

EDUCATION

PhD in Mathematics

Aug. 2025 – Present  Monash University

- Supervisors: Dr. Melissa Lee, Prof. Heiko Dietrich
- Thesis Title: *Effective Computation in Quasisimple Groups*

B.Sc. Advanced - Research (Hons.)

Mar. 2021 – Nov. 2024  Monash University

- Ext. Major in Pure Mathematics, Minor in Mathematics
- WAM 93.569, GPA 3.969, and First-Class Honours

RESEARCH PROJECTS

Research Fellowship

Jan. 2025 – Jul. 2025  Monash University

- Studied Saxl graphs and generalisations; to publish [4].

Honours Project

Mar. 2024 – Oct. 2024  Monash University

- Supervised by Dr. Melissa Lee and Prof. Heiko Dietrich.
- Resulted in the paper [2].

Undergraduate Unit

Nov. 2023 – Feb. 2024  Monash University

- Supervised by Dr. Tomasz Popiel.
- Resulted in the publication [1].

SELECTED AWARDS

Maxwell King PhD Scholarship

2026  Monash University

Awarded to one STEM PhD student at Monash each year.

Pure Mathematics Prize

2024  Monash University

For the highest-scoring pure mathematics Honours student.

Ivy May Frary Math. Sci. Honours Scholarship

2024  Monash University

For the best Math. Sci. Honours student at Monash

Gordon Preston Pure Mathematics Honours Award

2024  Monash University

For the best entering full-time pure math. Honours student.

Dean's Honours List

2022–2024  Monash University

For the top 20 students each year in the Faculty of Science.

RESEARCH INTERESTS

- Group theory (simple groups, permutation groups)
- Computational algebra

PROGRAMMING

- Significant experience in \LaTeX , Python, and Unix shell scripting.
- Familiar with HTML, CSS, and JavaScript.
- Limited experience with GAP.

PUBLICATIONS

- M. Lee and **A. Pisani**. The Saxl hypergraph of a permutation group. Preprint (2025), arXiv: 2505.13849.
- A. Pisani**. Computing the character table of a 2-local maximal subgroup of the Monster. *J. Symb. Computation* **135** (2026) 102540.
- H. Dietrich, M. Lee, **A. Pisani**, T. Popiel. Explicit construction of the maximal subgroups of the Monster. *J. Algebra* **689** (2026) 862–895.
- A. Pisani** and T. Popiel. Conjugacy class fusion from four maximal subgroups of the Monster. *J. Computational Algebra* **11** (2024) 100021.

TALKS & SEMINARS

- Dec. 2025** "The Saxl hypergraph of a permutation group" at meeting of the AustMS
- Nov. 2025** "Computing the Character Table of a 2-local Maximal Subgroup of the Monster" at the Australian Algebra Conference
- Nov. 2024** "The Maximal Subgroups of the Monster Group" at the Australian Algebra Conference
- May 2024** Presented lecture on Burnside's $p^a q^b$ Theorem (Student Presentation)
- Feb. 2024** "Computational Constructions of Some Maximal Subgroups of the Monster Group" (Student Presentation)

OTHER ACTIVITIES

- Feb. 2026** Undertook "Teaching through Tension" training from Monash Brave Conversations Project
- Nov. 2025** Marked Simon Marais Mathematics Competition papers
- Oct. 2021–4** Took part in Simon Marais mathematics competition (Top 10% 2021–2, 2024; Top 20% 2023)
- Jan. 2024** Participated in AMSI Summer School