





Benoît Corsini

PostDoc at TU Eindhoven








Education

-  **Doctor of Philosophy**, McGill University. 2017 - 2022
Constructive methods for random permutations and random trees, supervised by Louigi Addario-Berry.
-  **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

-  **PostDoctoral Researcher**, Eindhoven University of Technology. Aug. 2022 - Now
(18 Months)
NETWORKS PostDoc, working on random models of graphs under the supervision of Remco van der Hofstad.
-  **Research Intern**, Element AI. Feb. 2020 - Sep. 2020
(8 Months)
Mitacs internship, working on anomaly detection in graphs using *Graph Neural Networks* (GNN).
-  **Data Science Intern**, University of Berkeley. Mar. 2016 - Jul. 2016
(4 Months)
Internship jointly with a French start-up (*Occi*, now *WeWard*), studying movements of clients in a superstore.
-  **Assistant Teacher**, Lycée Lachenal. Oct. 2013 - Mar. 2014
(6 Months)
Assistant teacher in a high-school and post-secondary institution.

Research

-  **Binary search trees of permuton samples,**
with V. Dubach and V. Féray, preprint. Mar. 2024
-  **Limits of Mallows trees,**
preprint. Dec. 2023
-  **Finding minimum spanning trees via local improvements,**
with L. Addario-Berry and J. Barrett, preprint. May 2022
-  **Continuous-time Mallows processes,**
preprint. May 2022
-  **The height of record-biased trees,**
published in Random Structures and Algorithms. Dec. 2021
-  **Similarity of structures in popular music,**
published in the Journal of New Music Research. Apr. 2021
-  **The height of Mallows trees,**
with L. Addario-Berry, published in the Annals of Probability. Jul. 2020






Honours and Awards

-  **Scholarship for Outstanding PhD candidates,**
Institut des Sciences Mathématiques (ISM). Oct. 2021
-  **Outstanding Teaching Assistant Award,**
Introduction to Stochastic Processes, 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,**
with Element AI, Mitacs. Feb. 2020
-  **Outstanding Investment,**
École Polytechnique. Oct. 2015

Teaching

- TU/e** **Probability and Statistics**,
Eindhoven University of Technology. Nov. 2023 - Jan. 2024
- TU/e** **Probability and Statistics** (*jointly with M. Gösgens*),
Eindhoven University of Technology. Sep. 2023 - Oct. 2023

Teaching Assistantship

- TU/e** **Calculus and Probability Theory**,
Eindhoven University of Technology. Sep. 2023 - Oct. 2023
- TU/e** **Programing and Modelling**,
Eindhoven University of Technology. Feb. 2023 - Mar. 2023
- TU/e** **Longitudinal Data Analysis**,
Eindhoven University of Technology. Sep. 2022 - Oct. 2022
-  **Introduction to Stochastic Processes**,
McGill University (*received a Teaching Assistant Award*). 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

- TU/e** **Aron van Veldhuizen** (*Bachelor*),
Using random graphs to model the network of countries. Jan. 2023 - Jul. 2023



Events Organized

-  **YEP XIX: Interplay between local and global graph structures,** Mar. 2024
organized with Bas Lodewijks and Clara Stegehuis.

Extra Curricular

-  **Organizing Member of MathPark,** 2022 - 2023
monthly presentations for undergraduate students.
-  **PhD Member of the Committee of Graduate Affairs,** 2019 - 2022
committee discussing future directions of the department.
-  **Graduate Student Seminar Organizer,** 2019 - 2020
weekly presentations from graduate students of the department.
-  **Maths en Jeans Tutor,** 2018 - 2019
monthly tutoring sessions of high-school students.
-  **Delegate of Student Section,** 2014 - 2016
making the link between the students and the administration.










Other Projects

-  **J. Snow, P. Buffay, and M. Scott are in a network, what do they see?,** Sep. 2023
popularization article written for the *Networks Pages*.
-  **Self-supervised anomaly detection in static attributed graphs,** Aug. 2021
with P.A. Noël, D. Vázquez, and P. Taslakian, unpublished scientific article.

Events (2022 - 2024)

		2025
Permuton tree	Italian Meeting on Probability and Mathematical Statistics, <i>Sapienza Università di Roma, Rome, Italy.</i>	
Local limit of Mallows trees	Training Week, <i>NETWORKS, Asperen, Netherlands.</i>	
Modèles aléatoires d'arbres binaires de recherche	Séminaire de Probabilités, <i>Laboratoire de Probabilités, Statistique et Modélisation (LPSM), Paris, France.</i>	
	YEP XIX: Interplay between local and global graph structures, <i>Eindhoven University of Technology, Eindhoven, Netherlands.</i>	
Local weighted optimizations and open problems	Probability and Dynamics Seminar, <i>University of Victoria, Online.</i>	
		2024
	Training Week, <i>NETWORKS, Asperen, Netherlands.</i>	
Random models of binary search trees	Conference on Stochastic Processes and their Applications, <i>University of Lisbon, Lisbon, Portugal.</i>	
Mallows processes and the expanded hypercube	Permutation Patterns, <i>University of Burgundy, Dijon, France.</i>	
Modèles aléatoires d'arbres binaires de recherche	Séminaire Probabilités et Statistique, <i>Institut Élie Cartan, Nancy, France.</i>	
	Training Week, <i>NETWORKS, Asperen, Netherlands.</i>	
	YEP XVIII: Spectra of Random Graphs and Related Combinatorial Problems, <i>Eindhoven University of Technology, Eindhoven, Netherlands.</i>	
Random models of binary search trees	iPOD Seminar, <i>Leiden University, Leiden, Netherlands.</i>	
		2023
Local weighted optimizations	STAR Workshop on Random Graphs, <i>University of Groningen, Groningen, Netherlands.</i>	
Local weighted optimizations	Training Week, <i>NETWORKS, Asperen, Netherlands.</i>	
	Recent Trends in Spatial Stochastic Processes, <i>Eindhoven University of Technology, Eindhoven, Netherlands.</i>	
Local weighted optimizations	RandNET Workshop on Random Graphs, <i>Eindhoven University of Technology, Eindhoven, Netherlands.</i>	
Similarité entre structures dans la musique populaire/Anomalies dans les réseaux	Congès de l'Acfas, <i>Association francophone pour le savoir (Acfas), Québec City, Québec, Canada.</i>	
"Peut-on transformer Paris en Montréal ?" <i>(finalist)</i>	3MT/MT180 Competition, <i>McGill University, Montreal, Québec, Canada.</i>	
	Annual Workshop on Probability and Combinatorics, <i>Bellairs Research Institute, Holetown, Barbados.</i>	
		2022

Events (2018 - 2021)

		2022
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.	
		2021
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.	
		2020
	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.	
		2019
	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.	
		2018