

Michaël Lalancette, Ph.D.

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Education

Ph.D. in Statistics | 09/2017 – 09/2022 | University of Toronto

- GPA: 4.0/4.0
- Thesis: [Statistical inference for tail dependence structures](#)
- Supervisor: Prof. Stanislav Volgushev

M.Sc. in Statistics | 09/2015 – 08/2017 | Université de Montréal

- GPA: 4.275/4.3
- Thesis: [Convergence d'un algorithme de type Metropolis pour une distribution cible bimodale](#)
- Supervisor: Prof. Mylène Bédard

B.Sc. in Mathematics | 09/2012 – 05/2015 | Université de Montréal

- GPA: 3.69/4.3 (Award of academic excellence)

Publications

Published

Lalancette, M., Engelke, S. and Volgushev, S. (2021). Rank-based estimation under asymptotic dependence and independence, with applications to spatial extremes. *The Annals of Statistics* 49(5), 2552–2576.

Preprint

Engelke, S., Lalancette, M. and Volgushev, S. (2022). Learning extremal graphical structures in high dimensions. ([arXiv:2111.00840](#))

Lalancette, M. and Zimmerman, R. (2022). A new family of smooth copulas with arbitrarily irregular densities. ([arXiv:2204.04336](#))

In preparation

With **D. Berger, G. Lefebvre, M.R. Keezer and M.-P. Sylvestre.** BoGlasso: Graphical lasso estimation through the bootstrap.

With **A. Bücher, J. Segers and S. Volgushev.** The empirical copula process on classes of non-rectangular sets.

With **S. Engelke and S. Volgushev.** Asymptotic analysis of the empirical extremal variogram.

With **A. Ryabchenko and S. Volgushev.** Adaptive learning of Hüsler–Reiss graphical models.

Talks and presentations

Invited talk, CMStatistics 2022 | London, UK | 12/2022

Title: Learning extremal graphical structures in high dimensions

Invited seminar | Université de Genève | 11/2022

Title: Learning extremal graphical structures in high dimensions

Invited talk, ETH-UCPG-TUM Workshop | Raitenhaslach, Germany | 10/2022

Title: Learning extremal graphical structures in high dimensions

Invited seminar | Technical University of Munich | 09/2022

Title: Estimation of bivariate and spatial tail models under asymptotic dependence and independence

Invited talk, JSM 2022 | Washington | 08/2022

Title: Learning extremal graphical structures in high dimensions

Invited talk, IMS 2022 | University of London | 06/2022

Title: Learning extremal graphical structures in high dimensions

Contributed talk, SSC 2022 | Online | 06/2022

Title: Learning extremal graphical structures in high dimensions

Invited seminar | Technical University of Munich | 11/2021

Title: The extremal graphical lasso

Invited seminar | Université Catholique de Louvain | 10/2021

Title: The extremal graphical lasso

Invited talk, Extreme Value Analysis 2021 | University of Edinburgh | 07/2021

Title: Concentration and asymptotic normality of the empirical variogram, with application to structure learning

Contributed talk, SSC 2021 | Online | 06/2021

Title: Rank-based estimation under asymptotic dependence and independence, with applications to spatial extremes

Contributed talk, SGS Research Day 2021 | Fields Institute | 04/2021

Title: Rank-based estimation under asymptotic dependence and independence, with applications to spatial extremes

Invited talk, SAMARI 2021 | Université de Montréal | 03/2021

Title: La théorie des valeurs extrêmes

Contributed talk, Extreme Value Analysis 2019 | University of Zagreb | 07/2019

Title: Rank-based M-estimation for tail dependence and independence

Poster presentation, SGS Research Day 2019 | Fields Institute | 04/2019

Title: Rank-based M-estimation for tail dependence and independence

Contributed talk, SSC 2018 | McGill University | 06/2018

Title: Convergence of a random walk Metropolis algorithm for bimodal target distribution

Scholarships and awards

Postdoctoral Fellowship | NSERC of Canada | 09/2022 – 08/2024

Worth: 90 000\$

Doctoral Award | Department of Statistical Sciences, University of Toronto | 05/2022

Worth: 3 000\$

Arts & Science Doctoral Excellence Scholarship | University of Toronto | 06/2021

Worth: 5 000\$

Postgraduate Scholarship - Doctoral | NSERC of Canada | 09/2019 – 08/2021

Worth: 42 000\$ (declined)

Probability Section Student Research Presentation Award | SSC | 06/2018

Awarded to the best student presentation in probability given at the 2018 SSC annual meeting. Worth: 500\$

Ontario Graduate Scholarships | Government of Ontario | 09/2017 – 08/2021

Awarded four (4) times. Worth: 15 000\$ each time

Doctoral Scholarship | FRQNT | 09/2017 – 08/2020

Worth: 60 000\$

Teaching experience

Instructor | University of Toronto | 05/2019 – 06/2019

- STA247 (Probability with Computer Applications)

Teaching Assistant | University of Toronto | 09/2018 – 04/2022

- STA447 (Stochastic Processes)
- STA2111 (Graduate Probability I)
- STA490 (Statistical Consultation, Communication, and Collaboration)

Instructor | Université de Montréal | 01/2017 – 04/2017

- STT2100/STT6115 (Bayesian Decision Theory, Cross-listed graduate and undergraduate course)

Teaching Assistant | Université de Montréal | 01/2015 – 12/2016

- STT2000 (Survey Sampling Theory)
- MAT1978 (Probability and Statistics for Scientists and Engineers)
- STT3700 (Statistical Inference)
- STT1700 (Introduction to Statistics)
- MAT2717 (Stochastic Processes)
- STT1901 (Statistics for Social Scientists)

Service and leadership

Peer reviewer for statistical methodology journals

- Journal of Computational and Graphical Statistics
- Extremes
- Journal of the Royal Statistical Society: Series B
- Scandinavian Journal of Statistics
- Biometrika

Evaluator for the European Laboratory for Learning and Intelligent Systems PhD program

I am part of the team that evaluates applications to this prestigious, collaborative PhD program.

President, Statistics Graduate Students' Union | University of Toronto | 09/2018 – 08/2019

Responsibilities included supervising the executive committee's activities and communication with the department.

Chair, Organizing committee, SGS Research Day 2019 | Fields Institute | 10/2018 – 04/2019

Responsibilities included inviting speakers, securing space and funding, managing most of the local arrangements, supervising and animating the event. More information about the event on the [webpage](#).

Committee Member, Association of Graduate Students in Mathematics and Statistics | Université de Montréal | 11/2016 – 08/2017

I was in charge of organizing meetings and social activities for graduate students.

Volunteer in various academic events

- DataFest, University of Toronto Scarborough, 05/2019
- Canadian Undergraduate Mathematics Conference, Montréal, 07/2017
- Congrès MATH.en.JEANS, Montréal | 03/2017

Computer knowledge

Advanced level: R, \LaTeX

Introductory to intermediate level: C, C++, html/css, markdown, SAS, SPSS, MATLAB, Mathematica

Personal information

Languages: French (mother tongue), English (fluent), German (introductory)

Citizenship: Canadian