorraine</i> , Nancy, France.	
	Training Week, <i>NETWORKS</i> , Asperen, Netherlands.	
	YEP XVIII: Spectra of Random Graphs and Related Combinatorial Problems, <i>Eindhoven University of Technology</i> , Eindhoven, Netherlands.	
Random models of binary search trees	iPOD Seminar, <i>Leiden University</i> , Leiden, Netherlands.	
		2022
Local weighted optimizations	STAR Workshop on Random Graphs, <i>University of Groningen</i> , Groningen, Netherlands.	
Local weighted optimizations	Training Week, <i>NETWORKS</i> , Asperen, Netherlands.	
	Recent Trends in Spatial Stochastic Processes, <i>Eindhoven University of Technology</i> , Eindhoven, Netherlands.	
Local weighted optimizations	RandNET Workshop on Random Graphs, <i>Eindhoven University of Technology</i> , Eindhoven, Netherlands.	
Similarité entre structures dans la musique populaire/ Anomalies dans les réseaux	Congès de l'Acfas, <i>Association francophone pour le savoir (Acfas)</i> , Online.	
"Peut-on transformer Paris en Montréal ?" (finalist)	3MT/MT180 Competition, <i>McGill University</i> , Montreal, Québec, Canada.	
	Annual Workshop on Probability and Combinatorics, <i>Bellairs Research Institute</i> , Holetown, Barbados.	

Events and Talks (2018 - 2021)

		2021
Local minimum spanning tree optimization <i>(first prize at poster session)</i>	CMS Winter Meeting, Canadian Mathematical Society (CMS), Online.	
Anomaly detection in graphs	Big Thought Time Talk, Nokia-Bell Labs, Online.	
Local minimum spanning tree optimization	Northeast Probability Seminar, Columbia University, Online.	
The height of random trees <i>(with L. Addario-Berry)</i>	Math Salon, Canadian Mathematical Society (CMS), Online.	
	Permutations and Probability, Banff International Research Station (BIRS), Online.	
Airline Codeshare correlative analysis <i>(second place at final pitch)</i>	Industrial Problem Solving Workshop, Université de Montréal, Online.	
	CRM-PIMS Summer School in Probability, Centre de Recherches Mathématiques (CRM), Online.	
The height of Mallows trees / Local minimum spanning tree optimization <i>(first prize at 3 Minute Thesis competition)</i>	Ottawa Mathematics Conference, University of Ottawa, Online.	
The height of Mallows trees	ISM Graduate Student Conference, Institut des Sciences Mathématiques (ISM), Online.	
		2020
The height of Mallows trees <i>(third prize at poster session)</i>	CMS Winter Meeting, Canadian Mathematical Society (CMS), Online.	
The height of Mallows trees	Bernoulli-IMS One World Symposium, Institute of Mathematical Statistics (IMS), Online.	
	Spectra, Algorithms, and Random Walks on Random Networks, Centre International de Rencontres Mathématiques (CIRM), Marseille, France.	
		2019
	Nice Summer School on Random Walks and Complex Networks, Université Côte d'Azur, Nice, France.	
	Dynamics of Random Processes, Université de Montréal, Montreal, Québec, Canada.	
	Annual Workshop on Probability, Combinatorics and Geometry, Bellairs Research Institute, Holetown, Barbados.	
	Seminar on Stochastic Processes, University of Utah, Salt Lake City, Utah, USA.	
		2018
	Challenges in Probability and Mathematical Physics, Université de Montréal, Montreal, Québec, Canada.	
	IMS Annual Meeting on Probability and Statistics, Vilnius University, Vilnius, Lithuania.	
	Annual Workshop on Probability and Combinatorics, Bellairs Research Institute, Holetown, Barbados.	
	Workshop on Probabilistic and Extremal Combinatorics, Harvard University, Cambridge, Massachusetts, USA.	