

Michaël Lalancette, Ph.D.

Postdoctoral fellow – Research group on Mathematical Statistics,
Technical University of Munich

Munich, Germany | e-mail: michael.lalancette@tum.de | mic-lalancette.github.io

Education

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

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

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

- 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 | Université de Montréal 09/2012 – 05/2015

- 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 conference talks

Extreme Value Analysis 2023 | Bocconi University, Italy

Title: Adaptive learning of Hüsler–Reiss graphical models

06/2023

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| CMStatistics 2022 King's College London, UK Title: Learning extremal graphical structures in high dimensions | 12/2022 |
| ETH-UCPG-TUM Workshop Raitenhaslach, Germany Title: Learning extremal graphical structures in high dimensions | 10/2022 |
| JSM 2022 Washington, USA Title: Learning extremal graphical structures in high dimensions | 08/2022 |
| IMS 2022 London, UK Title: Learning extremal graphical structures in high dimensions | 06/2022 |
| Extreme Value Analysis 2021 University of Edinburgh, UK Title: Concentration and asymptotic normality of the empirical variogram, with application to structure learning | 07/2021 |
| SAMARI 2021 Université de Montréal, Canada Title: La théorie des valeurs extrêmes | 03/2021 |

Contributed conference talks

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| German Probability and Statistics Days 2023 Essen, Germany Title: The empirical copula process on classes of non-rectangular sets | 03/2023 |
| SSC 2022 Online Title: Learning extremal graphical structures in high dimensions | 06/2022 |
| SSC 2021 Online Title: Rank-based estimation under asymptotic dependence and independence, with applications to spatial extremes | 06/2021 |
| SGS Research Day 2021 Fields Institute, Canada Title: Rank-based estimation under asymptotic dependence and independence, with applications to spatial extremes | 04/2021 |
| Extreme Value Analysis 2019 University of Zagreb, Croatia Title: Rank-based M-estimation for tail dependence and independence | 07/2019 |
| SGS Research Day 2019 Fields Institute, Canada Title: Rank-based M-estimation for tail dependence and independence (poster presentation) | 04/2019 |
| SSC 2018 McGill University, Canada Title: Convergence of a random walk Metropolis algorithm for bimodal target distribution | 06/2018 |

Invited departmental seminars

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| Ruhr-Universität Bochum, Germany Title: Learning extremal graphical structures in high dimensions | 04/2023 |
| Université du Québec à Montréal, Canada Title: Apprentissage de modèles graphiques extrémaux en grande dimension | 03/2023 |
| Université de Montréal, Canada Title: Apprentissage de modèles graphiques extrémaux en grande dimension | 03/2023 |
| University of Geneva, Switzerland Title: Learning extremal graphical structures in high dimensions | 11/2022 |

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| Technical University of Munich, Germany Title: Estimation of bivariate and spatial tail models under asymptotic dependence and independence | 09/2022 |
| Technical University of Munich, Germany Title: The extremal graphical lasso | 11/2021 |
| Université Catholique de Louvain, Belgium Title: The extremal graphical lasso | 10/2021 |

Scholarships and awards

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| Postdoctoral Fellowship NSERC of Canada Worth: 90 000\$ | 09/2022 – 08/2024 |
| Doctoral Award Department of Statistical Sciences, University of Toronto Worth: 3 000\$ | 05/2022 |
| Arts & Science Doctoral Excellence Scholarship University of Toronto Worth: 5 000\$ | 06/2021 |
| Postgraduate Scholarship - Doctoral NSERC of Canada Worth: 42 000\$ (declined) | 09/2019 – 08/2021 |
| Probability Section Student Research Presentation Award SSC Best student presentation in probability at the 2018 SSC annual meeting. Worth: 500\$ | 06/2018 |
| Ontario Graduate Scholarships Government of Ontario Awarded four (4) times. Worth: 15 000\$ each time | 09/2017 – 08/2021 |
| Doctoral Scholarship FRQNT Worth: 60 000\$ | 09/2017 – 08/2020 |

Teaching experience

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| Instructor University of Toronto - STA247 (Probability with Computer Applications) | 05/2019 – 06/2019 |
| Teaching Assistant University of Toronto - STA447 (Stochastic Processes) - STA2111 (Graduate Probability I) - STA490 (Statistical Consultation, Communication, and Collaboration) | 09/2018 – 04/2022 |
| Instructor Université de Montréal - STT2100/STT6115 (Bayesian Decision Theory, Cross-listed graduate and undergraduate course) | 01/2017 – 04/2017 |
| Teaching Assistant Université de Montréal - 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) | 01/2015 – 12/2016 |

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
- Electronic Journal of Statistics

Evaluator for the European Laboratory for Learning and Intelligent Systems Ph.D. program

I am part of the team that evaluates applications to this prestigious, collaborative Ph.D. 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

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