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Date of birth 9th March 1981
Nationality British citizen
Languages English (Native), French (Intermediate),
Portuguese (Basic), Japanese (Basic).

POSITIONS HELD

- Jul. 2009* Research Fellow
–Present Centro de Matemática da Universidade do Porto
Rua do Campo Alegre 687, 4169-007 Porto, Portugal
- ◆ This position is an FCT-funded five-year personal research fellowship, making me responsible for directing my own research in areas such as hyperbolic semigroups and automatic presentations for relational structures.
- Sep. 2008* Research Fellow
–Jun. 2009 Centro de Álgebra da Universidade de Lisboa
Av. Prof. Gama Pinto 2, 1649-003 Lisboa, Portugal
- ◆ Research within the project ‘Semigroups and Languages’, funded by FCT and PIDDAC (PTDC/MAT/69514/2006).
 - ◆ Gave a postgraduate-level short course on automatic groups and semigroups.
- Sep. 2005* Research Fellow
–Aug. 2008 School of Mathematics & Statistics, University of St Andrews
St Andrews, Fife KY16 9AJ, United Kingdom
- ◆ Worked as part of a large research team on the EPSRC-funded project ‘Critical Mass in Computational Algebra’ (EP/C523229/1).
 - ◆ Lectured the honours-level class ‘Fundamentals of Pure Mathematics’; student feedback was enthusiastically supportive, with 85% overall approval.
- Sep. 2002* Tutor & Computer laboratory demonstrator
–May 2005 School of Mathematics & Statistics, University of St Andrews
St Andrews, Fife KY16 9AJ, United Kingdom
- ◆ Tutored first-year undergraduates in using MAPLE to solve various problems related to pre-honours lecture courses.

EDUCATION

- Sep. 2002* Ph.D. in Mathematics
–Jul. 2005 University of St Andrews
St Andrews, Fife KY16 9AJ, United Kingdom
- Thesis:* *Presentations for Subsemigroups of Groups*
- Supervisors:* Prof. E.F. Robertson
Prof. N. Ruškuc
- Examiners:* Dr M. Quick (Internal)
Prof. D.F. Holt (Warwick, External)
- ◆ I won a prestigious Carnegie Doctoral Scholarship to fund my Ph.D. studies.
 - ◆ My thesis was accepted with no corrections being required.
- Sep. 1998* M.Sci. in Mathematics with First-class Honours
–Jul. 2002 University of Glasgow
Glasgow G12 8QQ, United Kingdom
- ◆ Cunninghame Prize in Mathematics; Class prizes in Mathematics in first and second year; Class prize in Computer Science in second year.
 - ◆ President of the Maclaurin Society, the University of Glasgow student society for mathematics and statistics.

MEMBERSHIP OF PROFESSIONAL SOCIETIES

- ◆ London Mathematical Society (Elected 2006)
- ◆ Edinburgh Mathematical Society (Elected 2003)

SELECTED PUBLICATIONS

- ‘Subsemigroups of virtually free groups: finite Malcev presentations and testing for freeness’
[with E. F. Robertson & N. Ruškuc] *Math. Proc. Cambridge Philos. Soc.*, 141.1 (2006), 57–66.
- ‘Subsemigroups of groups: presentations, Malcev presentations, and automatic structures’
[with E. F. Robertson & N. Ruškuc] *J. Group Theory*, 9.3 (2006), 397–426.
- ‘A group-embeddable non-automatic semigroup whose universal group is automatic’
Glasg. Math. J., 48.2 (2006), 337–342.
- ‘Cancellativity is undecidable for automatic semigroups’
Q. J. Math., 57.3 (2006), 285–295.
- ‘Malcev presentations for subsemigroups of groups — a survey’
In C. M. Campbell et al., eds, *Groups St Andrews 2005* (Vol. 1), no. 339 in *LMS Lecture Notes*, 256–268 (Cambridge University Press, 2007).
- ‘Cancellative and Malcev presentations for finite Rees index subsemigroups and extensions’
[with E. F. Robertson & N. Ruškuc] *J. Aust. Math. Soc.*, 84.1 (2008), 39–61.
- ‘Automatic presentations for cancellative semigroups’
[with G. Oliver, N. Ruškuc & R. M. Thomas] In C. Martín-Vide et al., eds, *LATA 2008*, no. 5196 in *Lecture Notes in Comp. Sci.*, 149–159 (Springer, 2008).
- ‘Malcev presentations for subsemigroups of direct products of coherent groups’
J. Pure Appl. Algebra, 213.6 (2009), 977–990.
- ‘Automaton semigroups’
Theoret. Comput. Sci., 410.47–49 (2009), 5022–5038.
- ‘Automatic presentations for semigroups’
[with G. Oliver, N. Ruškuc & R. M. Thomas] *Inform. and Comput.*, 207.11 (2009), 1156–1168.
- ‘Decision problems for finitely presented and one-relation semigroups and monoids’
[with V. Maltcev] *Internat. J. Algebra Comput.*, 19.6 (2009), 747–770.
- ‘Monoids presented by rewriting systems and automatic structures for their submonoids’
Internat. J. Algebra Comput., 19.6 (2009), 771–790.
- ‘Automatic semigroups and Bruck–Reilly extensions’
Acta Math. Hungar., 126.1–2 (2010), 1–15.
- ‘Automatic presentations and semigroup constructions’
[with G. Oliver, N. Ruškuc & R. M. Thomas] *Theory Comput. Syst.*, 47.2 (2010), 568–592.
- ‘Deus ex machina and the aesthetics of proof’
Math. Intelligencer, 32.3 (2010), 7–11.
- ‘Unary FA-presentable semigroups’
[with N. Ruškuc & R. M. Thomas] *Internat. J. Algebra Comput.*, 2012. Forthcoming.
- ‘Green index in semigroup theory: generators, presentations, and automatic structures’
[with R. Gray & N. Ruškuc] *Semigroup Forum*, Forthcoming.
- ‘Automatic structures for subsemigroups of Baumslag–Solitar semigroups’
Submitted.
- ‘Hyperbolicity of monoids presented by confluent monadic rewriting systems’
Submitted.

- ‘Markov semigroups, monoids, and groups’
[with V. Maltcev] Submitted.
- ‘Context-free rewriting systems and word-hyperbolic structures with uniqueness’
[with V. Maltcev] Submitted.
- ‘Finitely presented monoids with linear Dehn function need not have regular cross-sections’
[with V. Maltcev] Submitted.
- ‘For a few elements more: A survey of finite Rees index’
[with V. Maltcev] In preparation.
- ‘Unary FA-presentable algebraic and relational structures’
[with N. Ruškuc] In preparation.
- ‘Decision problems for word-hyperbolic monoids’
In preparation.
- ‘Notions of hyperbolicity in monoids’
In preparation.
- ‘On weak automatic presentations’
In preparation.

SELECTED SEMINARS & CONFERENCE TALKS

- ‘Malcev presentations for subsemigroups of groups’
Invited seminar: Univ. of Glasgow, 2004/10/13.
- ‘Decidability and undecidability for automatic semigroups’
Invited seminar: Edinburgh & Heriot–Watt Univ. (Joint), 2005/11/15.
- ‘Cancellative and Malcev presentations for subsemigroups and extensions’
Conference talk: Semigroup Day ’06, Heriot–Watt Univ., 2006/07/05.
- ‘Decidability for automatic semigroups’
Conference talk: Workshop on Computational Semigroup Theory, Univ. of St Andrews, 2006/09/06.
- ‘Automatic presentations for cancellative semigroups’
Conference talk: LATA 2008, Universitat Rovira i Virgili, 2008/03/18.
- ‘Automatic presentations for semigroups’
Conference talk: BMC 2008, Univ. of York, 2008/03/27.
- ‘Automaton semigroups’
Seminar: Pure Mathematics Colloquium, Univ. of St Andrews, 2008/05/29.
- ‘Malcev presentations for subsemigroups of groups’
Seminar: Centro de Álgebra da Universidade de Lisboa, 2008/10/31.
- ‘Automaton semigroups’
Invited conference talk: NBSAN, Univ. of St Andrews, 2009/04/16.
- ‘Automatic presentations and semigroups’
Invited seminar: Centro de Álgebra da Universidade de Lisboa, 2010/09/10.
- ‘Hyperbolic and word-hyperbolic semigroups’
Invited conference talk: NBSAN, Univ. of St Andrews, 2010/05/19.
- ‘Unary FA-presentable algebraic and relational structures’
Seminar: Centro de Matemática da Universidade do Porto, 2012/02/15.