LUKE ELLIOTT

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MATHS PAPERS

- L. Elliott, J. Jonušas, J. D. Mitchell, Y. Péresse, and M. Pinsker. Polish topologies on endomorphism monoids of relational structures, submitted, 2022

- J. Belk, L. Elliott, and F. Matucci. A short proof of Rubin's theorem, submitted, 2022

- L. Elliott. Unindexed subshifts of finite type and their connection to automorphisms of Thompson's groups, 2021

- L. Elliott, J. Jonušas, Z. Mesyan, J. D. Mitchell, M. Morayne, and Y. Péresse. Automatic continuity, unique Polish topologies, and Zariski topologies on monoids and clones, submitted, 2021

- L. Elliott. A description of Aut(dVn) and Out(dVn) using transducers, Accepted by GGD

- C. Bleak, L. Elliott, and J. Hyde. Sufficient conditions for a group of homeomorphisms of the cantor set to be two-generated, submitted, 2020

DEGREES

2018-2021 St Andrews – PhD Pure Mathematics
Thesis: On constructing topology from algebra
Submission date: 27/9/2021
Viva date: December 16th 2021

WORK EXPERIENCE

- 2022 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

AWARDS

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

POSITIONS OF RESPONSIBILITY

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.

MATHS TALKS (10 MOST RECENT)

- 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
- Automorphisms of nV. Pure Postgraduate Seminar (St Andrews) 2019

EDUCATION

St Andrews University – MMath (Hons) Mathematics (Fast Track):

- 2017/18, Average grade: 19.1/20.
  Topics: Semigroups, Groups, Algebraic Topology, Real Analysis.
- 2016/17, Average grade: 19.3/20
  Topics: Advanced Symbolic Computation, Graph Theory, Measure Theory, Real Analysis, Galois Theory, Groups.
- 2015/16, Average grade: 17.5/20
  Topics: Finite Maths, Real and Complex Analysis, Differential Equations, Linear Maths, Rings and Fields, Maths Programming, Number Theory, Statistical Inference, Topology.
- 2014/15, Average grade: 18.5/20
  Topics: Problem-solving, Combinatorics and Probability, Calculus, Abstract Algebra, Linear Maths, Modelling.

REFERENCES

- Dr. Collin Bleak: PhD Supervisor
  Email: cb211@st-andrews.ac.uk
- Prof. James Mitchell: PhD Supervisor
  Email: jdm3@st-andrews.ac.uk
- Prof. Michał Morayne: Coauthor
  Email: Michal.Morayne@pwr.edu.pl
- Prof. Volodymyr Nekrashevych: Viva Examiner
  Email: nekrash@math.tamu.edu