CURRICULUM VITAE FOR RICHARD SHARP

PERSONAL DETAILS.

Name: Richard John Sharp
Date of birth: 28 December 1965
Place of birth: London, U.K.
Nationality: British
Address: Mathematics Institute, University of Warwick, Coventry CV4 7AL
Email: R.J.Sharp@warwick.ac.uk
Telephone: +44(0)24 76528323

University Education.

1990: PhD in Mathematics, Warwick University
1988: MSc (with distinction) in Mathematics, Warwick University
1987: BSc (I Hons) in Mathematics, Imperial College, London University

Permanent Appointments.

2012-date: Professor of Mathematics, University of Warwick
2006-2012: Professor of Pure Mathematics, University of Manchester
2003-2006: Reader in Pure Mathematics, University of Manchester
1999-2003: Senior Lecturer in Pure Mathematics, University of Manchester
1995-1999: Lecturer in Pure Mathematics, University of Manchester

Temporary Appointments.

1999-2004: EPSRC Advanced Research Fellow
1994-1995: Junior Lecturer in Mathematics, Oxford University
1992-1994: Research Assistant, Queen Mary and Westfield College
1991-1992: Postdoctoral Fellow, Institut des Hautes Études Scientifiques

GRANTS.

2022: LMS Regional Meeting and Workshop, *Ergodic Theory of Group Extensions*, PI, £4,500.
2018: EPSRC, Workshop - *Thermodynamic Formalism: Ergodic Theory and Geometry*, PI, £25,483.
2017-2020: EPSRC, *Critical Exponents and Thermodynamic Formalism on Geometrically Infinite Spaces*, PI, £316,242.
2012-2015: EPSRC, *Hyperbolic Dynamics and Noncommutative Geometry*, PI, £278,322.
2008: EPSRC, Workshop - *Ergodic Theory and Geometry*, PI, £16,427.
2005-2008: EPSRC, *Pair correlations of length spectra, quantum chaos and thermodynamic formalism*, Co-I, £139,180.
1999-2004: EPSRC, *Asymptotic behaviour in hyperbolic dynamics and geometry* (Advanced Research Fellowship), PI, £222,684.
1997-1999: EPSRC, *Decay of correlations for chaotic flows*, Co-I, £66,194.
1996-2020: London Mathematical Society, *Scheme 3 Ergodic Theory Network*, PI, varying amounts per annum (£2000 in 2019-20).

PUBLICATIONS.

Research Papers.

68. Distribution in homology classes and discrete fractal dimension, preprint (with J. Everitt).

67. A non-symmetric Kesten criterion and ratio limit theorem for random walks on amenable groups, preprint (with R. Dougall).

66. Distribution of periodic orbits in the homology group of a knot complement, preprint (with S. Coles).

65. Zeta functions in higher Teichmüller theory, preprint (with M. Pollicott).

64. Helicity, linking and the distribution of null-homologous periodic orbits for Anosov flows, Nonlinearity 36, 21–58, 2023 (with S. Coles).

63. Statistics of multipliers for hyperbolic rational maps, Discrete and Continuous Dynamical Systems 42, 1225–1241, 2022 (with A. Stylianou).

62. Higher Teichmüller theory for surface groups and shifts of finite type, in "Thermodynamic Formalism" (CIRM Jean-Morlet Chair, Fall 2019), Lecture Notes in Mathematics 2290, Springer-Verlag, 2021 (with M. Pollicott).

61. Relative growth in hyperbolic groups, Monatshefte für Mathematik 195, 1–13, 2021 (with S. Cantrell).

60. A central limit theorem for periodic orbits of hyperbolic flows, Dynamical Systems 36, 142–153, 2021 (with S. Cantrell).

59. Anosov flows, growth rates on covers and group extensions of subshifts, Inventiones mathematicae 223, 445–483, 2021 (with R. Dougall).

58. Convergence of zeta functions for amenable group extensions of shifts, in "Dynamics: Topology and Numbers", Contemporary Mathematics 744, 245–257, 2020.

57. Statistics in conjugacy classes in free groups, Geometriae Dedicata 198, 57–70, 2019 (with G. Kenison).

56. Equidistribution of holonomy in homology classes for Anosov flows, Mathematische Zeitschrift 289, 1311–1323, 2018.

55. Orbit counting in conjugacy classes for free groups acting on trees, Journal of Topology and Analysis 9, 631–647, 2017 (with G. Kenison).

54. Amenability, critical exponents of subgroups and growth in covers, Mathematische Annalen 365, 1359–1377, 2016 (with R. Dougall).

53. Weil-Petersson metrics, Manhattan curves and Hausdorff dimension, Mathematische Zeitschrift 282, 1007–1016, 2016 (with M. Pollicott).

52. Conformal Markov systems, Patterson-Sullivan measure on limit sets and spectral triples, Discrete and Continuous Dynamical Systems 36, 2711–2727, 2016.

51. A Weil-Petersson type metric on spaces of metric graphs, Geometriae Dedicata 172, 229–244, 2014 (with M. Pollicott).

50. Length asymptotics in higher Teichmüller theory, Proceedings of the American Mathematical Society 142, 101–112, 2014 (with M. Pollicott).

49. Correlations of length spectra for negatively curved manifolds, Communications in Mathematical Physics 319, 515–533, 2013 (with M. Pollicott).

48. Ergodic theorems for actions of hyperbolic groups, Proceedings of the American Mathematical Society 141, 1749–1757, 2013 (with M. Pollicott).

47. Spectral triples and Gibbs measures for expanding maps on Cantor sets, Journal of Noncommutative Geometry 6, 801–817, 2012.

46. On the Hannay-Ozorio de Almeida sum formula, in "Dynamics, Games and Science" II DYNA 2008, 575–590, Springer-Verlag, 2011 (with M. Pollicott).

45. Statistics of matrix products in hyperbolic geometry, in "Dynamical Numbers: Interplay between Dynamical Systems and Number Theory", Contemporary Mathematics 532, 213–230, 2011 (with M. Pollicott).

44. Comparing length functions on free groups, in "Spectrum and Dynamics", CRM Conference Proceedings & Lecture Notes 52, 185–207, 2010.

43. Degeneracy in the length spectrum for metric graphs, Geometriae Dedicata 149, 177–188, 2010.

42. Pairs of periodic orbits with fixed homology difference, Proceedings of Edinburgh Mathematical Society 53, 799–808, 2010 (with M. Risager).

41. Distortion and entropy for automorphisms of free groups, Discrete and Continuous Dynamical Systems 22, 347–363, 2010.

40. Large deviations for intermittent maps, Nonlinearity 22, 2079–2092, 2009 (with M. Pollicott).

39. Large deviations, fluctuations and shrinking intervals, Communications in Mathematical Physics 290, 321–334, 2009 (with M. Pollicott).

38. Lengths, quasi-morphisms and statistics for free groups, in "Spectral Analysis in Geometry and Number Theory" (Dedicated to Toshikazu Sunada on the occasion of his 60th birthday), Contemporary Mathematics 484, 219–237, 2009)(with M. Horsham).

37. Periodic orbits and holonomy for hyperbolic flows, in "Geometric and Probabilistic Structures in Dynamics" (Dedicated to Misha Brin on the occasion of his 60th birthday), Contemporary Mathematics 469, 289–302, 2008 (with M. Pollicott).

36. An analogue of Artin reciprocity for closed orbits of skew products, Ergodic Theory & Dynamical Systems 28, 547–552, 2008 (with M. Pollicott). Addendum to: W. Parry and M. Pollicott, An analogue of Bauer's Theorem for closed orbits of skew products, Ergodic Theory & Dynamical Systems 28, 535–546, 2008.

35. Critical exponents for groups of isometries, Geometriae Dedicata 125, 63–74, 2007.

34. Pseudo-Anosov foliations on periodic surfaces, Topology and its Applications 154, 2365–2375, 2007 (with M. Pollicott).

33. Chebotarev-type theorems in homology classes, Proceedings of the American Mathematical Society 135, 3887–3894, 2007 (with M. Pollicott).

32. Directions and equidistribution in homology for periodic orbits, Ergodic Theory & Dynamical Systems 27, 405–415, 2007 (with D. Collier).

31. Distribution of ergodic sums for hyperbolic maps, in "Representation Theory, Dynamical Systems, and Asymptotic Combinatorics" (ed. V. Kaimanovich and A. Lodkin), American Mathematical Society, 2006 (with M. Pollicott).

30. Correlations for pairs of closed geodesics, Inventiones mathematicae 163, 1–24, 2006 (with M. Pollicott).

29. Angular self-intersections for closed geodesics on surfaces, Proceedings of the American Mathematical Society 134, 419–426, 2006 (with M. Pollicott).

28. Livsic theorems, maximizing measures and the stable norm, Dynamical Systems: An International Journal 19, 75–88, 2004 (with M. Pollicott).

27. A local limit theorem for closed geodesics and homology, Transactions of the American Mathematical Society 356, 4897–4908, 2004.

26. Uniform estimates for closed geodesics and homology on finite area hyperbolic surfaces, Mathematical Proceedings of the Cambridge Philosophical Society 137, 245–254, 2004.

25. Invariance principles for interval maps with an indifferent fixed point, Communications in Mathematical Physics 229, 337–346, 2002, (with M. Pollicott).

24. Local limit theorems for free groups, Mathematische Annalen 321, 889-904, 2001.

23. Sector estimates for Kleinian groups, Portugaliae Mathematica 58, 461–471, 2001.

22. Asymptotic expansions for closed orbits in homology classes, Geometriae Dedicata 87, 123–160, 2001, (with M. Pollicott).

21. Closed geodesics and periods of automorphic forms, Advances in Mathematics 160, 205–216, 2001.

20. Linear actions of free groups, Annales de l'Institut Fourier 51, 131–150, 2001 (with M. Pollicott).

19. Error terms for closed orbits of hyperbolic flows, Ergodic Theory & Dynamical Systems 21, 545–562, 2001 (with M. Pollicott).

18. Poincaré series and comparison theorems for variable negative curvature, in "Topology, Ergodic Theory, Real Algebraic Geometry: Rokhlin's Memorial", (ed. V. Turaev and A. Vershik), American Mathematical Society, 2001 (with M. Pollicott).

17. Error terms for growth functions on negatively curved surfaces, American Journal of Mathematics 120, 1019–1042, 1998 (with M. Pollicott).

16. Relative growth series in some hyperbolic groups, Mathematische Annalen 312, 125–132, 1998.

15. Large deviations for maps with indifferent fixed points, Nonlinearity, 11, 1173–1184, 1998 (with M. Pollicott and M. Yuri).

14. The Manhattan curve and the correlation of length spectra on hyperbolic surfaces, Mathematische Zeitschrift 228, 745–750, 1998.

13. Comparison theorems and orbit counting in hyperbolic geometry, Transactions of the American Mathematical Society 350, 473–499, 1998 (with M. Pollicott).

12. Poincaré series and zeta functions for surface group actions on $\mathbb{R}$-trees, Mathematische Zeitschrift 226, 335–347, 1997 (with M. Pollicott).

11. Growth of periodic points and rotation vectors on surfaces, Topology 36, 765–774, 1997 (with M. Pollicott).

10. The circle problem on surfaces of variable negative curvature, Monatshefte für Mathematik 123, 61–70, 1997, (with M. Pollicott).

9. Large deviations and the distribution of pre-images of rational maps, Communications in Mathematical Physics 181, 733–739, 1996) (with M. Pollicott).

8. Growth series for the commutator subgroup, Proceedings of the American Mathematical Society 124, 1329–1335, 1996 (with M. Pollicott).

7. Periodic points and rotation vectors for torus diffeomorphisms, Topology 34, 351–357, 1995.

6. Orbit counting for some discrete groups acting on simply connected manifolds with negative curvature, Inventiones mathematicae 117, 275–302, 1994 (with M. Pollicott).

5. Rates of recurrence for $\mathbb{Z}^q$ and $\mathbb{R}^q$ extensions of subshifts of finite type, Journal of the London Mathematical Society 49, 401–416, 1994 (with M. Pollicott).

4. Closed orbits in homology classes for Anosov flows, Ergodic Theory & Dynamical Systems 13, 387–408, 1993.

3. The correlation of length spectra of two hyperbolic surfaces, Communications in Mathematical Physics 153, 423–430, 1993 (with R. Schwartz).

2. Prime orbit theorems with multi-dimensional constraints for Axiom A flows, Monat. für Mathematik 114, 261–304, 1992.

1. An analogue of Mertens' theorem for closed orbits of Axiom A flows, Boletim da Sociedade Brasileira de Matemática 21, 205–229, 1991.

Surveys.

I. Gregory A. Margulis: "On Some Aspects of the Theory of Anosov Systems", With a Survey by Richard Sharp: "Periodic Orbits of Hyperbolic Flows", Springer-Verlag, Berlin, 2004. (ISBN: 3-540-40121-0)

II. The mathematical research of William Parry FRS, Ergodic Theory & Dynamical Systems 28, 321–337, 2008 (with M. Pollicott, S. Tuncel and P. Walters).

CONFERENCE TALKS & SEMINARS.

Invited Conference Lectures.

2023 Birmingham University, Conference: Aperiodic Order, Dynamics, Geometry and Numbers (plenary lecture)

Loughborough University, Recent advances in ergodic theory and dynamics (2 hours of plenary lectures)

Erwin Schrödinger Institute, Vienna, Austria, GAGTA (Geometry and Asymptotic Group Theory and Applications) 2023, Groups and Dynamics (plenary lecture)

2020 Warwick University, Workshop: Statistical aspects of geodesic flows in nonpositive curvature (plenary lecture)

Hausdorff Research Institute for Mathematics, Bonn, Germany, Conference: Transfer operators in number theory and quantum chaos (plenary lecture)

Lorentz Center, Leiden, Netherlands, Workshop: Multidimensional continued fractions and Euclidean dynamics CANCELLED DUE TO COVID PANDEMIC

UC Santiago, Chile, Conference: New Trends in Ergodic Theory CANCELLED DUE TO COVID PANDEMIC

2019 CIRM, Marseille, France, School on Thermodynamic Formalism: Modern Techniques in Smooth Ergodic Theory (plenary lecture)

Universität Bremen, Germany, School and Symposium on Dynamical Systems – Pure & Applied (plenary symposium lecture plus public lecture)

Bedlewo Conference Centre, Poland, Conference: 2020 Vision for Dynamics (plenary lecture)

Shanghai Center for Mathematical Sciences, Workshop: Topological and Probabilistic Method in Low-Dimensional Dynamics (3 hour minicourse and plenary workshop lecture)

2018 Lorentz Center, Leiden, Netherlands, Workshop on Modern Developments in Algebraic Dynamics (plenary lecture)

2017 Warwick University, Conference on Ergodic Theory, Algorithms and Rigorous Computations (plenary lecture)

Universität Bremen, Germany, Conference on Thermodynamic Formalism – Applications to Geometry and Number Theory (short talk)

2016 Erwin Schrödinger Institute, Vienna, Austria, Programme on Mixing Flows and Averaging Methods (plenary lecture)

Workshop and Conference on Statistical Properties of Nonequilibrium Dynamical Systems, South University of Science and Technology of China, Shenzhen, China (4 hour workshop minicourse and plenary conference lecture)

2015 Mathematical Sciences Research Institute, Berkeley, USA, Programme on Geometric and Arithmetic Aspects of Homogeneous Dynamics (plenary lecture).

2014 Geometry and Quantum Theory Colloquium, Woudschoten Conference Centre, Zeist, Netherlands (plenary lecture)

Workshop on Rare and Extreme Events in Dynamics and Probability, Aber Wrac'h, France (plenary lecture)

2013 Pontificia Universidad Católica de Chile, Chile, Conference on Thermodynamic Formalism (plenary lecture)

Durham University, London Mathematical Society Symposium on Graph Theory and Interactions (plenary lecture)

Centre for Quantum Geometry of Moduli Spaces, Aarhus University, Denmark, Conference on Pressure Metric and Higgs Bundles (plenary lecture)

Loughborough University, Workshop on Spectral Geometry, Chaos and Dynamics (plenary lecture)

2012 Erwin Schrödinger Institute, Vienna, Austria, Workshop on Periodic Orbits in Dynamical Systems (plenary lecture)

Uppsala University, Sweden, Conference on Modern Trends in Ergodic Theory (plenary lecture)

2011 Warwick University, Workshop on Ergodic Theory and Number Theory (plenary lecture)

Leicester University, British Mathematical Colloquium, Workshop on Dynamical Systems (invited workshop talk)

Loughborough University, Equadiff 2011, Minisymposium on Statistical properties of dynamical systems (invited minisymposium talk)

2010 Institute of Mathematics, Polish Academy of Sciences, Warsaw, Workshop on Fractals in Deterministic and Random Dynamics (plenary talk)

2009 Leicester University, Workshop on Aperiodic Order (plenary lecture)

2008 Centre de Recherches Mathématiques, Université de Montréal, Canada, Workshop on Spectrum and Dynamics (plenary lecture)

Mathematisches Forschungsinstitut Oberwolfach, Germany, Workshop on Geometric Group Theory, Hyperbolic Dynamics and Symplectic Geometry (plenary lecture)

2007 Warwick University, Workshop on Ergodic Theory: Topics Arising from the Work of William Parry, FRS (plenary lecture)

Erwin Schrödinger Institute, Vienna, Austria, Workshop on Geometric and Probabilistic Aspects of Amenability (plenary lecture)

2006 Northwestern University, Chicago, International Workshop on Global Dynamics Beyond Uniform Hyperbolicity (parallel session lecture)

Durham University, London Mathematical Society Symposium on Dynamical Systems and Statistical Mechanics (plenary lecture)

2005 Institut de Mathématiques, Université Bordeaux 1, Colloquium on Dynamical Systems and Smooth Ergodic Theory

2004 Centre de Recherches Mathématiques, Université de Montréal, Canada, Workshop on Spectral Theory and Automorphic Forms (plenary lecture)

Université de Lille, France, Conference on Analysis and Geometry on Random Structures (parallel session lecture)

2003 Gaeta, Italy, International Conference on Group Theory: Combinatorial, Geometric, and Dynamical Aspects of Infinite Groups (parallel session lecture)

Porto University, Portugal, Conference on Recent Trends in Dynamics

Warwick University, Workshop on Symbolic Dynamics and Ergodic Theory (plenary lecture)

2001 Warwick University, Special Session on Complex Dynamics and Ergodic Theory

Erwin Schrödinger Institute, Vienna, Austria, Workshop on Random Walks and Geometry (plenary lecture)

Surrey University, Workshop on Statistical Properties of Partially Hyperbolic Dynamical Systems (plenary lecture)

2000 Isaac Newton Institute, Cambridge, Programme on Ergodic Theory, Geometric Rigidity and Number Theory (plenary lecture)

Porto University, Portugal, Conference on Dynamical Systems

Isaac Newton Institute, Cambridge, Conference on Ergodic Theory, Geometric Rigidity and Number Theory (plenary lecture)

1999 Instituto Superior Tecnico, Lisbon, Portugal, Conference on Smooth Ergodic Theory

Warwick University, meeting to mark the retirement of Prof. W. Parry (plenary lecture)

American Mathematical Society Summer Research Institute on Smooth Ergodic Theory, University of Washington, USA (parallel session lecture)

Oberwolfach, Germany, Conference on Random Systems (plenary lecture)

1998 Göttingen University, Germany, (6 hours of lectures as part of EU special programme on Complex Dynamics and Fractal Geometry)

1997 Technion, Haifa, Israel, Conference on Modern Ergodic Theorems (plenary lecture)

Erwin Schrödinger Institute, Vienna, Austria, Programme on Ergodic Theory (plenary lecture)

1996 Weierstrass Institute, Berlin, Germany, Conference on Ergodic Theory and Dynamical Systems (plenary lecture)

1995 Warwick University, Conference on Ergodic Theory on Riemannian Manifolds (plenary lecture)

1994 Warwick University, Conference on Ergodic Theory and Number Theory (plenary lecture)

1993 British Mathematical Colloquium at Reading University (contributed parallel session lecture)

Durham University, LMS Symposium on Hyperbolic Geometry (plenary lecture)

Oberwolfach, Germany, Conference on Dynamical Zeta Functions (plenary lecture)

1992 Porto University, Portugal, Conference on Dynamical Systems (plenary lecture)

Mathematical Sciences Research Institute, Berkeley, USA, Conference on Symbolic Dynamics (invited parallel session lecture)

Invited Seminars.

2023 Loughborough University, One Day Ergodic Theory Meeting
QMUL, Centre for Complex Systems seminar
Manchester University, Manchester Analysis and Dynamics seminar

2022 Ohio State University, Ergodic Theory Seminar (online talk)
Exeter University, Dynamics Seminar

2020 Resistencia Dinamica (online dynamical systems seminar run from Rio de Janeiro)

2019 Porto University, Dynamical Systems Seminar
Exeter University, Dynamics Seminar
St Andrews University, Pure Mathematics Colloquium

2018 Loughborough University, Joint Dynamical Systems and Geometry Seminar
Bristol University, Ergodic Theory and Dynamical Systems Seminar

2017 Uppsala University, Dynamics, Number Theory and Automorphisms seminar
Manchester University, Dynamics and Analysis seminar

2015 University of Houston, Dynamical Systems Seminar
Rice University, Analysis Seminar
Ohio State University, Mathematics Department Colloquium
Glasgow University, Analysis Seminar
Sheffield University, Pure Mathematics Colloquium
Manchester University, Dynamical Systems Seminar

2014 Uppsala University, Geometry Seminar
Bristol University, Ergodic Theory and Dynamical Systems Seminar
Ruhr-Universität Bochum, Geometry Seminar
Imperial College, Dynamical Systems Seminar

2013 Geneva University, Groups and Geometry Seminar
Manchester University, Dynamical Systems Seminar
Leicester University, One Day Ergodic Theory Meeting

2011 Warwick University, One Day Ergodic Theory Meeting
Warwick University, Dynamical Systems Seminar

Warwick University, Mathematics Colloquium
St Andrews University, Pure Mathematics Colloquium
QMUL, Dynamical Systems and Statistical Physics Seminar
Loughborough University, East Midlands Mathematical Physics Seminar

2010 Warwick University, Dynamical Systems Seminar
Liverpool University, One Day Ergodic Theory Meeting
UCL, London Analysis Seminar

2009 Warwick University, Dynamical Systems Seminar
St Andrews University, Pure Mathematics Colloquium
Bristol University, Ergodic Theory Seminar
University of East Anglia, Pure Mathematics Seminar

2007 Warwick University, Lecture at UK Dynamical Systems Graduate School
Liverpool University, Dynamical Systems Seminar
Warwick University, Lecture at the workshop "Chaotic Properties of Dynamical Systems: Dimension Theory, Thermodynamic Formalism and Non-Uniformly Hyperbolic Dynamics"
Warwick University, Dynamical Systems Seminar

2006 Warwick University, Dynamical Systems Seminar
Leicester University, Applied Mathematics Seminar
Imperial College, Dynamical Systems Seminar
Durham University, Lecture at "Prospects in Mathematics" Meeting for final year undergraduates

2005 Warwick University, One Day Ergodic Theory Meeting
Durham University, Pure Mathematics Colloquium

2004 University of East Anglia, Pure Mathematics Seminar

2003 Cambridge University, Dynamical Systems Seminar
Queen Mary, University of London, One Day Ergodic Theory Meeting
Bristol University, Quantum Chaos Discussion Meeting

2002 Leicester University, East Midlands Mathematical Physics Seminar, workshop on Exploring Chaotic Dynamics Through Periodic Orbits
Imperial College, Dynamical Systems Seminar

2001 Warwick University, Dynamical Systems Seminar

1999 Queen Mary and Westfield College, Dynamical Systems Seminar
University of Rennes, France
Erwin Schrödinger Institute, Vienna, Austria
Liverpool University, Pure Mathematics Colloquium

1998 École Polytechnique, France
University of Rennes, France (2 talks)
Durham University, Pure Mathematics Seminar
Warwick University, Ergodic Theory Seminar

1995 Lisbon University, Portugal (2 talks)
Sheffield University, Pure Mathematics Seminar

1994 Liverpool University, Pure Mathematics Colloquium
Imperial College, London University, Pure Mathematics Seminar
Warwick University, Ergodic Theory Seminar
Manchester University, Pure Mathematics Seminar

1993 Warwick University, Ergodic Theory Seminar
University of East Anglia, Pure Mathematics Seminar
Cambridge University, Dynamical Systems Seminar

1991 Leicester University, Departmental Seminar
Warwick University, Ergodic Theory Seminar

1990 Porto University, Portugal (2 talks)

Conferences as Organizer.

2023 Workshop on Ergodic Theory of Group Extensions, Warwick University (27-30 March 2023).

2019 Workshop on Thermodynamic Formalism: Ergodic Theory and Geometry, Warwick University (22-26 July 2019).

2014 Warwick–Keio Seminar in Ergodic Theory, Warwick University (8-10 January 2014).

2013 Workshop on Limit Theorems for Dynamical Systems, Centre Interfacultaire Bernoulli, EPFL, Lausanne (3-7 June 2013).

2012 University of Warwick, Workshop on Ergodic Theory and Dynamical Systems: Perspectives and Prospects (16-20 April 2012).

2008 University of Manchester, Workshop on Ergodic Theory and Geometry (31 March - 4 April 2008).

2005 International Centre for Mathematical Sciences, Edinburgh, Workshop on Probabilistic Limit Laws for Dynamical Systems (13-17 June 2005).

TEACHING EXPERIENCE.

Courses Taught at Warwick.

Ergodic Theory (Year 4) 2013, 20124, 2015, 2016, 2017, 2018
Functional Analysis I (Year 3) 2013, 2014, 2015, 2016, 2017
Dynamical Systems (Year 4) 2019, 2020, 2021, 2022
Metric Spaces; Norms, Metrics and Topologies (Year 2) 2020, 2021, 2022, 2024
Topics in Ergodic Theory (PhD) 2023
Hyperbolic Dynamics (Year 4) 2024

Courses Taught at Manchester.

Fourier Analysis & Lebesgue Integration (Level 3, Level 4 & MSc) 2010-2012
Ergodic Theory (Level 4 & MSc) 1996-1999 & 2012
Real and Complex Analysis (Level 2) (shared with Dr M Coleman) 2006-2010
Linear Analysis (Level 3, Level 4 & MSc) 2009
Measure and Fractals (Level 3, Level 4 & MSc) 2004-2008
Modern Analysis (Level 4 & MSc) 2004-2005
Ordinary Differential Equations (Level 2) 2005-2006
Measure, Dimension and Fractals (Level 4 & MSc) 1996-1998
Linear Algebra and Differential Equations (First Year Engineering Students) 1996-1998
Final Year Projects: Chaos and Fractals; Julia and Mandlebrot Sets; Harmonic Analysis; Hyperbolic Dynamical Systems; The History and Development of Lebesgue Integration
Group-Work Project (First Year) 1999

Teaching Evaluations.

I have consistently received excellent feedback on my teaching from students and excellent evaluations from my colleagues during peer review. At Warwick, student evaluations of lecture courses is summarised by responses to three main questions evaluating the quantity of material; the suitability of the example sheets and the pacing of the lectures. In 2013-14, my Year 3 lecture course "Functional Analysis I" was given the highest grade for these three questions by 95%, 85% and 73% of the students, respectively. For 2014-15, the figures were 78%, 82% and 73%, respectively. In 2013-14, my year 4 lecture course "Ergodic Theory" was given the highest grade for all three questions by 94% of students.

Research Students.

Dongsheng Liu (PhD, Manchester, 2001)
Daniela Tataru (PhD, Manchester, 2003)
Matthew Horsham (PhD, Manchester, 2008)
David Collier (PhD, Manchester, 2008)
Murod Khamraev (MPhil, Manchester, 2008)
Aoife McMonagle (PhD, Manchester, 2013)
Simon Baker (PhD, Manchester, 2014, joint with Nikita Sidorov)
Rhiannon Dougall (PhD, Warwick, 2017 – won Warwick Science Faculty Thesis Prize)
AlJalila Al Abri (PhD, Warwick, 2017)
George Kenison (PhD, Warwick, 2017)

Stephen Cantrell (PhD, Warwick, 2020 – won Warwick Science Faculty Thesis Prize)
Solly Coles (PhD, Warwick, 2022 – won Warwick Science Faculty Thesis Prize)
Tasos Stylianou (PhD, Warwick, 2022)
James Everitt (MPhil, Warwick, 2023)
Glen Salter (PhD, current)

MSc Students (as dissertation supervisor).

Frank Kervella (MSc, Manchester, 1997)
Lana Awad (MSc, Manchester, 2006)
AlJalila Al Abri (MSc, Manchester, 2009)
Nada Al-Habib (MSc, Manchester, 2010)
Stefanie Zegowitz (MSc, Manchester, 2011)
Anthony Chiu (MSc, Manchester, 2011)
Hataw Muhammad Hasan (MSc, Manchester, 2012)
Edwin Lim (MSc, Warwick, 2014)
Tariq Osman (MSc, Warwick, 2016)
Jack Davis (MSc, Warwick, 2023)

Warwick Undergraduate Projects Supervised.

George Kenison (Year 4 Research Project, 2012-13)
Olivia Lonsdale (Year 3 Essay, 2013-14)
Hannah Martin (Year 4 Research Project, 2013-14)
James Russell (URSS & Year 4 Research Project, 2013-14)
Gary Adamson (Year 4 Research Project, 2014-15)
Stephen Cantrell (Year 4 Research Project, 2015-16)
Roseanna Ferguson (Year 4 Research Project, 2015-16)
Alex Burn (Year 4 Research Project, 2016-17)
Jonah Varney (URSS & Year 4 Research Project, 2017-18)
George Wynne (Year 4 Research Project, 2017-18)
Ciaran Crawford (URSS, summer 2018)
Ben Beardsley (Year 4 Research Project, 2019-20)
Michael Farmer (Year 4 Research Project, 2019-20)
Beth Evans (Year 4 Research Project, 2020-21)
Elliot Barnes (Year 4 Research Project, 2021-22)
Erik Palushi (Year 4 Research Project, 2023-24)
Jake Phillips (Year 4 Research Project, 2023-24)
Junde Zhou (Year 4 Research Project, 2023-24)

ADMINISTRATION AND SERVICE.

Administrative Duties.

At the University of Warwick
Senior Tutor (2019–2022)
Examinations Secretary (2013–2018)
Ergodic Theory & Dynamical Systems seminar organiser (2012–2014)

At the University of Manchester:
Head of Pure Mathematics Group (2010–2012)
Deputy Director of the Manchester Institute for Mathematical Sciences (2006–2010)
Chair of the School of Mathematics Board (2006–2009)
Chair of UG & PG Staff Student Liaison Committees (2006–2009)
Pure Mathematics Postgraduate Programme Director & Admissions Tutor (1997–1999)
Member of the School of Mathematics Promotions Committee (2005–2008)
Secretary of Mathematics Department Research Committee (1998–1999)
Dynamical Systems Seminar Organizer (1995–1999 & 2003–2007)

Editorial Duties.

Ergodic Theory & Dynamical Systems (published by Cambridge University Press), Managing Editor 2013–2022, Editorial Board member 2023–

External Examining and Reviewing.

External examiner for the Undergraduate Mathematics Programme at the University of St Andrews (2018–2023).
External examiner for the Undergraduate Mathematics Programme at the University of Sheffield (2008–2012).
External examiner for the MSc in Mathematics at QMUL (2012–2014).
Member of the EPSRC Peer Review College 2000–date (renewed in 2016).
Pre-REF external assessor, Pure Mathematics, University of East Anglia (2012).
Pre-REF external assessor, Dynamical Systems, QMUL (2013).
External member of appointments committee (Lecturer/Reader) at Durham University (2012).
External assessor (by written report) for W2-Professorship at University of Bremen (2016).
External examiner for numerous PhD theses: Walkden (Warwick, 1997), Stangoe (UEA, 2004), Iommi (Warwick, 2004), Maia (Warwick, 2008), Thompson (Warwick, 2009) Douma (Durham, 2010), Ferguson (Warwick, 2011), Mijovic (St Andrews, 2016).

Membership of Professional Bodies.

Member of the London Mathematical Society 1991–.
Member of the American Mathematical Society 1992–.

Support for the Profession.

I regularly referee papers for various international journals (including American Journal of Mathematics, Duke Mathematical Journal, Ergodic Theory & Dynamical Systems, IMRN, Inventiones Mathematicae, Nonlinearity and Transactions of the American Mathematical

Society), and research grant applications and fellowship applications for EPSRC, the Royal Society, the Leverhulme Trust and various oversea funding bodies.