

Dr. Alice Lacaze-Masmonteil

Personal Information

NATIONALITIES: Canadian and French
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PRONOUNS: She/her/hers

Education

2020 - 2024	University of Ottawa, Ottawa, ON, Canada PhD in Mathematics and Statistics Advisor: Mateja Šajna Thesis title: Certain resolvable directed cycle decompositions of directed graphs
2017 - 2019	Acadia University, Wolfville, NS, Canada Master's of Science
2012 - 2017	Acadia University, Wolfville, NS, Canada Bachelor of Pure and Applied Sciences with Honours

Academic Positions

2024 - 2026	University of Regina, Regina, SK, Canada Pacific Institute for the Mathematical Sciences- Centre national de la recherche scientifique (PIMS-CNRS) Postdoctoral Fellow Advisor: Karen Meagher
2023	Monash University, Melbourne, VIC, Australia Visiting PhD Student

Publications

Journal Articles Published

- [1] **A. Lacaze-Masmonteil**, Decompositions of the wreath product of certain directed graphs into directed hamiltonian cycles, to appear in *Ars Mathematicae Contemporanea*.
- [2] **A. Lacaze-Masmonteil**, Completing the solution of the directed Oberwolfach problem with cycles of equal length, *Journal of Combinatorial Designs*, **32** (2024), 5-30.

Journal Articles Under Review

- [3] **A. Lacaze-Masmonteil**, Hamiltonian decompositions of the wreath product of hamiltonian decomposable digraphs, submitted December 2024.

- [4] D. Horsley and **A. Lacaze-Masmonteil**, Completing the solution of the directed Oberwolfach problem with two tables, submitted August 2024.

Fellowships, Scholarships, and Prizes

All monetary values are in Canadian dollars (CAD).

- 2025 University of Ottawa Department of Mathematics and Statistics PhD Thesis Award
This prize is awarded annually to the best doctoral thesis in the department of mathematics and statistics.
- 2024-2026 PIMS-CNRS Postdoctoral Fellowship
Valued at \$30,000 per year for two years with a contribution from the University of Regina and Prof. K. Meagher of \$32,000 per year.
- 2023 University of Ottawa Department of Mathematics and Statistics Outstanding Student Paper Prize
This prize is awarded annually to the best paper published by a student.
- 2023 Peter Rodney Memorial Book Prize
Awarded to the best student talk given at the 27th Ontario Combinatorics Workshop.
- 2023 University of Ottawa Department of Mathematics and Statistics André Dabrowski Scholarship Fund
Valued at \$1,400. Awarded to a student that demonstrated qualities of leadership.
- 2023 Natural Sciences and Engineering Research Council of Canada (NSERC) Michael Smith Foreign Study Supplement
Valued at \$6,000. Awarded to fund visit to Monash University in Melbourne Australia.
- 2021-2024 NSERC Canada Graduate Scholarship - Doctoral
Valued at \$35,000 per year for a duration of three years.
- 2018 Catherine Stanley Memorial Scholarship
Awarded to a student that demonstrated excellence as a teaching assistant.
- 2017-2018 NSERC Canada Graduate Scholarship - Master's program
Valued at \$17,500 for a duration of one year
- 2016 Acadia Undergraduate Mathematics Competition: Best Paper

Mentorship

- 2025 University of Regina, Regina, SK, Canada
Undergraduate summer students mentor
Organized a bi-weekly seminar series on scientific communication skills for all undergraduate summer students in mathematics.

Presentations

Conference Presentations

- May 2025 Canadian Discrete and Algorithmic Mathematics Conference 2025, *Hamiltonian decompositions of the wreath product of directed cycles and complete symmetric digraphs*, Ottawa, ON, Canada.
- Dec. 2024 2024 Canadian Mathematical Society Winter Meeting: Scientific Session on Combinatorial Designs, *Completing the solution to the directed Oberwolfach problem with two tables*, Vancouver, BC, Canada.
- Nov. 2024 Banff International Research Station: Movement and Symmetry in Graphs Workshop, *Hamiltonian decompositions of the wreath product of two hamiltonian decomposable directed graphs*, Banff, AB, Canada.
- July 2024 Women in Combinatorics Virtual Conference, *Hamiltonian decompositions of the wreath product of two hamiltonian decomposable directed graphs*, Online.
- Dec. 2023 45th Australasian Combinatorics Conference, *On the directed Oberwolfach problem with two tables*, Perth, WA, Australia.
- June 2023 10th Slovenian Conference on Graph Theory: Combinatorial Designs and their Applications Mini Symposium, *Resolution of the directed Oberwolfach problem with cycles of uniform length*, Kranjska Gora, Slovenia.
- May 2023 2023 Canadian Mathematical Society Summer Meeting: Design Theory and Graph Decomposition Session, *Resolution of the directed Oberwolfach problem with cycles of uniform length*, Ottawa, ON, Canada.
- May 2023 27th Ontario Combinatorics Workshop, *Resolution of the directed Oberwolfach problem with cycles of uniform length*, Ottawa, ON, Canada.
- June 2022 2022 Canadian Mathematical Society Summer Meeting: Design Theory and Graph Decomposition Session, *Resolvable directed cycle decompositions of the complete symmetric digraph*, St. John's, NL, Canada.
- May 2022 26th Ontario Combinatorics Workshop, *Resolvable directed cycle decompositions of the complete symmetric digraph*, Waterloo, ON, Canada.
- May 2021 25th Ontario Combinatorics Workshop, *The game of Ambush Cops and Robbers played on chordal graphs and outerplanar graphs*, Online.

Seminars

- Apr. 2025 PIMS Postdoctoral Summit, *On the perfect matching association scheme*, Calgary, AB, Canada.
- Nov. 2024 AARMS Atlantic Graph Theory Seminar, *On the two-table case of the directed Oberwolfach problem*, Online.

- Oct. 2024 University of Lethbridge PIMS-Lethbridge Number Theory and Combinatorics Seminar, *On recent advances on the directed Oberwolfach problem*, Lethbridge, AB, Canada.
- Oct. 2024 PIMS Emergent Research: The PIMS Postdoctoral Fellow Seminar, *Adapting Häggkvist-style constructions to the directed Oberwolfach problem*, Online.
- Oct. 2023 Monash University Discrete Mathematics Seminar, *On the directed Oberwolfach problem*, Melbourne, VIC, Australia.

Teaching

University of Regina, Regina, SK, Canada

Sessional Instructor

Courses (taught in English):

MATH 221: Introduction to Proofs and Problem Solving	Fall 2025	100 students
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MATH 223: Introduction to Abstract Algebra	Winter 2025	23 students
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MATH 122: Linear Algebra 1	Fall 2024	51 students
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University of Ottawa, Ottawa, ON, Canada

Part-time Professor

Courses (taught in French):

MAT 1741: Introduction to Linear Algebra	Winter 2023	170 students
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Academic Service

Refereeing

2024	Springer Proceedings in Mathematics & Statistics
	Bulletin of the Institute of Combinatorics and its Applications

2023	Discussiones Mathematicae Graph Theory
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Conferences and workshops organization

2025	Canadian Discrete and Applied Mathematics Conference 2025
	Combinatorial Designs and Graph Decompositions Scientific Session co-organizer

2024	Women in Combinatorics Virtual Conference
	Combinatorial Designs Session co-organizer

2023	2023 Canadian Mathematical Society Summer Meeting
	Design Theory and Graph Decomposition Session co-organizer

2023	16th Ottawa Mathematics and Statistics Conference
	Lead organizer

2023	27th Ontario Combinatorics Workshop
	Co-organizer

- 2022 15th Ottawa Mathematics and Statistics Conference
Co-organizer
- 2021 14th Ottawa Mathematics and Statistics Conference
Co-organizer

Committees

- 2022-2024 Canadian Mathematical Society Student Committee
Chair
- 2022-2023 University of Ottawa Mathematics and Statistics Graduate Student Association Executive
President
- 2021-2022 Canadian Mathematical Society Student Committee
Member
- 2020-2022 University of Ottawa Mathematics and Statistics Graduate Student Association Executive
Vice-President External

Mathematics outreach

- 2025 Canadian Discrete and Applied Mathematics Conference 2025
Women in combinatorics mentorship lunch co-organizer
- 2025 Math Kangaroo Contest
Invigilator
- 2025 Pi Day at the Saskatchewan Science Centre
Presenter
- 2024 University of Regina Day - Mathematics Outreach
Presenter
- 2024 Canadian Open Mathematical Competition
Grader

Programing Languages

Intermediate: Python, R, HTML, \LaTeX .

Beginner: GAP.