

DR. ALICE LACAZE-MASMONTEIL

PIMS-CNRS Postdoctoral Fellow at the University of Regina

PERSONAL INFORMATION

NATIONALITIES: Canadian and French
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PRONOUNS: She/her

EDUCATION

University of Ottawa, Ottawa, ON, Canada 2020 - 2024
Doctorate of Philosophy
Advisor: Mateja Šajna
Thesis title: Certain resolvable directed cycle decompositions of directed graphs
Acadia University, Wolfville, NS, Canada 2017 - 2019
Master's of Science
Advisor: Nancy E. Clarke
Thesis title: Some problems on the game of Ambush Cops and Robbers
Acadia University, Wolfville, NS, Canada 2012 - 2017
Bachelor of Pure and Applied Sciences with Honours
Advisor: Nancy E. Clarke
Thesis title: Cordial labeling of some new and existing classes of graphs

PUBLICATIONS

Journal Articles Published

- [1] A. Lacaze-Masmonteil, Completing the solution of the directed Oberwolfach problem with cycles of uniform length, *Journal of Combinatorial Designs*, **32** (2024), 5-30.

Journal Articles Under Review

- [2] A. Lacaze-Masmonteil, Decompositions of the wreath product of certain directed graphs into directed hamiltonian cycles, submitted on October 2024.
- [3] D. Horsley and A. Lacaze-Masmonteil, Completing the solution of the directed Oberwolfach problem with two tables, submitted on August 2024.

PRESENTATIONS

Invited Presentations

1. *Resolution of the directed Oberwolfach problem with cycles of uniform length*, 10th Slovenian Conference on Graph Theory: Combinatorial Designs and their Applications Mini Symposium, Kranjska Gora, Slovenia June 2023
2. *Resolution of the directed Oberwolfach problem with cycles of uniform length*, 2023 Canadian Mathematical Society Summer Meeting: Design Theory and Graph Decomposition Session, Ottawa, ON, Canada June 2023
3. *Resolvable directed cycle decompositions of the complete symmetric digraph*, 2022 Canadian Mathematical Society Summer Meeting: Design Theory and Graph Decomposition Session, St. John's, NL, Canada June 2022

Contributed Presentations

4. *Adapting Häggkvist-style constructions to the directed Oberwolfach problem*, Emergent Research: The PIMS Postdoctoral Fellow Seminar, Online Oct. 2024
5. *Hamiltonian decompositions of the wreath product of two hamiltonian decomposable directed graphs*, Women in Combinatorics Virtual Conference, Online July 2024
6. *On the directed Oberwolfach problem with two tables*, 45th Australasian Combinatorics Conference, Perth, WA, Australia Dec. 2023
7. *On the directed Oberwolfach problem*, Monash University Discrete Mathematics Seminar, Melbourne, VIC, Australia Oct. 2023
8. *Resolution of the directed Oberwolfach problem with cycles of uniform length*, 27th Ontario Combinatorics Workshop, Ottawa, ON, Canada May 2023
9. *Resolvable directed cycle decompositions of the complete symmetric digraph*, 26th Ontario Combinatorics Workshop, Waterloo, ON, Canada May 2022
10. *The game of Ambush Cops and Robbers played on chordal graphs and outerplanar graphs*, 25th Ontario Combinatorics Workshop, Online May 2021
11. *The game of Ambush Cops and Robbers played on the products of graphs*, 2018 Canadian Mathematical Society Winter Meeting: Student Committee Research Session, Vancouver, BC, Canada Dec. 2018
12. *On the cordiality of various unions of complete graphs*, 12th East Coast Combinatorics Conference, Saint John, NB, Canada Jul. 2017

FELLOWSHIPS, SCHOLARSHIPS, AND PRIZES

All monetary values are in Canadian dollars (CAD).

- *Pacific Institute for the Mathematical Sciences (PIMS) - Centre National de Recherche Scientifique (CNRS) Postdoctoral Fellowship* 2024 - 2026
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.
- *University of Ottawa Department of Mathematics and Statistics André Dabrowski Scholarship Fund* 2023
Valued at \$1,400. Awarded annually to a student who has demonstrated qualities of leadership.
- *University of Ottawa Department of Mathematics and Statistics Outstanding Student Paper Prize* 2023
This prize is awarded annually by the Departmental Teaching Personnel Committee to the best paper published by a student.
- *Peter Rodney Memorial Book Prize* 2023
Awarded to the best student talk given at the 27th Ontario Combinatorics Workshop.
- *Natural Sciences and Engineering Research Council of Canada (NSERC) Michael Smith Foreign Study Supplement* 2023
Valued at \$6,000. Awarded to fund research visit to Monash University in Melbourne Australia.
- *NSERC Canada Graduate Scholarship - Doctoral* 2021 - 2024
Valued at \$35,000 per year for a duration of three years.
- *Catherine Stanley Memorial Scholarship* 2018
Valued at \$1,000. Awarded to a student that has demonstrated excellence and enthusiasm as a department teaching assistant.
- *NSERC Canada Graduate Scholarship - Master's* 2017 - 2018
Valued at \$17,500 for a duration of one year.
- *Acadia Undergraduate Mathematics Competition: Best Paper* 2016

TEACHING EXPERIENCE

University of Regina, Regina, SK, Canada Fall 2024
Sessional Instructor

Courses (taught in English): Introduction to Linear Algebra 1 (MATH 122: 55 students).

- Prepared course notes, laboratory exercises, and in-semester assessments.
- Collaborated with other instructors to draft final exam.

University of Ottawa, Ottawa, ON, Canada

Winter 2023

Part-time professor

Courses (taught in French): Introduction to Linear Algebra (MATH 1741: 170 students).

- Prepared course notes and material for directed discussion groups.
- Collaborated with other instructors to draft all course assessments.

University of Ottawa, Ottawa, ON, Canada

2020 - 2021

Teaching assistant

Courses (taught in French): Advanced Linear Algebra, Introduction to Linear Algebra, and Mathematical Reasoning and Proofs.

- Marked assignments and taught directed discussion groups.
- Tutored students at the Mathematics and Statistics Help Center.

Acadia University, Wolfville, NS, Canada

2017-2018

Laboratory Instructor

Courses (taught in English): Statistics for Life Sciences.

- Taught students how to use programming language R to implement computations and theory seen in-class.
- Assisted students in completing laboratory activity.

Acadia University, Wolfville, NS, Canada

2013 - 2018

Teaching assistant

Courses (taught in English): Introduction to Linear Algebra, Linear Algebra 2, Introductory Calculus I and II, Matrix Algebra, Introduction to Differential Equations, Applied Statistics for Life Sciences I and II, and Applied Probability for Science and Engineering.

- Marked assignments and assisted professors with facilitating directed discussion groups.
- Tutored students at the Mathematics and Statistics Help Center.

ACADEMIC SERVICE

Referee for the following journals and publications:

- *Discussiones Mathematicae Graph Theory*.
- *Bulletin of the Institute of Combinatorics and its Applications*.
- *Springer Proceedings in Mathematics & Statistics*.

Women in Combinatorics Virtual Conference

2024

Combinatorial Designs Session co-organizer

- Participated in organizational activities that included choosing and inviting speakers, and scheduling and chairing talks.

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| 2023 Canadian Mathematical Society (CMS) Summer Meeting
<i>Design Theory and Graph Decomposition Session co-organizer</i> | 2023 |
| <ul style="list-style-type: none"> • Participated in organizational activities that included choosing and inviting speakers, and scheduling and chairing talks. | |
| Canadian Mathematical Society Student Committee
<i>Chair</i> | 2022 - 2024 |
| <ul style="list-style-type: none"> • Assigned tasks and provided support and supervision to committee members. • Chaired biannual committee meetings. • Co-organized a student social event and the Student Committee Research Session at the 2023 CMS Summer Meeting. • Co-organized the AARMS-CMS Student Poster Session at the 2022 CMS Winter Meeting. • Evaluated funding applications for academic events from student groups from across Canada. | |
| University of Ottawa Mathematics and Statistics Graduate Student Association Executive
<i>President</i> | 2022 - 2023 |
| <ul style="list-style-type: none"> • Supervised a team of seven members. • Chaired monthly executive meetings. • Built a website for the association in collaboration with my VP Media and Communication. • Co-organized social and educational events for graduate students in mathematics and statistics. | |
| 16th Ottawa Mathematics and Statistics Conference Organizing Committee
<i>Chair</i> | 2022 - 2023 |
| <ul style="list-style-type: none"> • Chaired committee meetings and invited keynote speakers. • Applied for and obtained \$5,000 of funding from CANSSI, CUPE, and the University of Ottawa Faculty of Science, Office of VP Research, and Department of Mathematics and Statistics. • Assigned tasks and provided support and supervision to committee members. | |
| 27th Ontario Combinatorics Workshop Organizing Committee
<i>Member</i> | 2022 - 2023 |
| <ul style="list-style-type: none"> • Applied for and obtained \$500 of funding from the University of Ottawa department of Mathematics and Statistics. • Participated in organizational activities that included selecting keynote speakers, and scheduling and chairing talks. | |

Canadian Mathematical Society Student Committee <i>Member</i>	2021 - 2022
<ul style="list-style-type: none"> • Co-organized the Student Committee Research Session at the 2021 CMS Winter Meeting and 2022 CMS Summer Meeting. • Evaluated funding applications for academic events from student groups from across Canada. 	
14th and 15th Ottawa Mathematics and Statistics Conference Organizing Committee <i>Member</i>	2020 - 2022
<ul style="list-style-type: none"> • Participated in organizational activities that included selecting keynote speakers, scheduling and chairing talks, and advertising. 	
University of Ottawa Mathematics and Statistics Graduate Student Association Executive <i>Vice-president external</i>	2020 - 2022
<ul style="list-style-type: none"> • Represented all graduate students in mathematics and statistics on the Board of Governor of the University of Ottawa Graduate Student Association. 	
Acadia's 5th Student Research and Innovation Conference Organizing Committee <i>Member</i>	2017 - 2018
<ul style="list-style-type: none"> • Applied for and obtained funding from various departments. • Participated in organizational activities that included selecting keynote speakers, scheduling and chairing talks, and advertising. 	
Acadia Graduate Student Association Executive Committee <i>Science representative</i>	2017 - 2018
<ul style="list-style-type: none"> • Co-organized social and educational events. • Represented all graduate students from the faculty of science on the Acadia Senate Committee on Graduate Studies in matters pertaining to funding allocations, admissions, and thesis defenses. 	
Acadia Math Outreach <i>Student volunteer</i>	2016 - 2018
<ul style="list-style-type: none"> • Facilitated over 10 sessions for participants aged 10-17. Each session was designed to allow participants to explore a particular topic in mathematics. 	