University of Birmingham

Dr Simon Goodwin PhD, MMath

Senior Lecturer

School of Mathematics (/schools/mathematics/index.aspx)

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About

Simon Goodwin is a Senior Lecturer of pure mathematics in the School of Mathematics. His research interests are in representation theory and Lie theory.

School web page: **web.mat.bham.ac.uk/S.M.Goodwin (http://web.mat.bham.ac.uk/S.M.Goodwin)**

Qualifications

- PhD in Mathematics, University of Birmingham, 2005
- MMath in Mathematics, University of Oxford, 2001

Biography

Simon Goodwin completed his MMath degree at the University of Oxford in 2001. He studied for his PhD at the University of Birmingham, which was completed in 2004. After his PhD he took a one year postdoctoral research position at the University of Aarhus, before taking up a Junior Research Fellowship at the University of Oxford. Simon returned to the University of Birmingham in 2006, when he was appointed as a Birmingham Research Fellow, and is now a Senior Lecturer.

Teaching

- 2ACa Algebra 2
- 1ACb Algebra 1

Postgraduate supervision

Simon is interested in supervising PhD projects. He has a variety of projects on the structure of algebraic groups and Lie algebras, and representation theory of algebras in Lie theory.

PhD opportunities

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Research

RESEARCH THEMES
Representation theory and Lie theory:

- algebraic groups
- Lie algebras
- finite W-algebras
- finite group of Lie type

RESEARCH ACTIVITY
Recently Simon has been mainly interested in the representation theory of finite W-algebras. He is also interested in the structure of algebraic groups and finite groups of Lie type. In particular, in questions about their conjugacy classes.

Please see my publications for more information.

Publications

Selected:

Brown, J.S, Brundan, J. (2013), Goodwin, S. M., Principal W-algebras for GL(m|n), Algebra Number Theory 7 (2013), no. 8, 1849–1882.

Brown, J. S, Goodwin, S. M. (2013), Finite dimensional irreducible representations of finite W-algebras associated to even multiplicity nilpotent orbits in classical Lie algebras. Mathematische Zeitschrift 273 (2013), no. 1-2, 123–160.

Goodwin, S. M. (2011), Translation for finite W-algebras, Representation Theory 15 (2011), 307–346.

Goodwin, S. M., Röhrle, G. (2009), Rational points on generalized flag varieties and unipotent conjugacy in finite groups of Lie type, Transactions of the American Mathematical Society 361 (2009), no. 1, 177–206.

Brundan, J., Goodwin, S. M. and A Kleshchev, A. (2008), Highest weight theory for finite W-algebras, International Mathematics Research Notices (2008) Vol. 2008: article ID rnn051.

Brundan, J. and Goodwin, S. M. (2007), Good grading polytopes, Proceeding of the London Mathematical Society (3) 94 (2007), no. 1, 155–180.

Goodwin, S. M. (2006), On the conjugacy classes in maximal unipotent subgroups of simple algebraic groups, Transformation Groups 11 (2006), no. 1, 51–76.

Expertise

Mathematics

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