# LUKE ELLIOTT

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## RECENT MATHS PAPERS

- de Witt, Bill, and Luke Elliott. Finite Presentability of Brin-Higman-Thompson Monoids via Free J'onsson-Tarski Algebras, 2023
- Bardyla, S., Elliott, L., Mitchell, J. D., and Peresse, Y, Topological embeddings into transformation monoids, 2023
- Elliott, L., A. Levine, and James David Mitchell. Counting monogenic monoids and inverse monoids, 2023, Accepted by Communications in Algebra
- L. Elliott, J. Jonuŝas, J. D. Mitchell, Y. Péresse, and M. Pinsker. Polish topologies on endomorphism monoids of relational structures, submitted, 2022, Published in Advances in Mathematics
- J. Belk, L. Elliott, and F. Matucci. A short proof of Rubin's theorem, submitted, 2022, Accepted by Israel Journal of Mathematics
- L. Elliott. Unindexed subshifts of finite type and their connection to automorphisms of Thompson's groups, 2021
- L. Elliott, J. Jonuŝas, Z. Mesyan, J. D. Mitchell, M. Morayne, and Y. Péresse. Automatic continuity, unique Polish topologies, and Zariski topologies on monoids and clones, 2021, Published in Transactions of the American Mathematical Society
- L. Elliott. A description of Aut(dVn) and Out(dVn) using transducers, Published in GGD
- C. Bleak, L. Elliott, and J. Hyde. Sufficient conditions for a group of homeomorphisms of the cantor set to be two-generated, 2020, Accepted by Journal of the Institute of Mathematics of Jussieu

## DEGREES

2018-2021 St Andrews – PhD Pure Mathematics
Thesis: On constructing topology from algebra
2014-2018 St Andrews – MMath Masters Degree
Thesis: Infinite Symmetric Groups

## POSITIONS OF RESPONSIBILITY

2022-Present: Writing and Grading Exams at Binghamton
2016-2022: Treasurer of St Andrew's Anime Society
2019: Organiser of St Andrews PhD student burn trip (with 4 other organisers)

## INTERESTS

Maths, Programming, Japanese, Anime, Video/Board games.

## AWARDS

St Andrews Dean's list: 2015, 2016, 2017, 2018
Scottish Maths Council "Maths Challenge" gold awards

## RECENT MATHS TALKS

- Finite presentability of Thompson monoids: Algebra seminar (Manchester) 2023
- A connection between thompsons groups and subshifts of finite type. Algebra seminar (Binghamton) 2022
- Unindexed subshifts of finite type. Analysis Seminar (Glasgow) 2022
- Removing indexing from shift spaces. Pure Postgraduate Seminar (St Andrews) 2021
- Removing indexing from shift spaces. Algebra and combinatorics seminar (St Andrews) 2021
- Automorphisms of the Brin-Thompson groups nV. Young geometric group theory X (Newcastle) 2021
- Finding topologies for semigroups. Pure Postgraduate Seminar (St Andrews) 2021
- Automorphisms of the Brin-Thompson groups nV. London Mathematical Society Virtual Graduate Student Meeting 2020
- Rubin's Theorem. St Andrews Research Day 2020
- Topological Semigroups. St Andrews Burn Trip 2020

## EMPLOYMENT HISTORY

- 2022-Present Post Doc at Binghamton New York State.
- 2022 Research Fellow, University of St Andrews, Programming (in GAP) algorithms for working with elements of the rational group of Grigorchuk, Nekrashevich, and Suschanskii as described in their paper of 2000. Also, the groups of automorphisms of the shift on n-letters (both one-sided and two-sided).
- 2018-2021 PhD Student at the University of St Andrews
- 2017 Laidlaw Undergraduate Research and Leadership Program: Writing algorithms concerning commutative semigroups supervised by Prof James Mitchell

## REFERENCES

- Prof. James Mitchell: PhD Supervisor
  Email: jdm3@st-andrews.ac.uk
- Dr. Collin Bleak: PhD Supervisor
  Email: cb211@st-andrews.ac.uk
- Prof. Matt Brin
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- Prof. Michał Morayne: Coauthor
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