

School of Mathematics and Statistics

Faculty of Science, Technology, Engineering and
Mathematics



The Open
University

Mathematics Research Report

2016

Foreword

Welcome to the 2016 Mathematics Research Report, which covers the Pure, Applied, History, and Mathematics Education groups in the School of Mathematics and Statistics, in the Faculty of Science, Technology, Engineering and Mathematics, at The Open University. The Statistics group publishes its own annual report series, see <http://mathematics.open.ac.uk/research/statistics/annual-reports>.

This year has seen a number of changes. As well as cosmetic ones (from Department to School), we have bade farewell to a number of our PhD students: below are listed seven successful PhD students, which must be some sort of record for this School. While it always sorry to say goodbye, we are delighted that this year several have gone on to academic positions: David Bevan to a permanent lectureship in Strathclyde, Vassiliki Evdoridou to a postdoctoral position in Barcelona, and David Marti Pete to a Royal Society-JSPS Fellowship in Kyoto. As we say goodbye, we also welcome several new PhD students whom we hope will help to maintain the lively atmosphere that we have grown accustomed to in recent years: welcome to Argyris, Ioannis, Jay, Alison, David, Margaret and James!

Members of the School have again assisted in organising a number of conferences throughout the year. Of particular note is the inaugural “Mathematics in the Regions and Nations” conference held in Milton Keynes in October, celebrating some of the contributions to mathematical research and scholarship made by our Staff Tutors. Supported this year by the London Mathematical Society, the varied 2-day programme will hopefully become a fixture in the calendar for years to come.

Research has always been and will remain a fundamental part of the School’s activity. This is not just about advancing knowledge, but also about delivering impact (often in unexpected ways), and informing and enriching our teaching to ensure our curriculum stays current. Indeed, the existence of a vibrant research community in mathematics at The Open University underpins our success in building and maintaining a reputation as a provider of world-class teaching materials. Thus, while this report primarily covers the research activity throughout 2016, we should also recognise the many and varied synergies between our teaching and our research, as this is what defines us as a School.

Robert Brignall (Director of Research)

Membership of Mathematics Groups

Academic Staff

Barbara Allen, Senior Lecturer
Silvia Barbina, Staff Tutor
June Barrow-Green, Professor
Robert Brignall, Senior Lecturer
Katie Chicot, Staff Tutor
Sally Crighton, Staff Tutor
Martina Gibbons, Staff Tutor
Gerry Golding, Staff Tutor
Derek Goldrei, Associate Member
Uwe Grimm, Head of School
Robert Hasson, Senior Lecturer
Gerard Hayes, Lecturer
Hilary Holmes, Staff Tutor
Chris Hughes, Staff Tutor
Tim Lowe, Senior Lecturer
Sarah Mattingly, Staff Tutor
Ben Mestel, Senior Lecturer
Angie McConnell, Lecturer
Toby O'Neil, Senior Lecturer
Sue Pawley, Staff Tutor
Marc Pradas, Lecturer
Brendan Quinn, Staff Tutor
Kathleen Quinn, Senior Lecturer
Philip Rippon, Professor
Katrine Rogers, Staff Tutor
Hayley Ryder, Staff Tutor
Ian Short, Lecturer
Jozef Širáň, Professor
Gwyneth Stallard, Professor
Claudi Thomas, Staff Tutor
Andrey Umerski, Senior Lecturer
Paul Upton, Lecturer
Bridget Webb, Senior Lecturer
Charlotte Webb, Lecturer
Michael Wilkinson, Professor
Gareth Williams, Staff Tutor

Emeritus Professor

David Brannan
Jeremy Gray
Mike Grannell
Terry Griggs
John Mason
Robin Wilson

Admin staff

Sally Gallagher, Senior Manager
Sara Griffin, Secretary
Tracy Johns, School Office Team Leader

Visiting Research Staff

Michael Baake, Visiting Research Professor
David Bevan, Visiting Research Fellow
Mick Bromilow, Visiting Research Fellow
David Crowe, Visiting Research Fellow
Tony Forbes, Visiting Research Associate
Fred Holroyd, Visiting Research Fellow
John Osborne, Visiting Research Associate

Research students

Lax Chan, Full-time
Argyris Christodoulou, Full-time
Ioannis Dourekas, Full-time
Alex Durie, Part-time
Grahame Erskine, Full-time
Valentin Fadeev, Part-time
James Fraser, Full-time
John Grant, Part-time
Robert Lewis, Part-time
Christopher Lynch, Part-time
Alison Maidment, Full-time
David Marchant, Part-time
Tony Royle, Full-time
Jakub Sliacan, Full-time
Margaret Stanier, Part-time
James Tuite, Part-time
James Waterman, Full-time

Visitors

Robert Brignall	Dr Aistis Atminas, 1 July – 30 September Mr Andrew Elvey Price (University of Melbourne, Australia), 22 – 26 August Prof Nik Ruškuc (University of St Andrews), 7 – 9 September
Terry S Griggs	Prof Ales Drapal (Charles University, Czech Republic), 1 – 5 February Dr. Antoinette Tripodi (University of Messina, Italy), 22 – 29 November
Marc Pradas	Professor Hiroshi Gotoda (Tokyo University of Science), 19 – 20 September
Jozef Širáň	Prof Jan Kratochvil (Charles University, Czech Republic), 19 – 21 January Prof Jan Arne Telle (University of Bergen, Norway), 19 – 21 January

Prizes and honours

Jeremy Gray, Otto Neugebauer Prize, awarded at the 7th European Congress of Mathematics in Berlin.

Gwyneth Stallard, Suffrage Science Award, run by the Medical Research Council's Clinical Sciences Centre.

Robin Wilson, Honorary degree (Doctor of Education) from the University of Bradford.

Research degrees awarded

Rosanna Cretney, Ph.D. for her thesis *Digitising Euler: 21st Century Methods for the Study of 18th-Century Mathematics*. Supervisors: June Barrow-Green and Jeremy Gray.

Vasiliki Evdoridou, Ph.D. for her thesis *Rates of escape under iteration of analytic functions*, Supervisors: Gwyneth Stallard and Phil Rippon.

Matthew Jacques, Ph.D. for his thesis *Composition sequences and semigroups of Moebius transformations*. Supervisors: Ian Short and Phil Rippon.

Jonathan Keelan, Ph.D. for his thesis *Global energy minimisation of arterial trees with application to embolic stroke*. Supervisors: Jim Hague, Uwe Grimm and Emma Chung.

David Marti-Pete, Ph.D. for his thesis *Structural theorems for holomorphic self-maps of the punctured plane*, Supervisors: Phil Rippon and Gwyneth Stallard.

Paul Verschueren, Ph.D. for his thesis *Quasiperiodic Renormalisation Quasiperiodic sums, products and composition sum operators*. Supervisors: Ben Mestel, Robert Hasson and Andrew Osbaldestin (Portsmouth).

Mairi Walker, Ph.D. for her thesis *Continued fractions and hyperbolic geometry*. Supervisors: Ian Short and Jozef Širáň.

Publications

- Albert, Michael and **Brignall, Robert** (2016). 2×2 monotone grid classes are finitely based. *Discrete Mathematics & Theoretical Computer Science*, **18(2)**, article no. 1.
- Baake, Michael; Damanik, David and **Grimm, Uwe** (2016). WHAT IS...Aperiodic Order? *Notices of the American Mathematical Society*, **63(6)** pp. 647–650.
- Barrow-Green, June** (2016). ‘A woman can win the victory, though she may not wear the wreath’: women and mathematics in late nineteenth-century Cambridge. In *Mathematics. How it Shaped Our World* (ed. D. Rooney), Scala Arts & Heritage Publishing in association with the Science Museum, London, pp.183-186.
- Barrow-Green, June** and Siegmund-Schultze, Reinhard (2016). “The first man on the street” - tracing a famous Hilbert quote (1900) back to Gergonne (1825). *Historia Mathematica*, **43(4)** pp. 415–426.
- Benini, Anna Miriam; **Rippon, Philip J.** and **Stallard, Gwyneth M.** (2016). Permutable entire functions and multiply connected wandering domains. *Advances in Mathematics*, **287** pp. 451–462.
- Bevan, David** (2016). The permutation classes $\text{Av}(1234,2341)$ and $\text{Av}(1243,2314)$. *Australasian Journal of Combinatorics*, **64(1)** pp. 3–20.
- Bevan, David**; Levin, Derek; Nugent, Peter; Pantone, Jay; Pudwell, Lara; Riehl, Manda and Tlachac, ML (2016). Pattern avoidance in forests of binary shrubs. *Discrete Mathematics and Theoretical Computer Science*, **18(2)**, article no. 8.
- Brignall, Robert**; Lozin, Vadim V. and Stacho, Juraj (2016). Bichain graphs: geometric model and universal graphs. *Discrete Applied Mathematics*, **199** pp. 16–29.
- Buset, Dominique; El Amiri, Mourad; **Erskine, Grahame**; Miller, Mirka and Pérez-Rosés, Hebert (2016). A revised Moore bound for mixed graphs. *Discrete Mathematics*, **339(8)** pp. 2066–2069.
- Conder, Marston and **Širáň, Jozef** (2016). Orientably regular maps with given exponent group. *Bulletin of the London Mathematical Society*, **48(6)**, pp. 1013–1017.
- Conder, Marston D. E.; Hucíková, Veronika; Nedela, Roman and **Širáň, Jozef** (2016). Chiral maps of given hyperbolic type. *Bulletin of the London Mathematical Society*, **48(1)**, pp. 38–52.
- Cretney, Rosanna** (2016). Editing and reading early modern mathematical texts in the digital age. *Historia Mathematica*, **43(1)** pp. 87–97.
- Denner, Fabian; **Pradas, Marc**; Charogiannis, Alexandros; Markides, Christos N.; van Wachem, Berend G. M. and Kalliadasis, Serafim (2016). Self-similarity of solitary waves on inertia-dominated falling liquid films. *Physical Review E*, **93(3)**, article no. 033121.
- Donovan, D. M., **Griggs, T. S.**, McCourt, T. A., Oprsal, J. and Stanovsky, D. (2016). Distributive and anti-distributive Mendelsohn triple systems. *Canadian Math. Bulletin*, **59** pp. 36-49.
- Drapal, A. and **Griggs, T. S.** (2016). On cosets in Steiner loops. *Bull. Acad. Stiinte Rep. Moldova Mat.* **1(80)** pp. 118-124.
- Duncan, A. B.; Kalliadasis, S.; Pavliotis, G. A. and **Pradas, M.** (2016). Noise-induced transitions in rugged energy landscapes. *Physical Review E*, **94(3)**, article no. 032107.
- Evdoridou, V.** Fatou's web. *Proc. Amer. Math. Soc.* **144** (2016), no. 12, 5227–5240.
- Evdoridou, V.** Fast escaping points of entire functions: a new regularity condition. *Math. Proc. Cambridge Philos. Soc.* **160** (2016), no. 1, 95–106.

Publications, continued

Forbes, Tamsin and **Forbes, Tony**, Hanoi revisited, *Math. Gazette*, **100** (2016), no. 541, pp. 435–441.

Grannell, M. J. and Lovegrove, G. J. (2016). Identical twin Steiner triple systems. *The Australasian Journal of Combinatorics*, **66** pp. 130–141.

Grannell, Mike and Knor, Martin (2016). Pasch trades on the projective triple system of order 31. *Journal of Combinatorial Mathematics and Combinatorial Computing*, **96** pp. 23–32.

Griggs, T. S. and McCourt, T. A. (2016). Biembeddings of symmetric n -cycle systems. *Graphs & Combinatorics*, **32** pp. 147–160.

Griggs, T. S. and Stokes, K. (2016). On pentagonal geometries with block size 3, 4 or 5. *Springer Proc. in Math. & Stat.*, **159** pp. 147–157.

Griggs, T. S. (2016). Combinatorics of the Sonnet. *Journal of Humanistic Mathematics* **6** pp. 38–46.

Lowe, Tim; Mestel, Ben and **Williams, Gareth** (2016). Perceptions of Online Tutorials for Distance Learning *Mathematics and Computing. Research in Learning Technology*, **24**, article no. 30630.

Matthew, George; Nuttall, William J.; **Mestel, Ben**; Dooley, Laurence and Ferrão, Paulo Manuel (2016). Renewable Integration in Island Electricity Systems – A System Dynamics Assessment. *Complex Systems Design & Management Asia, Advances in Intelligent Systems and Computing*, Springer International Publishing, Switzerland, pp. 107–119.

Osborne, John; Rippon, Philip and **Stallard, Gwyneth** (2016). Connectedness properties of the set where the iterates of an entire function are unbounded. *Ergodic Theory and Dynamical Systems* (in press).

Osborne, John W. and Sixsmith, David J. (2016). On the set where the iterates of an entire function are neither escaping nor bounded. *Annales Academiae Scientiarum Fennicae Mathematica*, **41** pp. 561–578.

Osborne, John W. and D.J. Sixsmith (2016). On permutable meromorphic functions. *Aequat. Math.* **90** pp. 1025 – 1034.

Pradas, M.; Savva, N.; Benziger, J. B.; Kevrekidis, I. G. and Kalliadasis, S. (2016). Dynamics of Fattening and Thinning 2D Sessile Droplets. *Langmuir*, **32(19)** pp. 4736–4745.

Short, Ian (2016). The parabola theorem on continued fractions. *Computational Methods and Function Theory*, **16(4)** pp. 653–675.

Širáň, Jozef and Jajcay, Robert eds. (2016). Symmetries in Graphs, Maps, and Polytopes. *Springer Proceedings in Mathematics and Statistics*, **159**. Cham: Springer.

Verschueren, Paul and **Mestel, Ben** (2016). Growth of the Sudler product of sines at the golden rotation number. *Journal of Mathematical Analysis and Applications*, **433(1)** pp. 220–226.

Wilkinson, Michael (2016). Large Deviation Analysis of Rapid Onset of Rain Showers. *Physical Review Letters*, **116(1)**, article no. 018501.

Wilson, Robin, *Combinatorics: A Very Short Introduction*, Oxford University Press (April 2016)

Conference & workshop papers and posters given

- June Barrow-Green** *Mittag-Leffler and Acta Mathematica*, CIRMATH Conference, Institut Mittag-Leffler, Stockholm, June.
- “Knowledge gained by experience”*: Olaus Henrici—engineer, geometer and maker of mathematical models, Symposium on the History of Mathematics in honor of David E. Rowe, Mainz, May.
- Mittag-Leffler and Acta Mathematica*, 27th Nordic Congress of Mathematicians, Stockholm, March (plenary speaker).
- “The first man whom you meet on the street”*: tracing back a well-known quotation by Hilbert, AMS/MAA Joint Meeting, Seattle, January.
- Lax Chan** *Substitution-based sequences with absolutely continuous diffraction*, 13th International Conference on Quasicrystals ICQ13, Kathmandu, Nepal.
- Katie Chicot** *Educational innovations to support women return to STEM careers*, 3RD GENDER & STEM NETWORK CONFERENCE, Newcastle, July.
- Grahame Erskine** *Graph reconstruction from multi-vertex-deleted subgraphs*. Scottish Combinatorics Meeting 2016, Glasgow, April.
- Mixed Moore Cayley graphs*. International Workshop on Optimal Network Topologies 2016, Sanya, China, July.
- Large Cayley graphs of fixed diameter*. Distance in Graphs 2016, Ubud, Indonesia, July.
- Terry S Griggs** *Pentagonal Geometries*, Old Codger's seminar, Reading University, November.
- Uwe Grimm** *Aperiodic Order*, Classical and Quantum Integrability workshop, 11-12 March, Glasgow, UK .
- Diffraction and Dynamical Spectra in Aperiodic Order*, SIAM Conference on Mathematical Aspects of Materials Science, 8-12 May, Philadelphia, USA.
- Introduction to Aperiodic Crystals, Tilings* (2 lectures), Third International School on Aperiodic Crystals, 4-8 July, Antwerp, Belgium.
- Diffraction of binary non-Pisot inflation tilings*, 13th International Conference on Quasicrystals ICQ13, 18-23 September, Kathmandu, Nepal.
- Robert Lewis** *The degree-diameter problem for circulant graphs of degree 10 and 11*. International Workshop on Optimal Network Topologies 2016, Sanya, China, July.
- Tim Lowe** *Using STACK at the Open University*, eAssessment in the mathematical sciences, Newcastle, June (with T.J. Hunt).
- Ben Mestel** *Can price be an effective regulator of a power system? A differential-equation modelling approach*, Energy Management: Flexibility, Risk and Optimisation, ICMS, Edinburgh, June.
- Angie McConnell** *Top tasks for use in the classroom*. Association of Teachers of Mathematics annual conference, Warwick, March.

Conference & workshop papers and posters given, continued

- Sue Pawley** *Provision of online drop-in centres for students requiring additional support in mathematics, Esteem Conference, Open University, April.*
- Provision of online support for mathematical techniques, Mathematics in the Regions and Nations, Open University, October.*
- Marc Pradas** *Noise induced transitions in rugged energy landscapes, BAMC 2016, Oxford, UK, April.*
- Noise induced transitions in multiscale systems, APS-DFD Meeting, Portland, USA, November.*
- Katrine Rogers** *Optimising optical super-oscillations for sub-wavelength focussing, Mathematics in the Regions and Nations, Open University, October.*
- Ian Short** *Continued fractions, composition sequences and semigroups, European Conference on Iteration Theory, Innsbruck, Austria, September.*
- Jozef Širáň** *Regular maps on a given surface, European Congress of Mathematicians, Berlin, Germany, July.*
- Enumeration of orientably-regular maps on twisted linear fractional groups, CSASC conference Barcelona, Spain, September.*
- Large vertex-transitive (di)graphs of given degree and diameter revisited, ACCOTA conference, Mexico, November.*
- Andrey Umerski** *The Landauer method applied to the calculation of the oscillatory interlayer exchange coupling of closed systems. Joint European Magnetic Symposia, Glasgow, August.*
- New calculations of Gilbert damping in ferromagnetic transition metals. Joint European Magnetic Symposia, Glasgow, August.*
- Robin Wilson** *Euler's number theory, MAA Rocky Mountain meeting, Grand Junction, Colorado, USA, April.*
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Mathematics seminars hosted by the School

In 2016, 14.7% of our seminar speakers were women.

12 January, Myrto Manolaki (University College Dublin) *Boundary behaviour of holomorphic functions and a related result on harmonic measures*

19 January, Aurora Hernandez Machado (University of Barcelona) *Non-linear rheology of blood at the microscale*

26 January, David Sibley (Loughborough University) *Mathematical modelling of the moving contact line from the macro to the nanoscale and back*

4 February, Paul Verschueren (The Open University) *Quasiperiodic sums and products*

9 February, Bas Lemmens (University of Kent) *The Denjoy-Wolff theorem for Hilbert's metric spaces*

Mathematics seminars hosted by the School, continued

16 February, John Fry (University of Sheffield) *Modelling bubbles and crashes: applications to bitcoin and to trading*

23 February, Katie Gittins (University of Bristol) *On the heat content of open sets in R^m , $m \geq 2$*

25 February, Dirk Frettlöh (Bielefeld University) *Bi-Lipschitz equivalence and bounded distance equivalence of Delone sets*

1 March, Sarah Hart (Birkbeck College) *Product-free sets in groups*

8 March, Mark Blyth (University of East Anglia) *Solitary waves on a ferrofluid column*

12 April, Matthew Jacques (The Open University) *Semigroups of Möbius transformations*

14 April, Niccolò Guicciardini (University of Bergamo) *The Reception of Newton's Mathematical Work in 18th-Century Geneva and Lausanne*

19 April, Yang-Hui He (City University London, University of Oxford and Nankai University) *Muß es sein - Epigraph to a string quartet*

26 April, John Barton (Loughborough University) *A High-Temporal-Resolution Analysis of the UK Power System used to Determine the Optimal Amount and Mix of Energy Storage Technologies*

3 May, Chris Budd (University of Bath) *Data assimilation and large scale computing*

10 May, Ben Mestel (The Open University) *Can price be an effective regulator of a power system? A differential-equation modelling approach.*

17 May, Martin Lackner (University of Oxford) *Structure in Dichotomous Preferences*

17 May, Marie-Louise Lackner (Vienna Institute of Technology) *Parking functions generalised to trees and mappings - enumerative and asymptotic results*

31 May, Sir John Ball (Oxford University) *Interfaces and metastability in solid and liquid crystals*

14 June, Michael Whittaker (University of Glasgow) *Fractal substitution tilings and applications to noncommutative geometry*

21 June, Dimitrios Ntalampekos (University of California, Los Angeles) *Hausdorff dimension of Julia sets of semi-hyperbolic rational maps*

21 June, Rob Lewis (The Open University) *Surprising relationships between largest known circulant graphs*

21 June, Jakub Sliacan (The Open University) *Packing permutations*

21 June, Tony Royle (The Open University) *The Impact of the Women of the Technical Section of the Admiralty Air Department on the Structural Integrity of Aircraft during World War 1*

20 September, Benjamin Aymard (Imperial College London) *Emergence of vascularisation networks*

27 September, Alexandre DeZotti (University of Liverpool) *The eventual hyperbolic dimension of entire functions*

Mathematics seminars hosted by the School, continued

4 October, Gianluca Memoli (University of Sussex) *Of bubbles, sound and levitation*

18 October, Jeff Johnson (The Open University) *New dimensions for network science*

25 October, Johannes Schiffer (University of Leeds) *Modeling and control of microgrids for next-generation power systems*

1 November, Peter Yatsyshin (Imperial College London) *Statistical Mechanics of Classical Fluids: Density Functional Theory and Equilibrium and Dynamics of Wetting*

8 November, Peter Jørgensen (Newcastle University) *SL_2 -tilings, infinite triangulations, and continuous cluster categories* (report on joint work with Christine Bessenrodt and Thorsten Holm)

15 November, David Marti Pete (The Open University) *The escaping set of transcendental self-maps of the punctured plane*

22 November, Grahame Erskine (The Open University) *Product-free sets and filled groups*

12-December, Robin Wilson (The Open University) *A Century of Graph Theory*

Visits to other institutions

Silvia Barbina	Two visits to the University of Barcelona, April and November
Robert Brignall	University of St Andrews, January Dagstuhl Seminar 16071, Schloss Dagstuhl, Germany, February
Grahame Erskine	Birkbeck College, University of London, June
Terry S Griggs	Two visits to Plymouth University, February and April Charles University, Prague, November
Uwe Grimm	Two visits to Bielefeld University, Germany, April and November Chemnitz University of Technology, Germany, October
Marc Pradas	Loughborough University, UK, May University of Barcelona, Spain, May Northumbria University, Newcastle, UK, June KITP, University of Santa Barbara, USA, August
Phil Rippon	University of Barcelona, July
Jozef Širáň	University of Auckland, New Zealand, February
Gwyneth Stallard	University of Barcelona, July

Conferences/meetings organised by members of the School

Winter Combinatorics Meeting, Open University, January 2016. Organisers: **Robert Brignall**, **Kathleen Quinn**, **Bridget Webb** and **Jozef Širáň**. <http://wcm.open.ac.uk/>

Open Statistical Physics, Open University, April 2016. Organisers: **Uwe Grimm**, **Marc Pradas**, **Paul Upton** and **Michael Wilkinson**. <http://osp.open.ac.uk/>

'Mathematics emerging: A tribute to Jackie Stedall and her influence on the history of mathematics', The Queen's College, Oxford, April 2016. Organisers: **June Barrow-Green**, Peter Neumann (Oxford), Jane Wess (Edinburgh). <http://www.bshm.ac.uk/events/mathematics-emerging-tribute-jackie-stedall-and-her-influence-history-mathematics>

The Dynamics of Complex Systems: A meeting in honour of the 60th birthday of Robert MacKay FRS, University of Warwick, Coventry, May 2016. Organisers: Organisers: Claude Baesens (Warwick), Christian Beck (QMUL), **Ben Mestel**, Mark Muldoon (Manchester). <https://www2.warwick.ac.uk/fac/sci/math/research/events/2015-16/nonsymposium/dcs/>

Energy Management: Flexibility, Risk and Optimisation, ICMS, Edinburgh, June 2016. Organisers: Ben Hambly (Oxford), Pierluigi Mancarella (Manchester), **Ben Mestel**, Jovica Milanovic (Manchester), John Moriarty (WMUL), Asok Pradhan (Indian Institute of Technology Kharagpur) <http://www.icms.org.uk/workshops/energymanagement#programme>

One Day Function Theory Meeting 2016, The Open University, September 2016. Organisers: Tom Carroll, **Ian Short** and **Gwyneth Stallard**. <https://sites.google.com/site/functiontheorymeeting/>

Mathematics in the Regions and Nations: Staff Tutor Research Event, Open University, October 2016. Organisers: **Robert Brignall**, **Carol Calvert**, **Chris Hughes**, **Sue Pawley** and **Katrine Rogers**. <https://sites.google.com/site/mathsintheregions/>

Editorial roles

June Barrow-Green	Historia Mathematica (Editorial Board Member) Revue d'histoire des Mathématiques (Editorial Board Member) Philosophia Scientiæ (Editorial Board Member) BSHM Bulletin (Editorial Board Member) AMS History of Mathematics series (Editorial Board Member) Birkhäuser's Science Networks. Historical Studies series (Editorial Board Member)
Robert Brignall	Australasian Journal of Combinatorics (Managing Editor) Discrete Mathematics and Theoretical Computer Science (Guest Editor for Permutation Patterns 2015)
Ian Short	Bulletin of the Irish Mathematical Society (Editorial Board Member)
Jozef Širáň	Journal of Combinatorial Theory Series B (Editorial Board Member) Ars Mathematica Contemporanea (Editorial Board Member) Australasian Journal of Combinatorics (Editorial Board Member) Electronic Journal of Graph Theory and Applications (Editorial Board Member)
Gwyneth Stallard	Proceedings of the Edinburgh Mathematical Society (Subject Editor)

Invited seminars and talks given

- June Barrow-Green** *Pioneering Women in Mathematics*, Westonbirt School, February.
“Clebsch took notice of me”: Olaus Henrici – geometer and maker of mathematical models, University of St Andrews, February.
Tripes, tennis and tribunals: the diary of a Cambridge student 1915–1916, OU Pioneer Alumni Event, OU, October.
“Knowledge gained by Experience”: Olaus Henrici – mathematician, engineer and maker of mathematical models, University College London, October.
From Art Gallery Assistant to Professor of History of Mathematics. Launch Seminar for LSE Women in Mathematics, LSE, October.
“Knowledge gained by experience”: Olaus Henrici – engineer, geometer, and maker of mathematical models, Oxford, November.
- Robert Brignall** *Characterising structure in classes with unbounded clique-width*, St Andrews, January.
- Lax Chan** *Diffraction spectrum of a Rudin–Shapiro-like sequence*, *Transversal aspects of tilings*, Oleron, France, June.
- Terry S Griggs** *Pentagonal Geometries*, KAFKA seminar, Charles University, Prague, November.
Combinatorics of the Sonnet, KAFKA seminar, Charles University, Prague, November.
- Uwe Grimm** *Unendliche aperiodische Kristalle: Ein Widerspruch in sich?* Frankfurt, Germany, January.
Unendliche aperiodische Kristalle: Ein Widerspruch in sich? Chemnitz, Germany, October.
- Tim Lowe** *eAssessment in mathematics at the Open University*, MatRIC colloquium, University of Newcastle.
- Marc Pradas** *Complex behaviour of interfacial flows: Dynamics of fattening/thinning droplets and falling thin liquid films*, Cardiff University, UK, April.
Complex behaviour of interfacial flows, University of Barcelona, Spain, May.
Dynamics of fattening/thinning droplets and falling thin liquid films, Heriot-Watt University, Edinburgh, UK, November.
- Phil Rippon** *Walter Hayman’s influence on complex dynamics*, Imperial College, January.
Iterating the minimum modulus of a transcendental entire function, Barcelona, July.
- Katrine Rogers** *Optimising optical super-oscillations for sub-wavelength focussing*, Applied Maths Seminars, University of Southampton, November.
- Ian Short** *Continued fractions, Farey graphs and semigroups*, University of Strasbourg, France, September.

Invited seminars and talks given, continued

- Jozef Širáň** *Regular maps with a given automorphism group, and with emphasis on twisted linear groups*, invited talk at Symmetries and Covers of Discrete Objects, Queenstown, New Zealand, February.
- The degree-diameter problem for vertex-transitive and Cayley graphs*, invited talk at IWONT'16, Sanya, China, July.
- Regular maps with given automorphism group, and on a given surface*, invited talk at Algebraic Graph Theory, Pilsen, Czech Rep., October.
- Regular maps arising from twisted linear groups*, 9th 'Triangle' Meeting: Groups and Combinatorics, Birkbeck, December.
- Large graphs of given degree and diameter with high level of symmetry*, Discrete Mathematics and Theoretical Computer Science, Kalasalingam Univ., India, December.
- Gwyneth Stallard** *Fractals in complex dynamics*, LMS Undergraduate Day, Cambridge, January.
- Pits, gaps and spiders' webs*, LMS Mary Cartwright Lecture, London, February.
- Fractals in complex dynamics*, LMS Undergraduate School, Kent, July.
- Iterating the maximum modulus of a transcendental entire function*, Barcelona, July.
- The structure of the escaping set in complex dynamics*, Paris-London Analysis Seminar, Paris, December.
- Robin Wilson** *The History of Mathematics in 300 Stamps*, Banquet speech, MAA Rocky Mountain meeting, Grand Junction, Colorado, USA, April.
- Combinatorics: the mathematics that counts*, J. Sutherland Frame lecture, MAA MathFest meeting, Columbus, Ohio, USA, August.
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Grants awarded

- Robert Brignall**, Mathematics Staff Tutor Research Event, £600, London Mathematical Society Scheme 1 Grant.
- Terry S. Griggs** and Tom McCourt, Research in Pairs, £490, London Mathematical Society Scheme 4 Grant.
- Tom Carroll, **Ian Short** and **Gwyneth Stallard**, One Day Function Theory Meeting 2016, £1700, London Mathematical Society Scheme 1 Grant.
- Nick Gill and **Ian Short**, Mentoring African Researchers in Mathematics, £10 000, IMU, LMS and AMMSI.
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Other Activities

June Barrow-Green	Visiting Professor at the London School of Economics Vice-chair of the Executive Committee of the International Commission on the History of Mathematics Member of LMS Council, and Prizes Committee LMS Librarian Member of BSHM Council Member of Italian Research Assessment Review Panel
Katie Chicot	BSA Maths section committee Member of UKMT Council Holgate lecturer
Uwe Grimm	Chair, Commission on Aperiodic Crystals, International Union of Crystallography (IUCr) Member of the Committee of the Mathematical and Theoretical Physics Group, Institute of Physics (IoP)
Sue Pawley	Mathematics Masterclass Organiser, Bletchley Park series
Phil Rippon	Member of BMC Scientific Committee
Gwyneth Stallard	Member of LMS Council, Programme Committee, and Good Practice Scheme Steering Group Member of Advisory Board for the London School of Number Theory and Geometry Member of Judging Panel for L'Oréal for Women in Science Fellowships
Bridget S. Webb	Elected member of the British Combinatorial Committee
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