

# Colin David Reid

Email: colinreid29@gmail.com  
Nationality: British  
Date of Birth: 30/11/1983  
Place of Birth: Macclesfield, UK

## Employment

09/2023 - present Friedrich Wilhelm Bessel visiting fellow, WWU Münster  
01/2018 - 08/2023 Postdoctoral research fellow, University of Newcastle Australia  
01/2015 - 12/2017 ARC DECRA Fellow, University of Newcastle Australia  
08/2012 - 12/2014 Research associate, University of Newcastle Australia  
04/2011 - 07/2012 Postdoctoral researcher, Université catholique de Louvain  
10/2010 - 03/2011 Research associate, Georg-August Universität Göttingen  
04/2010 - 09/2010 Research associate, RWTH Aachen

## Education

09/2006 - 02/2010 PhD in Mathematics  
Queen Mary, University of London (QMUL)  
Supervisor: Robert Wilson  
Thesis title: 'Finiteness properties of profinite groups'  
Award date: February 2010  
09/2005 - 06/2006 Master of Mathematics  
University of Cambridge  
09/2002 - 06/2005 BA in Mathematics  
University of Cambridge

## Research interests

Topological group theory; related dynamical systems and combinatorial structures

## Languages

English (native); German (fluent); French (intermediate)

## Refereed Journal Articles

1. (with P.-E. Caprace and T. Marquis) Growing trees from compact subgroups (2022), to appear in Groups Geom Dyn., preprint available at arXiv:2111.07066
2. Totally disconnected locally compact groups with just infinite locally normal subgroups Israel J. Math. (2023), published online 3 June 2023.
3. Decomposition of locally compact coset spaces, J. London Math. Soc. 107 (2023), no. 1, 407–440.
4. (with P.-E. Caprace and T. Marquis) Locally normal subgroups and ends of locally compact Kac–Moody groups, Münster J. Math. 15 (2022), no. 2., [https://www.uni-muenster.de/FB10/mjm/vol\\_15/mjm\\_vol\\_15\\_14.pdf](https://www.uni-muenster.de/FB10/mjm/vol_15/mjm_vol_15_14.pdf)
5. Orientation of piecewise powers of a minimal homeomorphism, J. Australian Math. Soc. 113 (2022), no. 2, 226–256.

6. (with P. R. Wesolek, with an appendix by F. Le Maître) Chief factors in Polish groups, *Math. Proc. Camb. Phil. Soc.* 173 (2022), no. 2, 239–296.
7. (with A. Garrido) Discrete locally finite full groups of Cantor set homeomorphisms, *Bull. London Math. Soc.* 53 (2021), no. 4, 1228–1248.
8. A classification of the abelian minimal closed normal subgroups of locally compact second-countable groups, *J. Group Theory* 24 (2021), no. 3, 509–531.
9. (with P.-E. Caprace and P. R. Wesolek) Approximating simple locally compact groups by their dense locally compact subgroups, *Int. Math. Res. Not.* (2021), no. 7, 5037–5110.
10. (with P. Groenhout and G. A. Willis) Topologically simple, totally disconnected, locally compact infinite matrix groups, *J. Lie Theory* 30 (2020), no. 4, 965–980.
11. Equicontinuity, orbit closures and invariant compact open sets for group actions on zero-dimensional spaces, *Groups Geom. Dyn.* 14 (2020), no. 2, 413–425.
12. Distal actions on coset spaces in totally disconnected, locally compact groups, *J. Topology and Analysis* 12 (2020), no. 2, 491–532.
13. (with P.-E. Caprace, P. H. Kropholler and P. R. Wesolek) On the residual and profinite closures of commensurated subgroups, *Math. Proc. Camb. Phil. Soc.* 169 (2020), no. 2, 411–432.
14. (with P. R. Wesolek) Homomorphisms into totally disconnected, locally compact groups with dense image, *Forum Mathematicum* 31 (2019), no. 3, 685–701.
15. (with P. R. Wesolek) Dense normal subgroups and chief factors in locally compact groups, *Proc. LMS* 116 (2018), no. 4, 760–812.
16. (with P. R. Wesolek) The essentially chief series of a compactly generated locally compact group, *Math. Ann.* 370 (2018), no. 1–2, 841–861.
17. (with P.-E. Caprace and G. A. Willis) Locally normal subgroups of totally disconnected groups. Part I: General theory, *Forum Math. Sigma* 5 (2017), e11, 76pp.
18. (with P.-E. Caprace and G. A. Willis) Locally normal subgroups of totally disconnected groups. Part II: Compactly generated simple groups, *Forum Math. Sigma* 5 (2017), e12, 89pp.
19. (with H. A. Wolgamot and M. H. Meylan) Multiply Heaving Bodies in the Time-Domain, *Symmetry and Complex Resonances, J. Fluids and Structures* 69 (2017), 232–251.
20. Dynamics of flat actions on totally disconnected, locally compact groups, *New York J. Math.* 22 (2016), 115–190.
21. The number of profinite groups with a specified Sylow subgroup, *J. Australian Math. Soc.* 99 (2015), no. 1, 108–127.
22. Endomorphisms of profinite groups, *Groups Geom. Dyn.* 8 (2014), no. 2, 553–564.
23. (with P.-E. Caprace and G. A. Willis) Limits of contraction groups and the Tits core, *J. Lie Theory* 24 (2014), 957–967.
24. Local Sylow theory of totally disconnected, locally compact groups, *J. Group Theory* 16 (2013), no. 4, 535–555.
25. The Generalised Pro-Fitting Subgroup of a Profinite Group, *Comm. Algebra* vol 41 (2013), no. 1, 294–308.
26. Inverse system characterizations of the (hereditarily) just infinite property in profinite groups, *Bull. LMS* vol 44 (2012), no. 3, 413–425.
27. On finite groups whose Sylow subgroups have a bounded number of generators, *Arch. Math* 96 (2011), no. 3, 207–214.
28. Subgroups of finite index and the just infinite property, *J. Algebra* 324 (2010), 2219–2222.
29. On the structure of just infinite profinite groups, *J. Algebra* 324 (2010), 2249–2261.

## Book chapters

1. Normal subgroup structure of totally disconnected locally compact groups, in: 2016 MATRIX Annals, Springer, 2018.
2. (with G. A. Willis) Simon Smith's construction of an uncountable family of simple totally disconnected, locally compact groups, in: New Directions in Locally Compact Groups, CUP, 2018.

## Other articles

1. (with P.-E. Caprace and G. A. Willis) Locally normal subgroups of simple locally compact groups. C. R. Acad. Sci. Paris, Ser. I, 351 Nr. 17–18 (2013), 657–661.

## Research preprints

1. Rigid stabilizers and local prosolubility for boundary-transitive actions on trees (2023), preprint available at arXiv:2301.09078
2. Multiple transitivity except for a system of imprimitivity (2022), preprint available at arXiv:2211.06848
3. A class of well-founded totally disconnected locally compact groups (2021), preprint available at arXiv:2108.02952
4. (with S. M. Smith, with an appendix by S. Tornier), Groups acting on trees with Tits' independence property (P) (2020), preprint available at arXiv:2002.11766

## Research funding and awards

- Friedrich Wilhelm Bessel Research Award, 2023 (funding: EUR 45000)
- ARC Discover Early Career Researcher Award, 2015–17 (funding: AUD 293354)

## Invited talks

- University of Bielefeld, October 2023
- Buildings 2023 in Gießen, October 2023
- University of Auckland, June 2023
- ENS de Lyon, October 2022
- Universidad Autónoma de Madrid, September 2022
- University of New South Wales, September 2021
- Totally Disconnected Locally Compact Groups via Group Actions, BIRS, August 2021
- Profinite Groups and Related Aspects, University of Lincoln, June 2021
- University of Lincoln, January 2019, September 2022
- University of Auckland, January 2018
- University of Düsseldorf, July 2017
- Polish Groups and Geometry, Casa Matemática Oaxaca, June 2017
- Permutation Groups, BIRS, November 2016
- SUNY Binghamton, November 2016
- Geometry seminar, ETH Zurich, March 2016

- Université catholique de Louvain, February 2016
- University of Sydney, May 2012, September 2015
- Oberwolfach Arbeitsgemeinschaft: Totally Disconnected Groups, October 2014
- Locally compact groups beyond Lie theory, Spa, April 2013
- Profinite Groups Meeting, RHUL, December 2010
- University of Kaiserslautern, July 2010
- TU Braunschweig, July 2010
- London Algebra Colloquium, October 2009

### **Teaching and organization experience**

- Co-supervisor for 2 PhD students, 1 Master's student and 1 undergraduate project, 2019-present
- Organizer, 'Locally compact groups acting on discrete structures', focus programme of the University of Münster, September–November 2023
- Organizer and short course lecturer, 'Locally compact groups acting on discrete structures', graduate school at the Bernoulli Center, EPFL, December 2020
- Organizer and short course lecturer, 'Winter of Disconnectedness' programme, Universities of Newcastle, Melbourne and Sydney 2016
- Lecturer, MATH1002 Foundational Studies in Mathematics (foundational course), University of Newcastle 2022
- Lecturer, MATH1001 Preparatory Studies in Mathematics (foundational course), University of Newcastle 2019
- Lecturer, MATH1220 Mathematical Discovery (Calculus), University of Newcastle 2017
- Lecturer, MATH3242 Complex Analysis, University of Newcastle 2016
- Lecturer and Course Co-Ordinator, AMSI ACE Honours Course on Topological Groups, University of Newcastle 2015
- Lecturer and Course Co-Ordinator, MATH3120 Algebra, University of Newcastle 2013-14
- Teaching assistant for 3rd semester course in Algebra (organization and running of tutorials, assignment and assessment of coursework), Georg-August University of Göttingen 2010
- Tester for computer-assisted mathematics (MAPLE) tutorial, RWTH Aachen 2010
- Summer school: The Art of Mathematics, QMUL, August 2009
- Tutoring and marking for undergraduate courses (Geometry I, Probability I, Number Theory and Mathematical Writing), QMUL, 2007-09