

Veronica Kelsey

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EDUCATION

- 2018 - present **PhD Mathematics** University of St Andrews
Supervisors: Prof Colva M. Roney-Dougal and Dr Martyn Quick
Research Topic: generation and base size of almost simple groups
- 2014 - 2018 **MMath Mathematics** The University of Manchester
Average: 98%
Dissertation: Mathieu groups and Chamber Graphs

PUBLICATIONS

- [1] **A Note on Involution Centralizers in Black Box Groups** - with P.J. Rowley
Journal of Group Theory, J. Group Theory 23 (2020), no. 2, 287 - 297.
- [2] **Chamber graphs of minimal parabolic sporadic geometries.** - with P.J. Rowley
Innovations in Incidence Geometry 18 no. 1 (2020), 25–37.
- [3] **Chamber Graphs of some Geometries that are Almost Buildings** - with P.J. Rowley
Innovations in Incidence Geometry, 17 (2019), no. 3, 189 - 200.
- [4] **M_{24} Orbits of Octad Triples** - with P.J. Rowley
Graphs and Combinatorics, Volume 34, (2018) Issue 6, pp 1429 - 1443.
- [5] **Generating Finite Coxeter Groups with Elements of the Same Order**
with S. Hart and P.J. Rowley. Submitted.
- [6] **Maximal Cocliques in the Generating Graphs of the Alternating and Symmetric Groups** C. Roney-Dougal. Submitted.
- [7] **A Note on the Rank 5 Polytopes of M_{24}** with R. Nicolaidis and P.J. Rowley. Submitted
- [8] **Imprimitive Maximal Cocliques in the Generating Graphs of the Alternating and Symmetric Groups** with C. Roney-Dougal. Manuscript.

AWARDS AND FUNDING

- 2021 **Research in “Pairs”, MFO Oberwolfach** A funded research visit to Mathematisches Forschungsinstitut Oberwolfach.
- 2020 **Research in “Pairs”, MFO Oberwolfach** A funded research visit to Mathematisches Forschungsinstitut Oberwolfach.
- 2020 **Groups, representations and applications: new perspectives** A funded research visit to Isaac Newton Institute
- 2018 **St Andrews PhD scholarship** Fees and a stipend for 3 years of study.
- 2018 **Outstanding Academic Achievement Award** Presented to 0.5% of the Manchester students.
- 2018 **Institute of Mathematics and its Applications Prize 2018** Final year outstanding project.
- 2018 **President’s Doctoral Scholar Award (Manchester)** As part of a PhD offer (declined).
- 2018 **Nominated for The Distinguished Achievement Award** Undergraduate of the Year.
- 2017 **Fourth Year Scholarship** Tuition fee waiver.
- 2017 **LMS Undergraduate Research Bursary** Funding for a summer research project.
- 2016 **BP achievement award 2016** For an essay on Big Data.
- 2016 **Dalton scholarship** Academic achievement in 2nd year.
- 2015 **Dalton scholarship** Academic achievement in 1st year.
- 2014 **Manchester Bursary** Academic achievement at A-level.

TALKS

- Jan 2021 **An Introduction to Group Statistics** Postgraduate Interdisciplinary Mathematics Symposium, The Burn House
- Jan 2021 **Numerical Invariants of Permutation Groups** - Birkbeck mathematics seminar
- Jan 2021 **Relational Complexity of Primitive Permutation Groups** Functor Categories for Groups meeting
- Dec 2020 **Piscopia Society Talk** aimed to raise awareness of PhD options, highlight female and non-binary role models, and provide a support network
- Oct 2020 **Base Size of Permutation Groups** North British Semigroups Network
- June 2020 **M_{24} and Octad Triples** Junior London Algebra Colloquium
- May 2020 **Maximal Subgroups and Maximal Cocliques** York Algebra Seminar
- Jan 2020 **Chamber Graphs of The Sporadic Groups** Postgraduate Interdisciplinary Mathematics Symposium, The Burn House
- Aug 2019 **Maximal Cocliques in The Generating Graph of S_n** Postgraduate Group Theory Conference, Birmingham
- May 2019 **Octad Triples** Edinburgh Mathematical Society Postgraduate Meeting, The Burn
- Apr 2019 **The Generating Graph and Maximal Cocliques** Algebra and Combinatorics Seminar, University of St Andrews
- Jan 2019 **Maximal Subgroups and Maximal Cocliques** Postgraduate Interdisciplinary Mathematics Symposium, The Burn House
- Nov 2018 **A Brief Introduction to M_{12}** Pure Postgraduate Seminar, St Andrews
- June 2018 **The Kitten, The MINIMOG and M_{12}** Pure Postgraduate Seminar, Manchester
- May 2018 **Mathieu Groups and Chamber Graphs** Masters Talk, Manchester
- Mar 2017 **Imprimitive Wreath Products** Finite Groups Study Group, Manchester

TEACHING

I have produced a number supplementary handouts which students can download from my website, veronicakelsey@github.io.

I have attended a Mental Health Training Day which provides staff with practical information on how to deal with student situations involving mental ill health.

- 2021 **Abstract Algebra** St Andrews
- 2020 **Probability and Combinatorics** St Andrews
- 2020 **Abstract Algebra** St Andrews
- 2019 **Linear Maths** St Andrews
- 2019 **Combinatorics and Probability** (cover) St Andrews
- 2019 **Abstract Algebra** St Andrews
- 2018 **Linear Algebra** Manchester
- 2017 **Foundations of pure mathematics** Manchester
- 2016 **Linear Algebra** Manchester
- 2016 **Sequences and Series** Manchester
- 2016 **Introduction to Statistics, PASS leader** Manchester
- 2015 **Probability 1** Manchester
- 2015 **Sets, Numbers and Functions** Manchester

CONFERENCES AND WORKSHOPS ATTENDED

Mar 2020 **Groups, representations and applications: new perspectives** (Invited participant)
Isaac Newton Institute
Jan 2020 **Introductory Workshop** Isaac Newton Institute
Aug 2019 **Post Graduate Group Theory Conference** Birmingham
June 2019 **EWM-EMS Summer School** Institut Mittag-Leffler
May 2019 **Edinburgh Mathematical Society Postgraduate Meeting** The Burn House
May 2019 **North British Geometric Group Theory Seminar** St Andrews
May 2019 **Groups, Generalisations and Applications** St Andrews
Jan 2019 **Workshop on Groups, Generalisations and Applications** Aberdeen
Dec 2018 **The Functor Categories for Groups on Graphs and groups** Lancaster
May 2018 **The Manchester-Birmingham-London-Bristol “Triangle”** Manchester
Sep 2017 **LMS Prospects in Mathematics Workshop** Reading

OTHER ACTIVITIES

Oct 2020 **London Marathon**
Sep 2020 **Website Building**
June 2020 **Python Core and Advanced Course**
June 2020 **Basic online first aid course**
Jan 2020 **Postgraduate Intradisciplinary Mathematics Symposium Organiser**
2019/2020 **Pure Postgraduate Seminar Convener**
May 2019 **Mental Health Training Day**
2018 - present **Mentor in Peer Mentoring scheme**
2017 - 2018 **MathSoc Seminar Convener and Topical Secretary**

REFERENCES

Prof Colva M. Roney-Dougal - PhD Supervisor
Colva.Roney-Dougal@st-andrews.ac.uk

Prof Alexandre Borovik - Dissertation Marker
alexandre.borovik@manchester.ac.uk