Veronica Kelsey ⋄ CV

veronica.kelsey@manchester.ac.uk ⋄ Office 2.125, Alan Turing Building, Manchester, M13 9PL

Work and Education

2021 - 2027	**Heilbronn Research Fellow** The University of Manchester	
2018 - 2021	**PhD Mathematics** University of St Andrews	
	Supervisors: Prof Colva M. Roney-Dougal and Dr Martyn Quick.	
	Research Topic: generation and base size of simple groups	
2014 - 2018	**MMath Mathematics** The University of Manchester	
	Average: 98%	
	Dissertation: Mathieu groups and Chamber Graphs	

Publications

[1] **The excess zero graph of a Coxeter group**
with S.B. Hart and P.J. Rowley - J. Group Theory (To appear)

[2] **Root cycles in Coxeter groups**
with S.B. Hart and P.J. Rowley - J. Group Theory (2025)

[3] **The relational complexity of linear groups acting on subspaces**
with S.D. Freedman and C.M. Roney Dougal - J. Group Theory (2025)

[4] **A note on the rank 5 polytopes of M_{24}**
with R. Nicolaides and P.J. Rowley - Innov. Incidence Geom. (2024)

[5] **On the rank 5 polytopes of the Higman-Sims simple group**
with R. Nicolaides and P.J. Rowley - Innov. Incidence Geom. (2022)

[6] **On relational complexity and base size of finite primitive groups**
with C.M. Roney-Dougal - Pacific J. Math. (2022)

[7] **Maximal cocliques in the generating graphs of alternating and symmetric groups**
with C.M. Roney-Dougal - Comb. Theory (2022)

[8] **Generating finite Coxeter groups with elements of the same order**
with S.B. Hart and P.J. Rowley - Turkish J. Math. (2021)

[9] **Chamber graphs of minimal parabolic sporadic geometries**
with P.J. Rowley Innov - Incidence Geom. (2020)

[10] **A note on involution centralizers in black box groups**
with P.J. Rowley - J. Group Theory (2020)

[11] **Chamber graphs of some geometries that are almost buildings**
with P.J. Rowley - Innov. Incidence Geom. (2019)

[12] **M_{24} orbits of octad triples**
with P.J. Rowley - Graphs Combin. (2018)

[13] **$\mathbb{P}(q)$-Groupoids of Conway Type**
with P.J. Rowley - submitted

[14] **On String C-Group Representations of Covers of the Sporadic Simple Groups**
with P.J. Rowley - manuscript

[15] **The M_{24} matroid**
with C.F. Nyberg-Brodda - manuscript

[16] **Minimal relations of relational structures**
with S.D. Freedman and C.M. Roney Dougal - manuscript

Invited visits

2025	**Korea Institute for Advanced Study visitor** Visiting scholar
2023	**CMI-HIMR Summer School in Probabilistic Group Theory** Teaching assistant
2022	**Young Group theorists workshop** Funded visit to SwissMap Research Station
2022	**MFO Research Visitor** Funded research visit in Oberwolfach
2022	**INI Research Visitor** Funded research visit at the Newton Institute, Cambridge
2020	**Research in "Pairs"** Funded research visit at Oberwolfach
2020	**INI Research Visitor** Funded research visit the Newton Institute, Cambridge

Awards and Funding

2024	**STEM for Britain finalist** Poster competition
2023-2025	**HIMR small grant** Funding for a research seminar
2023	**HIMR small research grant** Funding to host a collaborator
2023	**MIMS funding** Funding to host a collaborator
2022	**LMS Research Reboot grant** Funding to host a collaborator
2018	**St Andrews PhD scholarship** Fees and a stipend for 3 years of study
2018	**Outstanding Academic Achievement Award** Presented to 0.5% of Manchester students
2018	**IMA Prize 2018** Final year outstanding project award
2018	**Manchester President's Doctoral Scholar Award** 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

Teaching

2025	**Galois Theorem** Co-leading a level 4 course
2024-2025	**Coding Theory** Leading a 12 week course for postdocs
2023	**O'Nan Scott Theorem** Leading a reading group
2015 - 2021	**Tutorial lead** Several modules at Manchester & St Andrews

Outreach

2024	**MAP supervisor** widening participation scheme for local students
2024	**Martingale Interviewer** An initiative providing scholarships for individuals from low-socio
2023 - 2025	**LMS Levelling Up** Tutoring students from under-represented backgrounds
2023	**Women in Maths Day** Interactive workshops for GCSE and A-level students

Other Activities

British Sign Language Obtained Level 2, studying for Level 3
EDIA reading group Founded a reading group focusing on EDIA topics
Ultra running 50 mile and 50k races, started an instagram community with near 40k followers
Braille Learning level 1

References

Prof Colva M. Roney-Dougal PhD Supervisor   colva.roney-dougal@st-andrews.ac.uk
Prof Alexandre Borovik MMath Dissertation Marker   alexandre.borovik@manchester.ac.uk