Curriculum Vitae

Robert Sinclair MacKay

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Personal details

Name:	Robert Sinclair MACKAY
Born:	4 July 1956, Carshalton, Surrey, England
Nationality:	British
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Marital Status:	Married, 1 son (born 19.3.02)
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Education and Qualifications

1967–74:	Newcastle High School, Newcastle-under-Lyme, Staffordshire, England.
1974–78:	Trinity College, Cambridge University: June 1977, BA (Hons) in Mathematics (Class 1) (& MA, June 1981); June 1978, Part III Mathematics (Distinction) (& MMath, Apr 2011).
1978–82:	Plasma Physics Laboratory, Princeton University: 22 October 1982, PhD in Astrophysical Sciences, "Renormalisation in Area-Preserving Maps", advisors: J M Greene and M D Kruskal.
Mar 94:	Qualified for the functions of Professeur in the Universities of France in sections 25 (Mathematics), 26 (Applied Mathematics) and 29 (Theoretical Physics).

Employment

Oct 82–Aug 83:	Postdoctoral Research Assistant to Prof IC Percival, Applied Mathematics, Queen Mary College, London.
Sept 83–Mar 84:	Professeur Invité, Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette, France.
Apr 84–Sept 95:	"New Blood" Lecturer in Mathematics, University of Warwick. Promoted to Lecturer grade B Oct 88, Reader Oct 90 & Professor Oct 93.
Oct 94–Sept 95:	On leave as Chercheur Associé au CNRS (6 months) & Professeur Invité (6 months), Laboratoire de Topologie & Centre de Dynamique des Systèmes Complexes, Université de Bourgogne, Dijon, France.
Oct 95–Feb 00:	Professor of Nonlinear Dynamics, Department of Applied Mathematics and Theoretical Physics, University of Cambridge.
Mar 00–:	Professor and Director of Mathematical Interdisciplinary Research, Mathematics Institute, University of Warwick, Coventry

Prizes, Awards and Honours

Oct 74	Entrance scholar, Trinity College, Cambridge.
Oct 76	Senior scholar, Trinity College, Cambridge.
June 77	Yeats Prize, Trinity College, Cambridge.
June 78	Tyson Medal, University of Cambridge.
Sept 78–May 79	Fulbright Hayes scholar (Princeton).
Oct 92–Sept 93	Nuffield Foundation Science Research Fellow.
7 Sept 93	First Stephanos Pnevmatikos International Award for research in Nonlinear Phenomena.
20 May 94	Junior Whitehead Prize, London Mathematical Society.
Dec 95–Feb 00	Fellow of Trinity College, Cambridge.
11 May 00	Elected a Fellow of the Royal Society of London.
Sept 00	Elected a Fellow of the Institute of Physics.
14 Apr 03	Elected a Fellow of the Institute of Mathematics and its Applications (UK)
Jan–Jun 06	Professeur invité, IHES, Bures-sur-Yvette, France
4 Jan 08	Entered ISI Highly cited list under Mathematics
Oct 10 – Sep 11	Professeur visiteur, Dépt de Physique, Université Libre de Bruxelles, Belgium
Jan 12 – Dec 13	President of the Institute of Mathematics and its Applications (IMA)
Mar–Apr 12	Ordway Distinguished visitor, Mathematics dept, University Minnesota, USA
May 12 - Apr 17	Royal Society Wolfson Research Merit Award
Mar 14	Renowned Fellow, EPSRC Recognising Influential Scientists and Engineers
Jul 15	Senior Whitehead prize, London Mathematical Society
Oct 17 - Sep 21	Turing fellow, Alan Turing Institute

Positions of Responsibility

Deputy director Nonlinear Systems Laboratory, University of Warwick, Oct 86 – Sept 95, incl:

- Its creation (October 1986);
- Hosting twelve postdoctoral fellows (see list) and many visitors
- Organisation of the following events:
  Quasiperiodic orbits for Hamiltonian systems, Feb–Apr 1987 (organiser);
  Renormalisation in Dynamical Systems, May–July 1987 (co-organiser);
  Symposium on Strange Attractors, Dec 1987–Aug 1988 (co-organiser);
  LMS Nonlinearity meetings, March 1988, 1989 (co-organiser);
  Braid types of periodic orbits for surface homeomorphisms, July 1989 (organiser);
  Water waves, July 1990 (organiser);
  Mathematics and Industry, Sept 1990 (co-organiser);
  Renormalisation of dynamical systems, 23 Mar–7 Apr 1992 (co-organiser);
  Electron-phonon workshop, 5–16 Sept 1994 (co-organiser).

Director Nonlinear Centre, Faculty of Mathematics, Univ of Cambridge, Oct 95–Feb 00, incl:

- Setting it up (Oct 95)
- Hosting postdoctoral research fellows and visiting researchers (see lists)
- Computational dynamics year 96/97, in collaboration with Numerical Analysis group
- Running TUXEDO (The UK Spatially Extended Dynamics Organisation), Oct 96–Dec 00, including meeting on 24 Sept 97 at Cambridge
- Advising King's College Research Centre on a programme on Spatially extended dynamics, Oct 1998 – Sept 2002.

Director of Mathematical Interdisciplinary Research at Warwick (MIR@W), Mar 2000–, including

- Soliciting and overseeing MIR@W day workshops, from Mar 00 – Jun 10, and from Jul 19 onwards, about 10 per year
- Chairing the MIR@W committee, overseeing the graduate degrees in Interdisciplinary Mathematics, soliciting proposals for a centre for interdisciplinary mathematics (Jan–Mar 02) (led to Warwick Systems Biology Centre)
- Director of MIR@W graduate studies, Aug–Dec 01, Aug–Dec 02 and Oct 06 - Sep 07
- Coordinator of LOCNET: an EC Research & Training Network, Mar 00 – Feb 04
- Organiser, Spatially extended dynamics days, Warwick, 15 May and 4 Dec 00
- Co-organiser, Singularities in Fluids workshop, 20–23 Oct 00
- Co-organiser, Evolutionary epidemiology of strain structure workshop, 15–16 Jan 01
- Co-organiser and BAMC chair for the joint BMC/BAMC, Warwick, 7–12 Apr 02
- Main organiser, Energy localisation and transfer, 17 Feb 03
- Co-organiser, ESRC Socio-Dynamics seminar series 2003-5, including: Socio-dynamics workshop, Warwick rooms in London, 24–25 May 04; Complexity in Social Dynamics, 24 Jan 05; and conference Socio-dynamics, Networks & Markets, Warwick in London, 9–11 May 05
- Co-organiser, Symposium on Mathematics of Quantum Systems, Warwick, Aug 04 – Apr 05, including workshop on Quantum Lattice Models, 16–17 Mar 05
- Main organiser, From Nonlinear dynamics to Systems biology, 1–2 Dec 08
- Advisory board, Centre for Research in Economic Theory & Applications, Warwick, Mar 09–
- Co-organiser, Towards new dynamic models for better economic policy, 26 Oct 09
- Co-organiser, Mathematics of evolutionary dynamics, 1 Feb 10
- Co-organiser, Control of complex systems, 6 Feb 12
- Co-organiser, Mathematics of big data, 11 Mar 13
- Organiser, Distances between probability distributions, 24 Feb 14
- Coordinator, Expression of interest in Leverhulme doctoral scholarships, Apr 17
- Led response to call for evidence on Knowledge exchange in Mathematical Sciences, Aug 17
- Organiser of European Study Groups with Industry, 4–8 Sept 17
- Organiser, Mathematics and physics far from equilibrium, 25 Nov 17
- Co-organiser, Nonlinear Systems Today, 3 Dec 18
- Co-organiser, Plasmas in Magnetic Fields, 4 Mar 19
- Organiser, Detection of modes of oscillation, 13 Jan 20
- Co-organiser, Large-scale production networks, 27 Jan 20
- Co-organiser, The three-body problem, 2 Mar 20
- Co-organiser, Ergodicity (online), 18 May 20
- Co-organiser, Oxford-Warwick-Edinburgh Network Science (online), 15 Feb 21
- Co-organiser, Ship capsize (online), 10 May 21

Chair of the Warwick Complexity Complex, Oct 05–Apr 11, **Director** of the Centre for Complexity Science, Nov 07–Sep 15, and continuing involvement, including:

- Setting up the Complexity Complex Oct 2005
- Organising annual strategy meeting Jan 2007-11 & 2014
- Co-organiser, EPSRC training school and IMA conference on Mathematics in the Science of Complex Systems, Warwick, 11–15 & 18–21 Sep 2006
- Organiser, Connection day for the complexity complex, 22 Sept 06

- Coordinating successful bid for doctoral training centre in Complexity Science (started Oct 06, first students Sep 07), hiring 6 new staff for it, attending fortnightly staff meetings, assisting student recruitment and miniprojects, organising annual advisory board meeting, overseeing
- Organiser, half-day workshop on Complexity Science at Warwick, 23 Oct 06
- Organiser, Complexity Science Forum (seminar series), Oct 06 – Feb 07
- Creation of the Centre for Complexity Science, Nov 07
- Co-organiser, EPSRC school, Maths of Evolutionary Dynamics, Warwick, 11–13 Dec 07
- Fostering collaborative exploration of Complexity & Public Policy (including health care delivery) with Boston University (meetings Torino, 9–10 Feb 07 and Warwick, 27–29 Jul 09), and organising short course by E.Kolaczyk from BU, 10–11 May 11.
- Coordinating successful bid for and running EPSRC Mathematics Symposium year 09/10 and follow-up year 10/11 on "The Mathematics of complexity science and systems biology", including main organiser of workshop on "Space-time phases in spatially extended systems", 6–8 Jan 2010, and co-organiser of "Mathematics in the Science of Complex Systems" 9–10 June 2011, "From Chaos to Complexity" 6–8 July 2011;
- Local organising committee, European Conf. on Complex Systems, Warwick, 21–25 Sep 09
- Coordinating successful bid to LMS for a network on Complex System Dynamics (CoSyDy), hosting first meeting at Warwick, 1 Feb 2010, and renewals for 10/11 and 11/12.
- Coordinator of a bid for an Erasmus Mundus Joint Doctorate on Technological and Social Complex Systems, submitted 28 Apr 11 and 29 Apr 12, failed.
- Director of the Complexity Science DTC from 26 Apr 2011–Sep 15.
- Coordinator of Erasmus Mundus Masters Course "Complex Systems Science" from June 11
- Co-organiser of School and Workshop on Control and Games, 7-10 May 2013.
- Leading successful bid for MathSys CDT, 2013; Director of MathSys Nov 2013–Aug 2016 (on leave 2015/6); steering group thereafter
- Co-organiser of School & Workshop on Dynamic Games & Optimisation, 29 Apr - 2 May 14
- Co-organiser, Complex Systems Meeting with Université Paris-Seine and VUB, 8–9 Oct 18

President of the Institute of Mathematics and its Applications, Jan 12–Dec 13, including

- Chairing Executive Board five times a year and Council three times a year
- Chairing Annual Conference (March 2012,13) and Research Conference 8 Jan 2014
- Representing the IMA on the Council for the Mathematical Sciences
- Editing an issue of Mathematics Today on Mathematics for Planet Earth (Feb 2013)
- Responding to various consultations
- Touring the regional branches, giving Presidential Address
- Co-organising session on Mathematics in a changing world at Festival of Maths, 4 July 2014
- Contributing to the preparation of a report on The Mathematical Sciences People Pipeline (Council for the Mathematical Sciences, Oct 2015)

Editorial Boards:
Physica D, May 1986–June 1992;
Nonlinearity, Feb 1987–Dec 1997; Honorary Editor (ie co-Chief) Jan 1993–Dec 1997;
Editor-in-charge of Advanced book series on Nonlinear Dynamics, World Scientific Publ. Co., created in 1989; 26 books published so far.
Ann IHP Physique Théorique, Jan 1997–Dec 1999.
Qualitative Theory of Dynamical Systems, Jun 1999–present.
Int J Nonlinear Sciences & Numerical Simulation, one of 3 founding chief editors, Jan 00–Dec 03.
J Nonlinear Science, Jan 2001 – Mar 2014
Proc Roy Soc Lond A, Jan 2009–Dec 2014

Palestine Journal of Mathematics, Nov 2009–
Communications in Nonlinear Science & Numerical Simulation, 1 of 3 chief editors, Feb 10–Mar 11
Journal of Dynamics and Games, Feb 2012–
Transactions in Mathematics and its Applications, a founding senior editor, Jan 15–
Roy Soc Open Science, Aug 16–Dec 22

Contribution to Organisation of other Meetings:
Organising committee, Dynamics Days, Dusseldorf, June 1987, 88, 89, 90; Berlin, June 1991.
Organiser, Greene Fest: a workshop on Hamiltonian dynamics, La Jolla CA, 15–17 Sept 1988.
Local organising committee, Math Study Groups with Industry, Birmingham, March 1990.
Scientific committee, Chaotic Dynamics, Patras, July 1991.
Advisory committee, Renormalisation Group 91, Dubna (Moscow), Sept 1991.
Advisory committee, Nonlinear dynamics and Economics, Florence, July 1992.
Scientific committee, Transport and plasma, Marseille, July 1993.
Organiser, Nonlinearity '94, Imperial College, London, 19–20 March 1994.
Scientific committee, International Congress on Dynamics and Chaos, Tokyo, May 1994.
Organiser, Nonlinearity '96, Institute of Physics, London, 24 March 1996.
Co-organiser, Localisation in Nonlinear Lattices, Dresden, 7–11 April 1997.
Co-organiser, Minisymposium: Energy transport and localization, STAMM'98 Nice, 25–29 May 98
Sci. comm., IUTAM symp, Nonlinear wave behaviour in multiphase flow, Notre Dame 7–9 Jul 99
Advisory committee, Dynamics Days Hong Kong, 13–16 July 1999
Session co-organiser, Computational Dynamics, Foundations of Computational Mathematics, Oxford, 19–21 Jul 99
Co-organiser, Dynamical Systems 2000, Edinburgh, 10–14 July 2000
Co-organiser, Dynamical Systems session of Int Congress Math Phys, London, 17–22 July 2000
Scientific advisor, Newton Inst. programme, Geometry & topology of fluid flows, Aug – Dec 00
Minisymposium Organiser, Localisation & energy transfer in spatially discrete systems, SIAM Snowbird, 20–24 May 01
Scientific committee, Andronov centenary conference, July 01
International progamme committee, Fractal 2002, Granada, 17–20 Mar 02
International committee, Differential equations and dynamical systems, Suzdal, 1–6 July 02
International committee, TH2002, Paris, 22–27 July 02
Director of LOCNET Training school, Les Houches, 27 Jan – 1 Feb 03
Director of LOCNET final conference, Erice (joint with NATO ARW), 21–27 July 03
Scientific committee, Coupled map lattices school and forum, IHP Paris, 21 Jun – 2 Jul 04
Co-organiser, Nonlinear Physics (Aubry 60), IHP, Paris, 30–31 May 05
Subject coordinator for Mathematics: Complexity, Science and Society, Liverpool, 11–14 Sept 05
Scientific committee, Fields Institute programme on Renormalisation, Autumn 05
Scientific committee, Dynamics Days Europe, Loughborough, 9–13 July 07
Scientific committee, Equadiff 07, Vienna, 6–10 Aug 07
Scientific committee, Mathematics of model reduction, Leicester, 28–30 Aug 07
Scientific committee, BICS & CANS, Tg. Mures, Romania, 5–10 Nov 08
Co-organiser, PANDA day on Patterns in Complexity, Leeds, 27 April 09
Programme committee, Model reduction & data analysis, Ambleside, 31 Aug – 4 Sep 09
Scientific committee, Bountis60, Thessaloniki, 12–16 July 10
Co-organiser, Mathematics in the Science of Complex Systems, Venice, 17–19 Feb 11
Scientific comm., PhD school "Mathematical modeling of complex systems", Patras, 18–29 Jul 11
National committee, Equadiff 2011, Loughborough, 1–5 Aug 11
Satellite organiser, Space-Time Phases, European Conf. on Complex Systems, Brussels, 2-7 Sep 12
Co-organiser, Statistical mechanics of self-gravitating particles, Les Treilles, France, 22–27 Oct 12
Programme committee, Norms Actions & Games, London, 1-2 Apr 14
Scientific committee, Model reduction across disciplines, Leicester, 19–22 Aug 14

Scientific committee, Toponets15, satellite of NetSci2015, Zaragoza, 1–5 June 15
Programme committee, Mathematics of Robotics, IMA, Oxford, 9–11 Sep 15
Scientific committee, Systèmes dynamiques et systèmes complexes, Nice, 12–14 June 18
Co-organiser, Machine learning & Dynamical systems, Imperial College, 11–13 Feb 19
Co-organiser, Machine learning & Dynamical systems, Fields Institute, 21–29 Sep 20

Refereeing:
Referee for many *journals* (eg Physica D, Nonlinearity, Proc Roy Soc Lond A, Phil Trans Roy Soc Lond A, Phys Lett A, Math Proc Camb Phil Soc, Ergod Th Dyn Sys, J Math Phys, Cel Mech, SIAM J Math Anal, SIAM Appl Dyn Sys, Phys Rev Lett, Phys Rev E, J Phys A, Europhys Lett, Z.Physik, Proc Roy Soc Edin, Acta Math, J Acoustic Soc Am, Comm Nonlin Sci Num Sim, Nature, QJMeteorSoc, PhysicaScripta, Punjab UJMath, Energies);
funding agencies (eg UK: EPSRC(formerly SERC), Roy Soc London, Leverhulme, Nuffield, Trinity College Cambridge, Commonwealth Scholarships; USA: NSF, DoE, Monts; Canada: NSERC, Banff IRS; ISF (Soros); Australia: ARC; NZ: Roy Soc NZ, Marsden Fund; Eire: IRCSET; EC & ERC; Israel: German-Israeli Foundation; Qatar: QNRF; Netherlands: NWO; France: ANR; Italy: PRIN);
and *publishers* (e.g. Wiley, IOPP, Taylor & Francis, World Sci, OUP, Springer, Imperial College, Birkhäuser, de Gruyter).

Other Administration:
Chair of the Applied Mathematics Committee, University of Warwick, 1989/90.
Chairperson of Kenilworth & Rugby Green Party, Nov 89 – Oct 90.
Mathematics Examinations Secretary, University of Warwick, 1993/94.
LMS prize committee, 1997.
Examiner, Pt II Mathematics, Cambridge, 1996/97 and 97/98.
Comité scientifique du CNRS, Institut Non Linéaire de Nice, 23 Sept 1998
EPSRC Maths College, 97-99, College 00-02, 03-05, 06–08, Peer review college 13–.
Applied Maths Panel, RAE 2001 (Nov 99 – Oct 01).
A Vice-President of Newcastle-under-Lyme School Appeal, 2000
Crawford prize committee, SIAM, 2000/1
Royal Society committees: Hooke 2000, Conference grants 2000, Section 1 03&04 and 14–16, Conf grants and short visits 05–07, Wolfson Research Merit Awards 17–19.
Nuffield Foundation: Newly appointed lecturer grants committee, Feb 01, Feb 02, Jan 03, Mar 04
Comité d'evaluation du CNRS, Centre de Physique Théorique Marseille, 28–29 May 01
Scientific advisory board, Institute for Research in Mathematics and its Applications, Swansea, 01–
Member of EC NEST selection panel, May–Nov 03
Applied Maths subpanel, RAE 2008 (Jan 05 – Oct 08)
Coordinator of International node of Australian Research Council COSnet (teams in Brazil, Brunei, China, France, Israel, Netherlands, UK and USA), Aug 05–Aug 09
UK Scientific advisor, ERAnet on Complexity Science, Jul 06 – Jun 09
Conseil Scientifique du département MPPU (Mathématiques, Physique, Planète, Univers) du CNRS, France, Feb 08 –Dec 10
Comité d'évaluation AERES, Laboratoire d'Analyse, Géométrie et Modélisation, Cergy-Pontoise, 27 Nov 08
Scientific board member, ASSYST (Action for the science of complex systems and socially intelligent ICT), EC coordination action, 2008–11
Advisory Board, Institute for Mathematical Sciences, Imperial College, London, 09–
Panel member, NWO call on Complexity, 2009-10
Moser prize committee, SIAM, 2010/11
Comité d'évaluation AERES, Laboratoire Dieudonné, Nice, 24–25 Jan 2011
External assessor, Aberdeen, 26 Nov 2010

Appointments panel, York, 3 May 2011
REF advisor in Applied Mathematics, Coventry University, June 2011 & Apr 2013
Reviewer NWO proposals on "Nonlinear dynamics of natural systems", Oct 2011
A Director of The Maltings No.3 Co. (Leamington Spa), Nov 11– Nov 13
President of the Institute of Mathematics and its Applications (IMA), Jan 12 - Dec 13
Member of Council of the IMA, Jan 12 – Dec 19
Member of Research Committee of the IMA, Jan 12 –
Advisor, Polymaths Consulting, Mar 2012 – Oct 2015, Mar 2017 – Feb 2020
EPSRC panel for review of IHES support, 28 May 2012
Advisory review, ERIE (Evolution and Resilience of Industrial Ecosystems), Surrey, 15 Oct 2012
Appointments advisor, Applied mathematics and Complexity, Namur, 11 Feb 14
Advisor, Spectra Analytics consultancy, Mar 14–
Appointments committee, University of Nice, 13 May 14
Review panel, Biomedical physics, University of Lancaster, 30 June 14
Science Advisory Board, King's College London, 2 July 14 & 27 Feb 15
Chair of EPSRC Mathematics prioritisation panel, 10–11 Sep 2014
EPSRC Mathematics Taxonomy group member, Feb 2015
Member of Science Board of Energy storage SUPERGEN hub, May 15–
Peer Review Committee of Mathematics in the Netherlands, 16–20 Nov 2015
Advisory board for Complex Systems in UCA-JEDI (Université Cote d'Azur), Jan 16–Jun 20
IMA academic representative Warwick Maths, Oct 16–Mar 18
Strategic advisory board, Centre de Recerca Matematica, Barcelona, Feb 17–; Chair from Jan 21–
Review panel for Mathematics department, University of Leicester, 2017
Elector for Chair in Nonlinear Mathematical Science, University of Cambridge, 2017
Advisory board, Network on Emergence and Physics far from Equilibrium, June 17–Dec 19
Comité d'évaluation, Initiative d'Excellence, Université Paris-Seine, Apr 18–
Chair, appointment board for a Turing Institute programme director, Jul 18
President, lectureship appointment in Girona, Feb–Sep 20
Co-organiser, Turing Institute special interest group on Machine learning & Dynamical Systems, Sep 20–
Core Member, EUTOPIA learning community on Data Analysis and Fallacious Reasoning, May 20–

Invited conference lectures & other significant invitations taken up
(many others turned down)

Dynamics Days, La Jolla, Jan 1982, 83, 85, 86
Order in Chaos, Los Alamos, May 1982
Aspen Center for Theoretical Physics, May 1982
ETH, Zurich, Nov 1982 and 14–18 Nov 1988
Ecole Polytechnique, Palaiseau, Dec 1982
Nonlinear effects in Lasers, Cambridge, Apr 1983
Dynamics Days, Enschede, June 1983, 84
Bifurcation theory and applications, Durham, July 1984
US/CERN particle accelerator school, Sardinia, Feb 1985
Nonlinear phenomena and Chaos, RSRE, Malvern, Apr 1985
Spring College on plasma physics, ICTP, Trieste, June 1985
Los Alamos, Sept 1985 and 15–19 Mar 1991
Applied Mathematics, Caltech, Dec 1985 and 8 Nov–25 Dec 1990
Applied dynamical systems school, Calcutta, Jan 1986
Theoretical Physics, Aachen, Feb 1986
Nonlinear dynamics, Tucson, Mar–Apr 1986
Theoretical and numerical problems in chaotic ODEs, Cambridge, July 1986

Dynamical systems and chaos, Thessaloniki, Aug 1986
Number Theory and Dynamical Systems, York, Apr 1987
Dynamics Days, Dusseldorf, June 1987, 88, 90
Dynamical Systems, Gregynog, July 1987
Centre de Recerca Matematica, Barcelona and ECIT, Sept 1987
Institute for Nonlinear Studies, UC San Diego, Dec 1987
Cornell and Houston, Feb 1988
Nonlinear Dynamics, Bologna, 30 May–3 June 1988
Dynamical Systems, Durham, July 1988
Singular behaviour and nonlinear dynamics, Samos, Aug 1988
Colloques bifurcation et attracteurs, Nice, Sept 1988
Institute for Advanced Study, Princeton, 3–29 Dec 1988
Niels Bohr Institute, Copenhagen, Apr 1989
Danish Physical Society, Nyborg, 18–19 May 1989
Symplectic geometry and Hamiltonian systems, Berkeley, 3–16 June 1989
Summer course on Universality and chaos, Univ Complutense, Madrid, 27–31 Aug 1989
Classical and Quantum Transport, Cornell, 17–21 Nov 1989
Many degree of freedom systems, Los Alamos, 20–23 Feb 1990
Twist maps and their applications, Minnesota, 10–25 March 1990
Chaos, order and patterns, Como, 29 June–6 July 1990
Dynamics of Numerics and numerics of dynamics, Bristol, 31 July–2 Aug 1990
Global geometry of turbulence, Cadiz, 8–14 July 1990
Dynamical Systems, Barcelona, 23 Sept–28 Oct 1990
Dynamics Days, Houston, 5–9 Jan 1991
Asymptotics beyond all orders, San Diego, 9–11 Jan 1991
Mathematics, University of Arizona, Tucson, 12 Jan–14 Mar 1991
University of Illinois, 21–22 Mar 1991
Dynamical Systems, Northwestern Univ, Evanston, 24–28 Mar 1991
Applied Math, Boulder, 29 Mar–7 May 1991
Applied Math, University of Chicago, 8–25 May 1991
Landau Institute and Space Research Institute, Moscow, 4–29 June 1991
Mathematics of Nonlinear Systems, Bath, 1–5 July 1991
Quantum Chaos, Varenna, 23 July– 2 Aug 1991
Institut Nonlinéaire de Nice, 4 Aug–6 Sept 1991, 11–22 Sept 1993, 1–22 July 1997, 11-15 July 1998, 10 Dec 98 - 7 Jan 99
IHES, 7–23 Dec 1991, 1–30 Sept 1992, 15 Dec 1993 – 4 Jan 1994, 22 Mar –16 Apr 1994
Physics Institute, Frankfurt, Feb 1992
Nonlinear Dynamics in Economics, Florence, 6–17 July 1992
Dynamical Systems, Porto, Aug 1992
Theoretical Physics Institute, Helsinki, 21–26 Feb 1993
Tel Aviv University and the Weizmann Institute, Israel, 8–12 Mar 1993
Mathematical Physics, Ben Gurion Univ, Israel, 15–19 Mar 1993
Low-dimensional dynamics, Oberwolfach, 26–30 Apr 1993
Belgian Physical Society, Leuven, 27 May 1993
Chaos, transport and plasma physics, Marseille, 5–9 July 1993
Centre de dynamique des systèmes complexes, Dijon, 12 July 1993
Laboratoire Léon Brillouin, Saclay, 13–31 July 1993
Spatial and temporal dynamics, CRM Montréal, 15 Aug–2 Sept 1993
The Gran Finale, Como, 4–10 Sept 1993
Seventh Toyota Conference, Shizuoka, 31 Oct–3 Nov 1993
Nordic Nonlinear Days, Helsinki, 16 Jan 1994
Int Congress on Dynamics and Chaos, Tokyo, 23–27 May 1994

Int Workshop on Dynamics of Vector Fields, Kyoto, 30 May–3 June 1994
Int Congress of Mathematical Physics, Paris, 18–23 July 1994
Laboratoire de Topologie and Centre de Dynamiques des Systèmes Complexes, Université de Bourgogne, Dijon, France, 1 Oct 1994 –30 Sept 1995
Royal Academy of Sciences, Amsterdam, Colloquium on Dynamical Systems, 26–28 Jan 1995
Theoretical Physics, ETH Zurich, 6–9 Feb 1995
Stability and Universality in Classical Mechanics, Paris, 10–11 Feb 1995
Institute for Physics of Complex Systems, Dresden, 20–22 Feb 1995
SIAM Applications of dynamical systems, Snowbird Utah, 21–24 May 1995
Dynamical Systems workshop, ICTP, Trieste, 28 May–2 June 1995
Hamiltonian systems of three or more degrees of freedom, S'Agaro, Spain, 19–30 June 1995
Universitat Autonoma de Barcelona, 5–12 July 1995
Dynamical Systems, Oberwolfach, 16–21 July 1995
Finite to infinite dimensional systems, Newton Institute, Cambridge, 16 Aug–30 Sept 1995
Workshop on Space-time dynamics, Dresden, 22–29 Feb 1996
Physics Dept, Florence, 29 Mar–8 Apr 1996
Invited speaker, British Mathematical Colloquium, Manchester, 9–12 Apr 1996
Fluctuations, Nonlinearity and Disorder, Crete, 30 Sept–4 Oct 1996
Foundations of Computational Mathematics, Rio, 5–12 Jan 1997
Nonlinear localization in lattices, Dresden, 7–11 Apr 1997
EPSRC ANM School, Loughborough, 14–18 Apr 1997
Ecole d'été, "Solitons", Dijon, 16–20 June 1997
Joint AMS/SAMS conference, Pretoria, 25–28 June 1997
Int Symp on Dynamical Systems, Rio, 29 July–8 Aug 1997
Brain dynamics, Madrid, 28 Feb – 1 Mar 1998
STAMM98, Nice, 24-29 May 1998
Celestial mechanics, separatrix splitting and diffusion, Aussois, 21–27 June 1998
UK Dynamics Days, Edinburgh, 30 June 1998
Nonlinear localized excitations in condensed matter and molecular physics, Lyon, 7–10 July 1998
Classical chaos and its quantum manifestations, Toulouse, 16–18 July 1998
Spatio-temporal complexity, Cargèse, 2–5 Sept 1998
Dynamical Systems, ICTP, Trieste, 6–18 Sept 1998
Nonlinearity'99, Heraklion, 10-13 May 99
Hamiltonian mechanics and small divisors in PDEs, Edinburgh, 24-26 May 99
Asian Dynamics Days, Hong Kong, 13-16 July 99
FoCM'99, Oxford, 18-21 July 99
Equadiff'99, Berlin, 1-7 Aug 99
BAMC, UMIST, 24-28 April 2000
Dynamical Systems, Rio, 19-28 July 2000
Qual Theory Diff Eqns, Certosa di Pontignano, Italy, 17–20 Sept 2000
Royal Society, Topology in Physical Sciences, London, 16-17 Nov 00
Anti-integrable limits, Institut H Poincaré, Paris, 15 May 01
SIAM Dyn Sys, Snowbird, 20-24 May 01
Colston Society, Chaos and nonlinear dynamics, Bristol, 8-10 Jun 01
Intrinsic localised modes, Heraklion, 13-16 Jun 01
Localisation and energy transfer in nonlinear systems, El Escorial, 17–21 June 02
TH2002, Paris, 23–24 July 02
Equadiff, Hasselt, 22-23 July 03
NATO ARW, ILM and DB, Erice, 25-26 July 03
Coupled map lattices workshop, IHP Paris, 6–8 Nov 03
Dynamics of structured systems, Oberwolfach, 14-20 Dec 03
ScotDyn, Stirling, 7 Jan 04

Chaotic mixing, Bristol, 4 May 04
Poincaré 150, Open University, 21-23 May 04
Coupled map lattices school and forum, IHP Paris, 28 Jun – 2 Jul 04
Dynamical Systems, ICTP, Trieste, 26 Jul – 4 Aug 04
N-body problems, Manchester, 22 Mar 05
IHP, Paris, 25–31 May 05 (Hamiltonian dynamics workshop and Nonlinear Physics conference)
Limit laws for dynamical systems, ICMS, Edinburgh, 15 June 05
IMPA, 18 Jul – 30 Aug 05, inc. Int Conf Dyn Sys (Angra dos Reis) and Lagrangian systems wkshp
Complexity in Science and Society, Liverpool, 11–14 Sept 05
Renormalization, Fields Institute, Toronto, 3–25 Oct 05, inc Renormalization in Math Phys wkshp
Applied Math, Boulder, Colorado, 26–28 Oct 05
MASCOS and COSnet, Australia, 3 Nov – 24 Dec 05
IHES, Professeur invité, 1 Jan - 29 Jun 06
Ondes non-linéaires, IHP, Paris, 8 March 06
Work, dissipation and fluctuations in nonequilibrium physics, Bruxelles, 22-25 Mar 06
Stochastics and dynamics, ICMS, Edinburgh, 24 March 06
Geometry and mechanics, Surrey, 14–15 June 06
Statistical mechanics and dynamics, Durham, 3–7 July 06
High oscillation workshop, Newton Inst, Cambridge, 26 Mar 07
Applied dynamical systems, MSRI, Berkeley, 2–18 Apr 07
Mathematics of Complex Systems School, Institut des Systèmes Complexes, Paris, 23-26 Apr 07
"Mathematics of model reduction" conference, Leicester, 28 Aug 07
Nonlinear dynamics and chaos, Aberdeen, 17–21 Sep 07
"Microscopic origins of dissipation and noise" workshop, Leipzig, 31 Oct – 2 Nov 07
Smooth ergodic theory, CIRM Luminy, France, 11–15 Feb 08
Complexity science and Energy, EPSRC workshop, Northampton, 28–29 Feb 08
Mathematics in the science of complex systems, Venice, 5-7 Mar 08
Physics of charged particles, Brussels, 6-8 Mar 08
Lattice models, Bath, 30 Jun - 2 Jul 08
Emergence in complex systems, Bath, 9-11 Sep 08
Stability and instability in mechanical systems, Barcelona, 24-28 Sep 08
MAGIC postgraduate student conference, Manchester, 13 Jan 09
Engaging with social science, Complexity-Net, Chantilly-Gouvieux, 14-15 Jan 09
Weak KAM methods, Nice, 2-7 Feb 09
Patterns in Complexity, Leeds, 27 Apr 09
Mathematical challenges of molecular dynamics, Bath, 13–15 July 09
Transition state theory, Bristol, 16–17 July 09
Algorithms for Approximation, Ambleside, 31 Aug – 4 Sep 09
Plenary, ECCS'09, Warwick, 21–25 Sep 09
Hamiltonian dynamics of ITER, Marseille, 2-5 Nov 09
New directions in dynamics, Leiden, 9-11 Dec 09
Colloque Dynamique et Controle des Ensembles Complexes, Rouen, 14-16 Dec 09
Plenary lecture, BAMC/BMC, Edinburgh, 6–9 April 2010
Workshop-School on Chaos and Dynamics of Biological networks, Cargèse, France, 3-7 May 2010
Hyperbolic dynamical systems in the sciences, Corinaldo, Italy, 31 May – 4 June 2010
Topology conference, Durham, 20–22 June 2010
Few body dynamics, Dresden, 28 June – 1 July 2010
Nonlinear dynamics and complexity, Thessaloniki, 12–16 July 2010
New directions in modern cosmology, Leiden, 27–29 Sep 2010
Minisymposium, Groningen, 30 Sep – 1 Oct 2010
Launch meeting, Center for Complex Systems, Namur, Belgium, 15 Oct 2010
Contagion and Stress, Bank of England, 26 Nov 2010

Mathematics and Counter-terrorism, Henley, 19–21 Jan 2011
Inhomogeneous random systems, IHP, Paris, 26 Jan 2011
Physics of mixing, Leiden, 27–28 Jan 2011
Mathematics in the Science of Complex Systems, Venice, 17–20 Feb 2011
Doctoral workshop in Complexity Sciences, Dynamical Systems day & Mathematics colloquium, Lisbon, 15–17 June 2011
School on Mathematics of Complexity Science, Patras, 18–29 July 2011
50 years of the Institute for information transmission problems, Moscow, 25–29 July 2011
School on Nonlinear dynamics and complexity, Yaoundé, Cameroon, 31 Oct – 12 Nov 2011
Student symposium "Modeling mother nature" and Maths colloquium, Groningen, 29–30 Nov 2011
Dynamics of multilevel complex systems, Venice, 26–29 Feb 2012
School of Mathematics, U Minnesota, 24 Mar – 21 Apr 2012
Opening plenary, No Lineal 2012, Zaragoza, 4–6 Jun 2012
IMA Presidential address, Royal Society, 27 June 12
Resonance and Synchronisation, Lorentz Centre, Leiden, Netherlands, 20–24 Aug 12
Statistical mechanics of self-gravitating particles, Les Treilles, France, 22–27 Oct 12
University of Exeter, Mathematics and computer science colloquium, 3 June 13
Colloquium, Maths dept, Groningen, 20 June 13
Opening plenary, Student conference on complex systems, Oxford, 14 Aug 13
Headmasters and headmistresses conference, London, 1 Oct 13
SIAM UKIE annual conference, 9 Jan 14
International conference on Dynamics and Games in Science, Porto, 17–21 Feb 14
Physics colloquium, Chalmers University, Goteborg, Sweden, 10 June 14
International Conference of Complex Systems and Applications, Le Havre, 23–26 June 14
Young researchers in Mathematics, Warwick, 30 June – 3 July 14
Dynamics Days Asia-Pacific, Chennai, India, 21-24 July 14
Plenary, Palestine conference on modern trends in mathematics & physics, Al-Quds, 11-13 Aug 14
Model reduction across disciplines, Leicester, 19–22 Aug 14
Advances in nonlinear mathematics, Bristol, 18–19 Sep 14
Prospects in Mathematics, Oxford, 18–19 Dec 14
Inauguration of Centre for Data Science and Complexity, Groningen, 11 June 15
Complex Systems-Digital Campus'15, online conference, 30 Sep - 1 Oct 15
Panellist, Fundamental Tensions Working w/ Complex Systems, INCOSE, Edinburgh, 18 July 16
Patterns of Dynamics, Berlin, 25–29 July 16
ICIAM Industrial Mathematics workshop, Valencia, 18–19 May 17
De la Llave Fest, Barcelona, 12–16 June 17
Center for Mathematical Sciences, Huazhong University, Wuhan, China, 13 July – 17 Aug 17
Colloquium, Centre for Complex Systems Science, Utrecht, 4 May 18
GambaudoFest, Nice, 12–14 June 18
Nonlinear localization in lattices, Spetses, Greece, 18-22 June 18
Littlejohn Fest, Berkeley, 17–18 Aug 18
MSRI, Hamiltonian dynamics, 15 Aug–25 Sep 18, incl invited speaker at workshop 20-24 Aug
Keynote speaker, Nonautonomous oscillatory systems and applications in the life sciences, Chicheley Hall, 27-30 Nov 18
Machine learning & Dynamical Systems, Imperial College, 11–13 Feb 19
Paying for Efficient and Effective Markets, London, 22–23 Mar 19
Hidden symmetries and Fusion energy, New York, 28–29 Mar 19
Statistical Physics of Complex Systems, Nordita, Stockholm, 7–11 May 19
Tsironis60, Quantum complexity and nanotechnology, Chania, Crete, 20–22 June 19
Stokes200, Cambridge, 16–18 Sept 19
Tinbergen Institute, Amsterdam, 27 Nov 19
Complexity workshop, Utrecht, 27–28 Feb 20

Sneddon lecture in applied mathematics, Glasgow (online), 21 Apr 20
Chaos indicators workshop, Bristol (online), 4 May 20
Dynamics Days, Kazakhstan (online), 2–5 Jun 20
Feigenbaum memorial conference, Stonybrook, 5–7 Mar 21
Nicolis memorial conference, Brussels, 14–16 Jun 21

Research grants awarded

- Fulbright-Hayes, Scholarship, 1.9.78–31.5.79 (Princeton)
- SERC, Studentship tenable overseas, 1.9.80–31.8.82 (Princeton)
- SERC, "Computing in Mathematics", 1.1.84–31.12.86, with D.B.A. Epstein, D.F. Holt and D.A. Rand, £86,000 (VAX11/750 computer + AED767 graphics terminal); + supplement, £4,150 (extra memory and ports)
- Nuffield Foundation, "Dynamics of Hamiltonian Systems", 1.4.84–31.3.86, £4,000 (equipment, travel and visitors)
- NATO, "Transport in Hamiltonian Systems", 1.9.85–30.8.86, with J.D.Meiss and I.C. Percival, £2,570 (travel) + £4,151 renewal (travel) 17.11.86–16.11.87
- SERC, "Nonlinear Systems Laboratory", 1.10.86–30.9.89, with D.A.Rand, £152,940 (3 SUN3 computers, 3 years' visitors, 1/2 time secretary, 2 years 3/4 time programmer)
- SERC, "Breakup of invariant circles of arbitrary rotation number", 1.10.86–30.9.87, with D.A.Rand £12,824 (1 year postdoc)
- SERC, "Nonlinear Systems Laboratory II", 1.10.87–30.9.90, with D.A. Rand and G.P. King, £80,758 (3 year postdoc, experimental equipment)
- SERC, NSL III, 1.10.88–31.3.92, with D.A. Rand, £57,410 (3 year postdoc, 1 year 3/4 time programmer)
- SERC, Nonlinear Dynamics Computing, 1.10.88–30.9.91, with D.A. Rand, £61,056 (colour SUN, transputer, 2 years full time programmer)
- SERC, NSL IV, 1.10.89–30.9.92, with G.P. King, D.A. Rand, R.M. Roberts, D. Salamon and I.N. Stewart, £102,554 (secretary, technician, disk, SUN3/50M, visitors, meetings, one 3 year postdoc, experimental equipment)
- MoD, Dynamics of large scale networks, 1.9.89–30.8.92, £99,964 (postdoc, computing, travel)
- British Council Alliance, Dynamics of Surface Homeomorphisms, 3.12.89–2.12.90, £2,400 (travel to Nice)
- LMS, Water waves, July 1990, £500
- Royal Society, Water waves, July 1990, £500
- SERC, Nonlinear Systems Laboratory V, 1.10.90–31.12.92, with G.P. King, D.A. Rand, R.M. Roberts, D. Salamon and I.N. Stewart, £127,666 (technician, experimental equipment, SUN4, visitors, two 2 year RAs)
- SERC, NSL VI, 1.10.91–30.9.94, with G.P. King, D.A. Rand, R.M. Roberts and I.N. Stewart, £115,194 (3 year postdoc, programmer, experimental equipment, visitors)
- EC SCIENCE, Knot theory and dynamical systems, 15.3–15.9.92, £8,402 (visiting fellow: Casasayas)
- Nuffield Foundation, Solid-state physics, Hamiltonian dynamics and Renormalisation, 1.10.92–30.9.93, £21,054 (1 year temp lecturer + £3,000 research expenses)
- SERC, Topology from turbulent time series, 1.9.92–31.8.95, with D. Broomhead and T. Mullin, £112,125 (3 year postdoc + computing and travel)
- NATO, Chaotic transport in several degrees of freedom, 1.1.93–31.12.94, with J.D. Meiss, 208,000 BF (about £4,000) (travel)
- British Council, Dynamics on surfaces, 1.1.–31.12.93, £3,000 (travel to Nice)

- British Council, Solid-state physics, Hamiltonian dynamics and electron-electron interaction, 1.1.–31.12.93, £2,000 (travel to Saclay)
- EC HCM, Network on Nonlinear Phenomena and complex systems (coordinator: Nicolis), 1.10.93–31.3.96, 470,000 ECU (of which 43,000 to Warwick); plus money for 8 additional person-years of postdocs (though none allocated to Warwick)
- SERC, Behaviour of separatrices and invariant tori of Hamiltonian systems in the complex domain (Visiting fellow: Lazutkin), 1.11.93–31.10.94, £2,800
- EC HCM, Network on Nonlinear approach to coherent and fluctuating phenomena in condensed matter and optical physics (coordinator: Tsironis), 400,000 ECU (of which 37,533 to Warwick), 1.11.93–31.10.96
- EC HCM, Variational methods for random perturbations of discrete-time dynamical systems, 1.9.93–30.6.96 (2 year visiting fellowship: Hamm), 94,257 ECU
- SERC, Transport in Hamiltonian systems of more than two degrees of freedom (Visiting fellow: Meiss), with J. Stark, 1.9.93–31.8.94, £2,480
- SERC, Electron-phonon workshop (administered by J. Jones), Sept 1994, £20,000
- SERC, Positive metric entropy for the standard map, 1.9.93–31.8.96 (postdoc), £85,573
- SERC, Breakup of invariant two-tori, 1.10.93–30.9.96 (IRIS workstation), £23,243
- LMS, Nonlinearity meeting, March 1994, £722 (+ £500 from IOPP)
- SERC, Nonlinear Computational Projects, 1.10.94–30.9.95 (programmer), with Rand, Stewart, Barkley, Sherratt, £38,568
- SERC, Computer Update for NSL, with Rand et al, £25,000, 1.10.94–30.9.97
- EC HCM, Dynamics of networks, 1.10.94–31.7.96 (Sepulchre), c. 100,000 ECU
- EC HCM, Stability and universality in classical mechanics (network coordinator: Jauslin), 1.2.95–31.12.98, Warwick's share: 37,037 ECU (transferred to Cambridge from Mar 97)
- British Council, Nonlinear phenomena in dynamics and physics, £3,000 (alliance with Dijon), 1.1.95–31.12.95 (transferred to Cambridge and extended to December 1997)
- INTAS, Hamiltonian dynamics and bifurcations (network coordinator: Simo), 1.5.95–30.4.96, Warwick's share: 2,000 ECU; extension to 5.98 at Cambridge: 2,000 ECU
- LMS, Nonlinearity 1996, £1,000, March 1996
- EPSRC, Global Bifurcations and Transitions to chaos in torus maps and networks of oscillators, Visiting Fellowship for S. Kim, with Baesens, 1.3.96–28.2.97, £38,344
- LMS, Visit of Bolotin, May 1996, £903
- LMS, Visit of Kuksin, June 1996, £903
- EC TMR network, "Statistical physics and dynamics of extended systems" (coordinator: Nicolis) (managed via Warwick), Sept 1996–Aug 1999; Cambridge share 32,375 ECU + 36 postdoc months (87,960 ECU)
- Trinity College, Cambridge, "Discrete breathers", Jan–Aug 1997, £14,852 (salary for postdoc Sepulchre)
- Royal Society FSU postdoctoral fellowship (Tereshko), Oct 97 - Sept 98, £11,830
- LMS, TUXEDO (The UK spatially extended dynamics organisation), £750 Sep 97–Aug 98 + £750 renewal Oct 98–Jul 99 + £750 renewal Oct 99–Dec 01.
- Sainsbury's Innovation Centre, Time series analysis (per quarter: £750 for PhD student, £375 overheads) Jul 97 – Sep 98
- EPSRC, Visiting Fellowship for M. Bialy, Hamiltonian dynamics, variational calculus and symplectic geometry, 1 Aug 98 - 31 Aug 99, £40,714
- EC Individual fellowship for V. Rothos, Chaotic dynamics of multi-dimensional Hamiltonian systems, Oct 1998 - Sept 2000, 91724 ECU

- INTAS, Hyperbolicity and diffusion in Hamiltonian systems (coordinator Delshams), Warwick share 2850 ECU, Feb 1999 - Jan 2001.
- ISIS facility, Quantum breathers, 2 days' beam time, May99-Mar00 (nominal value £19,358)
- EPSRC, Dynamical Systems, £18,780, Conference 10-14 July 2000, with K Khanin and M Pollicott
- Trinity College, Cambridge, Stirring and mixing in fluid flows, Expenses for PL Boyland 4 May - 3 July 1999, £1,400
- Trinity College, Cambridge, Quantum breathers, 3 months salary for L Proville (about £5000) and £1,500 for synthesis of PtCl, Apr – Aug 1999
- EC RTNetwork "LOCNET", 1.5 MEuro, Mar 00 - Feb 04
- LMS, Singularities in Fluids, £3,675, with X He, S Nazarenko, R Pelz, 20-23 Oct 2000
- BT, Critical phenomena in communications networks, £19,800, towards a 3-year PhD studentship, Aug 00 (withdrawn by BT in 2001)
- INTAS, Chaotic motion and stability in conservative and near-conservative systems, 5000 Euro, July 01 – June 03.
- EC, Quantum tunnelling rotobreathers (Fellowship for Litvak-Hinenzon), 107772 Euro, 29.8.02 – 28.8.04
- LMS, Young Russian mathematicians scheme (for V.V.Ten), £1500, Oct–Nov 2002
- Royal Society, Developing nation grant (for Ghaffari), £3,982, Sep–Dec 03
- EPSRC, Mathematical architecture of biological regulation (PI: DA Rand), £1,260,990, 1.10.03–30.9.07
- EPSRC, Dynamics of complex systems and constructive biology (VF for Kaneko) (PI: H Jensen, Imperial College London), £3,598, 1–30 Sept 2004
- EC NEST, Unifying networks in science and society (Coordinator: Kirkilionis), 1.5 MEuro, Jun 05 – May 08
- Australian Research Council, Complex Open Systems Network (Coordinator: RL Dewar, Canberra), Sep 04 – Aug 09, AU$ 1.5M
- Royal Society, Synchronisation in networks of dynamical units, for visit of R.Yamapi, Sep-Dec 06, £3,982
- EPSRC, Localized modes in nonlinear lattices (VF for D.Pelinovsky to Bristol and Warwick, with A.Champneys), Oct 06 – Mar 07 (extended to Sep 07), £19,993 (Warwick's part)
- EPSRC, Training course on Mathematics for the Science of Complex Systems, Mar 06 – Feb 07 (extended to Dec 07), £62,351 (PI: JH Johnson, Open Univ)
- EPSRC, Doctoral training centre in Complexity Science, Oct 06 – Sep 14, £4,142,427 (joint PI with Robin Ball)
- LMS, From nonlinear dynamics to systems biology, 1-2 Dec 2008, £4,300
- Technology Strategy Board, Coordinate measuring robot, Sep 08 - Aug 10 (extended to Mar 2011), £614,232 (with Williams and Young)
- EPSRC, The mathematics of complexity science and systems biology, Sep 09 – Aug 11, £300,005
- LMS, ECCS'09, Sep-Dec 09, £2,000
- EPSRC, ECCS'09, Sep 09, £15,500
- LMS, CoSyDy (Complex System Dynamics network), Jan–Sep 2010, £1,050; renewal £1,050, Oct 10 – Sep 11; renewal £1,050, Oct 11 – Sep 12.
- LMS, Travel grant to Cameroon, Nov 2011, £902.
- EPSRC, Complexity DTC renewal, £3,442,450 Oct 11 - Sep 17 (PI Ball).
- EC, Network of excellence, European Internet Science, 4.997MEuros, Warwick share (PI: Cave) £82,000, Dec 11–May 15

- Sloan Foundation, Management of complex systems, $561,672, 1 Jan 12 – 30 Jun 14.
- EPSRC, Emergence and Physics far from Equilibrium (PI: Hnat), Oct 12 – Sep 15, £228,155
- EPSRC, Integrated Market-fit and Affordable Grid-scale Energy Storage (PI: Wang), Sep 12 – Aug 17, £2,994,722, extended to 30 June 2018.
- Royal Society Wolfson Research Merit Award, Mathematics for Complex Systems, £50,000, May 12 – Apr 17
- ESRC, Network on integrated behavioural science (PI: C.Starmer, Nottingham), Dec 12 – Sep 17, £3,162,167
- EPSRC & MRC, CDT in Mathematics for Real-World Systems, Apr 14 – Sep 22, £3,692,569
- National Grid, Asset management (with S French), £70,000, Oct 14 – Sep 15; renewal, £70,000, Nov 15 – Feb 17; renewal Mar- Aug 17, £17,500
- EPSRC, Capital equipment for CDTs (PI: T Jones), my part £253,528.50, Jul 14 – Mar 15
- National Grid, DACIAO, £209,500, Oct 15 – Sep 18 (terminated Nov 16)
- ESRC, CECAN (PI: N.Gilbert, Surrey), £2.455M, Mar 16 – Feb 19
- Turing Fellow Award, Alan Turing Institute, £48926.93, Oct 17 – Sep 19; renewal at 5%-time Oct 19 – Sep 20.
- Simons Foundation, Hidden symmetries and fusion energy, Sep 18 – Aug 22, PI for Warwick, Warwick's part $748,574 (Collaboration coordinator: Bhattacharjee, Princeton)
- ESRC, CECAN2 (PI: Gilbert, Surrey), Mar 19 – Aug 22, £767,902
- LMS, Visit of V.Gaiko, Feb-Mar 19, £2611
- NIESR, But why are economies stable?, Dec 18–Oct 20, £108K
- *plus* Royal Society travel grants to attend conferences in: Thessaloniki (Aug 86), Samos (Aug 88), Hong Kong (July 99), Rio (July 00), Rio (Aug 05), and to visit researchers in Moscow (June 91), Israel (Mar 93); Member of PYTHAGORAS research team, Thessaloniki, 04/05; member of EPSRC Mathematical challenges of Molecular Dynamics network (Apr 08-), EPSRC Engineering Complexity Resilience network (Mar 16–), renewed Emergence and Physics far from Equilibrium network (Oct 16–Nov 19).

Postdoctoral Fellows hosted

- J Stark, Oct 1986–Sept 1987, SERC RA (with Rand), "Breakup of invariant circles of arbitrary rotation number"
- C Baesens, Jan 1988–Oct 1990, SERC RA (with Rand), "Bifurcations" and Jan–Aug 1992, SERC/MoD RA, "Cantori"
- C Beck, Oct 1988–Sept 1989, Visiting NATO fellow, "Stochastic dynamical systems"
- B.D. Mestel, Oct 1988–Aug 1989, SERC RA (with Rand), "Structure of strange attractors"
- M.R. Muldoon, Sept 1989–Aug 1992, MoD RA, "Dynamics of large networks" and Sept 1992–Aug 1995, SERC RA, "Topology from turbulent time series"
- J. Casasayas, Mar–Sept 1992, EC fellow, "Knot theory and dynamical systems"
- P. Ashwin, May 1992–Mar 1995, SERC RA (with Stewart, Rand, King and Roberts)
- F. Moura Neto, Sept 1992–Aug 1993, Brazilian fellowship (Fluid Dynamics)
- X. He, May 1993–Apr 1994 & Aug–Oct 1994, self-funded visiting fellow, "Stochastic description of 2-D vortex dynamics"
- A. Hamm, Sept 1993–Sept 1995, EC fellow (dynamics and noise)
- S. Gaito, Oct 1993–May 1996, SERC RA, "Positive metric entropy for the standard map"
- J.-A. Sepulchre, Nov 1993–Sept 1994, EC network postdoc, "Dynamics of networks of oscillators"; Oct 1994–Sept 1996, EC fellow; Jan–Aug 1997, research fellow "Discrete breathers"
- S. Luzzatto, Aug–Sept 1995, EC network postdoc, "Strange attractors"
- G. Gomes, Sept–Oct 1995, EC network postdoc, "Pulse-coupled oscillators"

- J.L. Marin, Aug–Dec 1997, EC network postdoc, "Discrete breathers"
- V Tereshko, Sept 1997–Nov 1998, FSU Royal Society postdoc
- B Fernandez, Oct 1997–Dec 1998, EC network postdoc, "Coupled map lattices"
- D Daems, April–November 1998, EC network postdoc
- T Ahn, April 1998 – February 1999, Korean fellowship
- M Spicci, May 1998–Aug 1999, EC network postdoc, "Discrete breathers"
- V Rothos, Sept 1998 – July 2000, EC individual fellow "Chaotic dynamics of multi-dimensional Hamiltonian systems"
- L Proville, Oct 98–May 99, EC network postdoc; Jun-Aug 99, Trinity Coll. supported postdoc
- C Chandre, Sep–Nov 99, Carnot fellow, "Renormalisation"
- G James, Sep 00 – Jan 01, EC network postdoc
- A Litvak-Hinenzon, Oct 00–Aug 02, EC network postdoc; Aug 02–Aug 04, EC Individ. Fellow
- A Berger, Sep 02 – Feb 03, EC network postdoc
- J Dorignac, Nov – Dec 02, EC network postdoc
- JR Pacha, Feb 03–Jan 04, Universitat Politecnica Catalunya funded postdoc
- M Mobilia, Oct – Dec 07, EPSRC RA, Complexity postgraduate training course manager; Jan 08, Maths dept PDRA; Feb 08 – Jan 09, Swiss NSF Advanced Fellow
- J Thornby, Oct 08 – Oct 10, TSB postdoc
- P Slowinski, Jan 12 – Dec 13, Sloan postdoc
- M Bujorianu, May 12 – Apr 14, Sloan postdoc
- L Flatley, Oct 12 – Sep 15, Math/Econ postdoc on IMAGES project; Oct 15 – Mar 16, 50:50 postdoc on IMAGES and on DACIAO; Mar 17–Feb 18, halftime on IMAGES
- J van Lidth, Oct 14 – Oct 15, Nat Grid Asset Management (pre-doc) research assistant
- L Nichols, Feb 16 – Feb 17, Nat Grid Asset Management research assistant (extended halftime to Aug 17)
- N Kallinikos, Oct 18 – Aug 22, Simons postdoc
- B Sansom, Jan 19-Jul 20, NIESR research assistant (halftime, extended at 25% Aug-Sep 20, 50% Oct 20); CECAN RA (30%) Nov – Dec 20; EPSRC IAA RA (50%) Jan-Mar 21; CECAN RA (30%), Apr – Jul 21
- D Martinez, Dec 20 - Nov 21, Simons postdoc

Visiting Researchers hosted in Cambridge for at least 2 weeks (Oct 95 – Feb 00)
S. Bolotin (Moscow) 15-30 May 96
S. Kuksin (Moscow) 1-16 June 96
S. Kim (Pohang) Mar 96 - Feb 97
W. Choe (Pohang) 16 Mar - 20 May 96
S. Slijepcevic (Zagreb) 8-27 April 96
T. Ahn (Pohang) 19 Sept - 30 Nov 96
Y. Jiang (New York) 17 Oct 96 - 14 Jan 97
K. Rerikh (Dubna) 23 Nov - 8 Dec 96
C. Bose (Victoria) Feb-Mar 97
A. Haro (Barcelona) 10 Feb - 27 Mar 97
M.S. Watanabe (Tokyo) Apr 97 - Mar 98
X. Fu (Wuhan) May - July 97
K.F. Siburg (Freiburg) 15-29 Sept 97
J.F.R. Archilla (Sevilla) 13 Oct - 20 Dec 97
V. Mastropietro (Roma) 10-30 Nov 97
M. Bialy (Tel Aviv) 23 Aug 98 - 22 Aug 99
Y. Aizawa (Tokyo) 1 Apr - 31 May 99

S. Bolotin (Moscow) 6-30 April 1999
C. Holmes (Queensland) 13 April - 13 July 99
P.L. Boyland (Florida) 5 May - 3 July 1999

Visiting Researchers hosted in Warwick for at least 2 weeks, starting Mar 00 (also many hosted from Apr 84 – Sep 94)
S Bolotin and D Treschev (Moscow) June 01
VV Ten (Moscow) 24 Oct – 10 Nov 02
M Ghaffari (Teheran) 21 Sept – 20 Dec 03
S Bolotin (Moscow/Wisconsin) 27 Jun – 7 Jul 05
R Yamapi (Douala, Cameroon) 3 Sept – 25 Nov 06
T Ahn (Korea) 23 Nov 06 – Mar 07
D Pelinovsky (McMaster, Canada) 30 Jan – 25 Feb 07 and 4–8 July 07
G James (Toulouse) 2–14 Sept 07
A Kowalewski (Krakow) 6 Nov–9 Dec 08, 4 Nov–10 Dec 09, 7 Nov–Dec 11, 4 Nov–13 Dec 12, 8 Nov–17 Dec 13
A Toom (Recife) 4 – 24 Jan 10
A Saito (Hakodate) Sep 11 – May 12
G Martinez-Mekler (Cuernavaca) 29 Oct–9 Nov 12
Z Zhang (Nanchang Hang Kong) 28 Oct 12 – 27 Oct 13
E Smith (Santa Fe Institute) 6–20 Jan 13
H Abarbanel (UCSD) 2 Aug–5 Dec 13
T Young (Ohio) 1 Aug 14 – 15 July 15
Y Zhang (Wuhan) 18 Nov 17 – 20 Apr 18
C Wu (Nanjing) 1 Dec 17 – 14 Dec 18, 27 Oct 19 – 29 Sep 20
V Gaiko (Minsk) 24 Feb – 31 Mar 19

PhD and MSc Research students

- J Stark, Oct 1983–Sept 1986 (with Zeeman for the first 6 months), PhD, "Invariant circles for area-preserving maps", PhD awarded Feb 1987 (Warwick)
- NTA Hoidn, April–Sept 1984 (during absence of P Walters), PhD, thesis (part for which I was responsible) on "Invariant curves under renormalisation", PhD awarded Dec 1986 (Warwick)
- JB van Zeijts, Oct 1984–Oct 1986, visiting PhD student, "Invariant Cantor set for a renormalisation group for period doubling in bimodal maps", PhD Mar 1987 (Twente, Netherlands)
- A von Arnim, Oct 1985–Sept 1986, MSc, "Aubry models and symplectic maps", MSc awarded Oct 1986 (Warwick)
- J Ketoja, Oct 1987–Sept 1988, visiting PhD student, Fractal boundary for the existence of invariant circles for area-preserving maps, PhD awarded Sept 1990 (Helsinki)
- G Ott, Jan–Apr 1988, visiting MSc student, Quantum flux
- N Raza, Mar 1988–Sept 1989, MSc student, Mathematical models of the heart
- C Watts, Oct 1988–Sept 1989, PhD student (taken over from EC Zeeman), Stability of diffeomorphisms, PhD awarded June 1990 (Warwick)
- J Guaschi, Oct 1988–Sept 1991, PhD student, Dynamics of surface homeomorphisms, PhD awarded Jan 1992 (Warwick)
- A Oliveira, Oct 1989–withdrawn, PhD student, Hairpin maps
- K Banas, Oct 1989–Sept 1990, MSc student: "NANCY: a computer program for numerical analysis of the flow between rotating cylinders", MSc awarded May 1991 (Warwick)
- R Regan, May–Sept 1990, MSc dissertation: Universality in period doubling and solution of the Feigenbaum–Cvitanovic functional equation, MSc awarded Nov 1990 (Warwick)

- J Denvir, Oct 1991–Sept 1994, PhD student, Adding machines in smooth dynamical systems, and consequences of contractible geodesics, PhD awarded Dec 94 (Warwick)
- S Umney, May–Sept 1993, MSc dissertation: Poincaré–Birkhoff theorem, MSc awarded Nov 1993 (Warwick)
- G Schindlmayr, Jan–Sept 1994, MSc "Melnikov method for elliptic PDEs" (Warwick)
- Z Bishnani, Jan 1994–Sept 1997, PhD "Safety criteria for aperiodic dynamical systems" (PhD awarded Nov 00, Warwick)
- S Slijepcevic, Oct 1996–Aug 99, PhD "Gradient dynamics of Frenkel-Kontorova models and twist maps" (PhD awarded, Cambridge, Nov 99)
- T Hunt, Oct 1996–Aug 2000, PhD "Low dimensional dynamics: Bifurcations of cantori and Realisations of uniform hyperbolicity"
- J Lopes Dias, Oct 1997–Feb 2002, PhD "Renormalisation of vector fields" (Cambridge, awarded July 2002)
- J Gog, Oct 1998–Aug 2002, PhD "Multiple strain dynamics" (initial secondary supervisor) PhD awarded Cambridge Nov 2002
- N Catarino, Mar 2000–Sep 04, PhD "Quantum statistical mechanics of Frenkel-Kontorova chains", awarded Nov 04
- D Sanders, Oct 2000–Dec 04, PhD, "Deterministic diffusion in periodic environments", awarded Dec 04
- J Bergamin (Patras) Jan – Jul 02 (Visiting PhD student on EC Training Site scheme)
- D Pinheiro, Oct 02 – Sep 06, PhD, Interaction of charges in a magnetic field, PhD awarded Sep 06 Warwick
- V Koukouloyannis (Thessaloniki) Sep – Dec 03 (Visiting PhD student on EC training site scheme) "Discrete breathers on a triangular lattice"
- A El-Shanawamy, Oct 03 – Sep 04, MSc awarded Nov 04, "Mathematics of the nerve impulse"
- C Deng, Oct 03 – Jan 04, MSc (not completed)
- N Brannstrom, Oct 04 – Nov 07, PhD (with V Gelfreich) "Drift in the slow dynamics of Hamiltonian systems with two time-scales", awarded Dec 07
- S Gin, Oct 05–Sep 06, MSc (Nov 06) "Large deviations rate function for the distribution of finite-time shear rotation rates for H"; PhD Oct 06–Jan 12 (with M Richardson), May 13
- G Stergianopoulos (with P Hammond), Oct 06–Sep 08, 2-yr MSc, awarded Nov 08, "Economic negligibility & strategic significance in non-atomic aggregative games"; PhD Oct 08–Aug 12; awarded Feb 2013
- E Beauvais, MSc resubmission, Oct 07–Jul 08 (with M Richardson), "Modelling the propagation of activity in electrically coupled neural networks"; awarded Oct 08
- C-H Chen, MSc, "Computation on the configuration manifold of the triple linkage", Oct 07 – Sep 08, awarded Nov 08
- J Luo, DTC miniproject, "Citation analysis", Jun – Sep 08
- L-L Ru, PhD, Mixing flows, Oct 08 –Sep 13; PhD awarded Dec 13
- O Datskova (with D Rumynin), 2-yr MSc, Oct 08–Jun 09 (withdrawn)
- M Diakonova (with R Ball), PhD, Oct 08–Sep 12 "Persistent mutual information"; PhD awarded Dec 2012
- P Youdell (with S Ghosal), PhD, Oct 08–2012; PhD awarded April 2013
- GP de Mendonça (with M Kirkilionis), DTC miniproject, "Self-enforcing climate change treaties", Apr–Jun 09; DTC miniproject, Jul–Sep 09 (with Santos-Monteiro); PhD (main supervisor from Oct 11-Sep13), PhD approved Oct 13
- S Brand, PhD, Oct 09–Sep 12 (with M Keeling); PhD awarded Jan 2013

- D Strub, MSc/PhD, Oct 09–Dec 14; MSc "Bifurcations of transition states", awarded Oct 10; PhD awarded Apr 15
- G Stefanidis, 2-yr MSc, supervised Oct 09–Aug 10, awarded Sep 2011
- P O'Callaghan (w/ S.Jacka & P.Hammond), PhD, taken over Oct 09–Dec11; awarded 2012
- C Oates, DTC miniproject "Quantifying complexity", Apr–Jun 10
- S Mousavi, EM M1 project, Financial contagion, Apr–Jul 11
- A Tucker, PhD, Apr 11–, Financial contagion
- D Sprague (with N Chater), DTC miniproject, Thermoeconomics, Jun–Sep 11
- N Orlov, 2-yr MSc, Oct 11– Jul 12 (withdrew)
- M Metzger, MSc dissertation (with M Waterson), Balancing electrical supply and demand, Apr–Sep 12; MSc awarded Sep 12
- R Wilkerson, DTC miniproject (with S Mukherjee), "Causality", Mar–Jun 12
- E Ryskin, EM M1 project (w/N.Beale), "Co-evolution of regulation & banking", Mar-Jun 12
- A Tamsett, DTC miniproject (with D Chakrabarty), "Hierarchical clustering", Jun – Sep 12
- R Toala, PhD (with C.Rourke), "Multisymplectic approach to general relativity", Oct 12 – Sep 16; PhD awarded Dec 16
- E Webborn, PhD (part-time) (with M Waterson), "Electricity pricing", Oct 12–Nov 17; PhD awarded Feb 18
- A.Tamarit, visiting PhD (Barcelona), 1 May – 31 July 2013
- L.Toniazzi, 2-year MSc, Oct 13 – Sep 15
- C.Deeks, PhD (part-time) (with D Ceglarek), Nov 13 –
- T Francis, MSc project (with Flatley), Jun–Sep 15
- M Tello Fraile, PhD (with Marshall, Nat Grid), Dec 15–Sep 16 (withdrew)
- K Bashe, MSc project (with Gunton, Sciteb), Jun-Sep 17; PhD (with Gunton/Beale) Oct 17–
- U Sharma, MSc project (with Rodrigues), Jun - Sep 18
- O O'Donnell, PhD, Nonlinear dynamics for Stellarator design, Nov 18–Jul 19 (withdrew)
- J Armstrong Goodall, MSc dissertation, 2019/20
- Y Zhou, MSc project (with B.Sansom), Jun-Sep 20; PhD, Oct 20 –
- C Shuaib, PhD (with S.Jarvis, then Bazzi), Mar 20–
- M Homs Dones, PhD (with C Baesens), Oct 20–

Undergraduate research projects supervised

Warwick 3rd year Applied Maths project
1985/86: Leage
1986/87: Tomlinson
1987/88: Davison, Clarkson
1988/89: Lundie, Speed, Mills
1989/90: Ball, Bramhall, Dolan, Duquemin, Kapur, Tomlins
1991/92: Firkins, Henderson, Hughes, Perrett, Shardlow
1993/94: Hook, Painter
Cambridge Part III essay/project
1995/96: Hunt, Grover
1996/97: Quinn
1997/98: Wood, Sohal
1998/99: Bonanno
Warwick undergraduate projects (4th yr unless specified)
1999/00: Bolton
2000/01: Shah, Alexander
2001/02: Grubb, Wheeler

2002/03: Clelland, Ward
2003/04: Gray, Griffiths, Harland
2004/05: Gin (research experience project), Rittman (MOAC miniproject)
2006/07: Schramm (research training project for ENS Lyon)
2007/08: Sandford, Arthurs, Sawyer
2009/10: Prutton (3rd yr essay)
2011/12: Smyth
2012/13: Saei, Ridley, Blumberg
2013/14: Adams, Parker
2014/15: Heise, Bajgar
2016/17: Ferber-Stevenson, Prater (summer project), Tilley (summer project)
2017/18: Robinson, Morabito (Erasmus)
2018/19: Paul, Colvin (3rd yr essay)
2019/20: Syndercombe, Boucherie (MASt)
2020/21: Jones (3rd yr essay)

Teaching

Warwick 1984–95

1984/85: MSc Area-preserving maps
1985/86: 1st year Nonlinear systems lab (new course created with Rand)
2nd year Applied Sources of Pure Mathematics
MSc reading course on Dynamical Systems
1986/87: 1st year Nonlinear Systems Lab (with Rand)
MSc Quasiperiodic orbits and renormalisation
1987/88: 1st year Differential and difference equations
2nd year Numerical Analysis (new course created by me)
1988/89: 1st year Differential and difference equations
2nd year Waves (new course created by me)
2nd year Applied Maths Seminar (new course created with Rand) (organiser)
MSc reading course on Integrable systems (with Salamon)
1989/90: 1st year Differential and difference equations
1st year Integration and Control
2nd year Applied Maths Seminar (organiser)
MSc Area-preserving maps
MSc reading course Dynamical Systems (with Roberts)
[1990/91: Sabbatical leave]
1991/92: 1st year Life in 3-D (new course created with Micallef)
1st year Experimental Mathematics
MSc on Stability of Fluids and Plasmas (with Rowlands)
MSc reading course on Dynamical Systems (with Pinto)
[1992/93: Nuffield Foundation Science Research Fellow]
1993/94: MSc on Dynamical Systems
3rd year Waves
[1994/95: Leave of absence]

Cambridge

1995/96: Part III on Dynamical Systems
1996/97: Part III on Dynamical Systems
IB/IIA Dynamics of Differential Equations
1997/98: Graduate Lecture course on Research Problems in Dynamical Systems
IB/IIA Dynamics of Differential Equations
1998/99: Part III on Dynamical Systems
IB/IIA Dynamics of Differential Equations

[Oct99–Feb00: Sabbatical Leave]

Warwick 2000–

2000/1: MSc on Coherent Structures
3rd yr on Qualitative Theory of ODEs
2001/2: 3rd yr Qualitative Theory of ODEs
MSc on Coherent Structures
Support classes for 1st yr Diff Eqns
2002/3: MSc on Topics in Dynamics
2nd yr Applied Analysis
2003/4: Graduate lecture module on Dynamics and Applications
2nd year Applied Analysis
2004/5: Graduate lecture module on Dynamics and Applications
2nd year Applied Analysis
[2005/6: Study Leave]
2006/7: MSc module on Topics in Complexity Science
2007/8: overseeing Complexity DTC modules
2008/9: Taught course centre (TCC) module on Topics in Complexity Science
2009/10: Taught course centre module on Topics in Complexity Science
[2010/11: Terms 1&2 on Study Leave, taught a doctoral course (12 hours) on "Space-time phases and the mathematics of emergence" at Université Libre de Bruxelles]
2011/12: Taught course centre module on Aggregation in complex systems; also available as MSc module Topics in Complexity Science
2012/13: none
2013/14: Coordinator for MSc module Topics in Complexity Science, given by visiting lecturer H.Abarbanel
2014/15: Leader for MSc module Topics in Mathematical Modelling; Leader for an MSc study group
[2015/16: Study Leave]
2016/17: Leader for MSc module Topics in Mathematical Modelling (cancelled for insufficient registrations); Leader for an MSc study group
2017/18: TCC module on Riemann's Hypothesis; Leader for MSc module Topics in Mathematical Modelling
2018/19: 3rd year Control theory; MSc module on Stellarator Mathematics
2019/20: 3rd year Control theory; PhD module on Nonlinear Dynamics
2020/21: MSc module Stochastic processes & networks; 3rd year Control theory

PhD theses examined:

B. Mestel (Warwick) 4 Dec 1985
D. Holton (Warwick) April 1988
A. Hill (Warwick) Dec 1988
P. Saha (Oxford) 12 July 1989
G. Abramovici (Paris VI) May 1990
T. Hall (Cambridge) September 1991
P. Ashwin (Warwick) Nov 1991
G. Gomes (Warwick) 23 October 1992
J. van Zeijts (Enschede) 26 March 1993
L. Watt (Edinburgh) 28 June 1993
J. Barrow-Green (Open University) 26 July 1993
J-M. Tamga (Dijon) 14 November 1994
A. Jakobsen (Trondheim) 1 December 1994
S. Ben Miled (Nice) 15 December 1994
J. Ould Samori (Dijon) 16 March 1995
D. Benisti (Marseille) 23 October 1995
O. Courcelle (Nice) 8 January 1996

B. Fernandez (Marseille) 4 April 1997
M. Govin (Dijon) 20 June 1997
J-L. Marin (Zaragoza) 24 June 1997
M.E. Johnston (Cambridge) 23 September 1997
R. Murray (Cambridge) 30 October 1997
F. Wagener (Groningen) 23 January 1998
L. Proville (Orsay) 30 March 1998
A. Zanna (Cambridge) 23 April 1998
A. Haro (Barcelona) 1 October 1998
S. Flach (Dresden) (habilitation) 12 October 1998
T. Fischer (Warwick) 2 December 1998
T. Cretegny (Lyon) 10 December 1998
M. Argentina (Nice) 6 Jan 1999
C. Chandre (Dijon) 8 July 1999
J. Farago (Lyon) 14 Jan 2000
J. Theiss (Cambridge) 7 Mar 00
H. Mortveit (Trondheim) 22 May 00
R. Reid (Warwick) 5 Dec 00
H. Hulme (Liverpool) 7 Dec 00
E. Risler (Nice) (habilitation) 16 Dec 02
J-A Sepulchre (Nice) (habilitation) 1 Jul 03
W Tucker (Uppsala) (docent) June 04
H Hanssmann (Aachen) (habilitation) Oct 04
T Ekola (Stockholm) 22 Apr 05
V Naudot (Dijon) (habilitation) 27 May 05
B Fernandez (Marseille) (habilitation) 23 Apr 08
U Janus (Warwick) 10 Feb 09
Rabab Fadl Al-Bar (Cairo) July 09
Alef Sterk (Groningen) 1 Oct 10
Jaap Eldering (Utrecht) 27 Aug 12
Samuel Martin (Grenoble) 28 Nov 12
Unver Ciftci (Groningen) 21 Jun 13
Rebecca Cotton-Barratt (Warwick) 16 Jan 14
Yu-Xi Chau (Warwick) 13 Oct 15
M.Maitland (Warwick) 18 Oct 16
A.Martinez (Oxford) 12 Sep 17
H.Charlesworth (Warwick) 20 May 19
M.Groves (Warwick) 17 Feb 20
J Pollard (Warwick) 1 Dec 20

Publications of R.S. MacKay

March 28, 2021

Books and Edited Volumes

B1 R.S.MacKay and J.D.Meiss, eds, Hamiltonian Dynamical Systems: a reprint selection (Adam Hilger, Bristol, 1987), xii+784

B2 R.S.MacKay, Renormalisation in area-preserving maps (corrected and annotated), World Sci. Publ. Co., 1993, xix+304

B3 S.Flach, R.S.MacKay (eds), Special issue of Physica D on Localization in nonlinear lattices, Physica D 119 (1998) 1–238

B4 L.Vazquez, RS MacKay, M-P Zorzano (eds), Localization and energy transfer in nonlinear systems (World Sci, 2003) x+351

B5 T Dauxois, A Litvak-Hinenzon, RS MacKay, A Spanoudaki (eds), Energy localisation and transfer (World Sci, 2004) xvii+409

B6 T Dauxois, RS MacKay, GP Tsironis (eds), Special issue of Physica D on Nonlinear physics: condensed matter, dynamical systems and biological physics, Physica D 216 (2006) 1–246

B7 J Johnson, M Kirkilionis, RS MacKay (eds), Mathematics in the Science of Complex Systems, proceedings of Sept 2006 Warwick conference (2007) http://phoenixweb.open.ac.uk/complexity/maths_complexity_2006.html

B8 MacKay RS, Budd C, Jones CKRT (eds), Mathematics for Planet Earth, special issue of Mathematics Today (Feb 2013)

B9 Ball RC, Kolokoltsov VN, MacKay RS (eds), Complexity Science: The Warwick Master's Course, London Mathematical Society Lecture Notes vol 408 (Cambridge Univ Press, 2013)

Journal Articles (all refereed) (ISI Web of Knowledge h-index 34)

J1 E de Boer, R MacKay, Reflections on reflections, J Acoustic Soc Am **67** (1980) 882–890

J2 J.M. Greene, R.S. MacKay, F. Vivaldi, M.J. Feigenbaum, Universal behaviour in families of area preserving maps, Physica D **3** (1981) 468–486; reprinted in [B1]

J3 R.S. MacKay, Islets of stability beyond period doubling, Phys. Lett. A **87** (1982) 321–324

J4 R.S. MacKay, A renormalisation approach to invariant circles in area preserving maps, Physica D **7** (1983) 283–300; reprinted in [B1]

J5 R.S. MacKay, J.D. Meiss, Linear stability of periodic orbits in Lagrangian systems, Phys. Lett. A **98** (1983) 92–94; reprinted in [B1]

J6 R.S. MacKay, J.D. Meiss, I.C. Percival, Stochasticity and Transport in Hamiltonian systems, Phys. Rev. Lett. **52** (1984) 697–700

J7 R.S. MacKay, C. Tresser, Transition to chaos for two-frequency systems, J. de Physique Lett. **45** (1984) L741–L746

J8 R.S. MacKay, J.D. Meiss, I.C. Percival, Transport in Hamiltonian systems, Physica D **13** (1984) 55–81; reprinted in [B1]

J9 R.S. MacKay, C. Tresser, Badly ordered orbits of circle maps, Math. Proc. Camb. Phil. Soc. **96** (1984) 447–451

J10 R.S. MacKay, Equivariant universality classes, Phys. Lett. A **106** (1984) 99–100

J11 J.M. Greene, R.S. MacKay, An approximation to the critical commuting pair for breakup of noble tori, Phys. Lett. A **107** (1985) 1–4

J12 R.S. MacKay, I.C. Percival, Converse KAM: theory and practice, Commun Math Phys **98** (1985) 469–512

J13 R.S. MacKay, J.D. Meiss, Flux and differences of action for continuous time Hamiltonian systems, J Phys A **19** (1986) L225–L229

J14 R.S. MacKay, C. Tresser, Transition to topological chaos for circle maps, Physica D **19** (1986) 206–237; Erratum, Physica D **29** (1988) 427

J15 RS MacKay, PG Saffman, Stability of water waves, Proc Roy Soc Lond A **406** (1986) 115–125

J16 J.M. Greene, R.S. MacKay, J. Stark, Boundary circles for area-preserving maps, Physica D **21** (1986) 267–295

J17 I Leage, RS MacKay, Badly ordered periodic orbits of the standard map, Phys Lett A **118** (1986) 274–8

J18 R.S. MacKay, Rotation interval from a time series, J Phys A **20** (1987) 587–592

J19 RS MacKay, JD Meiss, IC Percival, Resonances in Area-preserving Maps, Physica D **27** (1987) 1–20

J20 R.S. MacKay, I.C. Percival, Universal small-scale structure near the boundary of Siegel disks of arbitrary rotation number, Physica D **26** (1987) 193–202

J21 J.E. Howard, R.S. MacKay, Calculation of linear stability boundaries for equilibria of Hamiltonian systems, Phys. Lett. A **122** (1987) 331–334

J22 R.S. MacKay, Hyperbolic cantori have dimension zero, J. Phys. A **20** (1987) L559–L561

J23 R.S. MacKay, C. Tresser, Some flesh on the skeleton: the bifurcation structure of bimodal maps, Physica D **27** (1987) 412–422

J24 JE Howard, RS MacKay, Linear stability of symplectic maps, J Math Phys **28** (1987) 1036–51

J25 R.S. MacKay, Instability of vortex streets, Dyn Stab Sys **2** (1987) 55–71

J26 RS MacKay, JB van Zeijts, Period doubling for bimodal maps: a horseshoe for a renormalisation operator, Nonlinearity **1** (1988) 253–277

J27 RS MacKay, C Tresser, Boundary of topological chaos for bimodal maps of the interval, J Lond Math Soc **37** (1988) 164–181

J28 RS MacKay, A simple proof of Denjoy's theorem, Math Proc Camb Phil Soc **103** (1988) 299-303

J29 RS MacKay, JD Meiss, The relation between quantum and classical thresholds for multiphoton ionisation, Phys Rev A **37** (1988) 4702–6

J30 RS MacKay, Exact results for an approximate renormalisation scheme and some predictions for the breakup of invariant tori, Physica D 33 (1988) 240–65; Erratum, Physica D 36 (1989) 358

J31 J Ketoja, RS MacKay, Fractal boundary for the existence of invariant circles for area-preserving maps: observations and renormalisation explanation, Physica D **35** (1989) 318–334

J32 R.S. MacKay, J. Stark, Evaluation of an approximate renormalisation scheme, Phys Lett A **138** (1989) 113–122

J33 R.S. MacKay, A criterion for non-existence of invariant tori for Hamiltonian systems, Physica D **36** (1989) 64–82

J34 S. Kim, R.S. MacKay, J. Guckenheimer, Resonance regions for families of torus maps, Nonlinearity **2** (1989) 391–404

J35 RS MacKay, JD Meiss, J Stark, Converse KAM theory for symplectic twist maps, Nonlinearity **2** (1989) 555–570

J36 RS MacKay, Flux over a saddle, Phys Lett A **145** (1990) 425–7

J37 Q Chen, RS MacKay, JD Meiss, Cantori for symplectic maps, J Phys A **23** (1990) L1093–1100

J38 J. Llibre, R.S. MacKay, A classification of braid types for diffeomorphisms of surfaces of genus zero with topological entropy zero, J London Math Soc **42** (1990) 562–576

J39 R.S. MacKay, A variational principle for odd-dimensional invariant submanifolds of an energy surface for Hamiltonian systems, Nonlinearity **4** (1991) 155–7

J40 J. Llibre, R.S. MacKay, Rotation vectors and entropy for homeomorphisms of the torus isotopic to the identity, Ergod Th. Dyn. Sys. **11** (1991) 115–128

J41 C. Baesens, J. Guckenheimer, S. Kim, R.S. MacKay, Three coupled oscillators: Mode-locking, global bifurcations and toroidal chaos, Physica D **49** (1991) 387–475

J42 R.S. MacKay, Scaling exponents at the transition by breaking of analyticity for incommensurate structures, Physica D **50** (1991) 71–79

J43 R.S. MacKay, Movement of eigenvalues of Hamiltonian equilibria under non-Hamiltonian perturbation, Phys Lett A **155** (1991) 266–8

J44 MJ Davis, RS MacKay, A Sannami, Markov shifts in the Hénon family, Physica D **52** (1991) 171–8

J45 R.S. MacKay, An extension of Zeeman's notion of structural stability to non-invertible maps, Physica D **52** (1991) 246–253

J46 R.S. MacKay, Transition of the phase-resetting map for kicked oscillators, Physica D **52** (1991) 254–266

J47 J Guaschi, J Llibre, RS MacKay, A classification of braid types for diffeomorphisms of surfaces of genus one with topological entropy zero, Pub Mat Univ Aut Barcelona **35** (1991) 543–558

J48 R.S. MacKay, J.D. Meiss, Cantori for symplectic maps near the anti-integrable limit, Nonlinearity **5** (1992) 149–160

J49 R.S. MacKay, Greene's residue criterion, Nonlinearity **5** (1992) 161–187

J50 S. Aubry, R.S. MacKay and C. Baesens, Equivalence of uniform hyperbolicity for symplectic twist maps and phonon gap for Frenkel–Kontorova models, Physica D **56** (1992) 123–134

J51 RS MacKay, J Stark, Locally most robust circles and boundary circles for area-preserving maps, Nonlinearity **5** (1992) 867–888

J52 C Baesens, RS MacKay, Uniformly travelling water waves from a dynamical systems viewpoint: some insights into bifurcations from the Stokes family, J Fluid Mech **241** (1992) 333–47

J53 J. Llibre, R.S. MacKay, Pseudo-Anosov maps on a sphere with four holes have all periods, Math Proc Camb Phil Soc **112** (1992) 539–549

J54 MR Muldoon, RS MacKay, DS Broomhead, J Huke, Topology from a time series, Physica D **65** (1993) 1–16

J55 RS MacKay, MR Muldoon, Diffusing through spectres: ridge curves, ghost circles and a partition of phase space, Phys Lett A **178** (1993) 245–250

J56 RS MacKay, Non-area-preserving directions from area-preserving fixed points of the renormalisation for invariant circles, Nonlinearity **6** (1993) 799–817

J57 C Baesens, RS MacKay, Cantori for multi-harmonic maps, Physica D **69** (1993) 59–76

J58 C Baesens, RS MacKay, Continuity of the phonon gap, Phys Lett A **183** (1993) 193–5

J59 C Baesens, RS MacKay, Improved proof of existence of chaotic polaronic and bipolaronic states for the adiabatic Holstein model and generalisations, Nonlinearity **7** (1994) 59–84

J60 C Baesens, RS MacKay, The one-to-two hole transition for cantori, Physica D **71** (1994) 372–89

J61 R.S. MacKay, Renormalisation of bicritical circle maps, Phys Lett A **187** (1994) 391–396

J62 J. Ketoja, R.S. MacKay, Rotationally-ordered periodic orbits for multiharmonic area-preserving twist maps, Physica D **73** (1994) 388–398

J63 R.S. MacKay, Mode-locking and rotational chaos for networks of oscillators: a mathematical framework, J Nonlin Sci **4** (1994) 301–314

J64 R.S. MacKay, A.A. Pinto, J.B.J. van Zeijts, Coordinate change eigenvalues for bimodal period doubling renormalisation, Phys Lett A **190** (1994) 412–416

J65 R.S. MacKay, J.D. Meiss, J. Stark, An approximate renormalisation for the breakup of invariant tori with three frequencies, Phys Lett A **190** (1994) 417–424

J66 R.S. MacKay, Transport in 3D volume-preserving flows, J Nonlin Sci **4** (1994) 329–354

J67 R.S. MacKay, S. Aubry, Proof of existence of breathers for time-reversible or Hamiltonian networks of weakly coupled oscillators, Nonlinearity **7** (1994) 1623–1643

J68 R.S. MacKay, T. Shardlow, The Multiplicity of bifurcations for area-preserving maps, Bull Lond Math Soc **26** (1994) 382–394

J69 R.S. MacKay, J.-A. Sepulchre, Multistability in networks of weakly coupled bistable units, Physica D **82** (1995) 243–254

J70 R.S. MacKay, The classical statistical mechanics of Frenkel-Kontorova models, J Stat Phys **80** (1995) 45–67

J71 R.S. MacKay, Recent progress and outstanding problems in Hamiltonian dynamics, Physica D **86** (1995) 122–133

J72 C. Baesens, R.S. MacKay, Effect of temperature on polaronic and bipolaronic states of the adiabatic Holstein model, J Stat Phys **85** (1996) 471–488

J73 C. Baesens, R.S. MacKay, Finite coherence length for equilibria of the adiabatic Holstein model, J Math Phys **38** (1997) 2104–14

J74 S. Flach, K. Kladko, R.S. MacKay, Energy thresholds for discrete breathers in one-, two- and three-dimensional lattices, Phys Rev Lett **78** (1997) 1207–10

J75 J.-A. Sepulchre, R.S. MacKay, Localised oscillations in conservative and dissipative networks of weakly coupled autonomous oscillators, Nonlinearity **10** (1997) 679–713

J76 C Baesens, RS MacKay, Exponential localization of linear response in networks with exponentially decaying coupling, Nonlinearity **10** (1997) 931–940

J77 S. Bolotin, R.S. MacKay, Multibump orbits near the anti-integrable limit for Lagrangian systems, Nonlinearity **10** (1997) 1015–1029

J78 R Livi, M Spicci, RS MacKay, Breathers on a diatomic FPU chain, Nonlinearity **10** (1997) 1421–34

J79 S. Kim, C. Baesens, R.S. MacKay, Phonon scattering by localised equilibria of nearest neighbour chains, Phys Rev E **56** (1997) R4955–8

J80 C. Baesens, S. Kim, R.S. MacKay, Localised modes on localised equilibria, Physica D **113** (1998) 242–7

J81 J-A Sepulchre, RS MacKay, Discrete breathers in disordered media, Physica D **113** (1998) 342–5

J82 RS MacKay, J-A Sepulchre, Stability of discrete breathers, Physica D **119** (1998) 148–162

J83 C Baesens, RS MacKay, Gradient dynamics of tilted Frenkel-Kontorova models, Nonlinearity **11** (1998) 949–964

J84 J Denvir, RS MacKay, Consequences of contractible geodesics, Trans Am Math Soc **350** (1998) 4553–4568

J85 C Baesens, RS MacKay, Excited states for the adiabatic Holstein model, J Phys A **31** (1998) 10065–85

J86 RS MacKay, Solitary waves in a chain of beads under Hertz contact, Phys Lett A **251** (1999) 191–2

J87 C Baesens, RS MacKay, Algebraic localisation of linear response in a network with algebraically decaying interaction, and application to breathers in dipole-dipole networks, Helv Phys Acta **72** (1999) 23–32

J88 JFR Archilla, RS MacKay, JL Marin, Discrete breathers and Anderson modes: two faces of the same phenomenon?, Physica D **134** (1999) 406–418

J89 RS MacKay, S Slijepcevic, J Stark, Optimal scheduling in a periodic environment, Nonlinearity **13** (2000) 257–297

J90 RS MacKay, Optic discrete breathers in Euclidean invariant systems, Int J Nonlin Sci Num Sim **1** (2000) 99–103.

J91 ML Bialy, RS MacKay, Variational properties of a nonlinear elliptic equation and rigidity, Duke Math J **102** (2000) 391–401.

J92 G Gielis, RS MacKay, Coupled map lattices with phase transition, Nonlinearity **13** (2000) 867–88.

J93 RS MacKay, Defects in solids, large molecules and space-structures, Proc Roy Soc Lond A **456** (2000) 1883–95.

J94 X-C Fu, Y Fu, J Duan, RS MacKay, Chaotic properties of subshifts generated by a non-periodic recurrent orbit, Int J Bif Chaos **10** (2000) 1067-73.

J95 C Chandre, RS MacKay, Approximate renormalization with codimension-one fixed point for the breakup of some three-frequency tori, Phys Lett A **275** (2000) 394–400.

J96 RS MacKay, Discrete Breathers: classical and quantum, Physica A **288** (2000) 174–198.

J97 SV Bolotin, RS MacKay, Periodic and chaotic trajectories of the second species for the n-centre problem, Cel Mech Dyn Astron **77** (2000) 49–75.

J98 RS MacKay, Complicated dynamics from simple topological hypotheses, Phil Trans Roy Soc London A 359 (2001) 1479–96.

J99 T Ahn, RS MacKay, J-A Sepulchre, Dynamics of relative phases: generalised multibreathers, Nonlinear Dynamics 25 (2001) 157–182.

J100 RS MacKay, J-A Sepulchre, Effective Hamiltonian for travelling discrete breathers, J Phys A 35 (2002) 3985–4002.

J101 TJ Hunt, RS MacKay, Anosov parameter values for the triple linkage and a physical system with a uniformly chaotic attractor, Nonlinearity 16 (2003) 1499–1510.

J102 Z Bishnani, RS MacKay, Safety criteria for aperiodically forced systems, Dyn Sys 18 (2003) 107–29

J103 C Baesens, RS MacKay, A novel preserved partial order for cooperative networks of over-damped second order units, and application to tilted Frenkel-Kontorova chains, Nonlinearity 17 (2004) 567–580.

J104 M Bialy, RS MacKay, Symplectic twist maps without conjugate points, Israel J Math 141 (2004) 235–248.

J105 A Berger, RS MacKay, VM Rothos, A criterion for non-persistence of travelling breathers for perturbations of the Ablowitz-Ladik lattice, Discr Cont Dyn Sys B 4 (2004) 911–920.

J106 N Theodorakopoulos, M Peyrard, RS MacKay, Nonlinear structures and thermodynamic instabilities in a one-dimensional lattice system, Phys Rev Lett 93 (2004) 258101 (4 pages).

J107 V Koukouloyannis, RS MacKay, Existence and stability of 3-site breathers in a triangular lattice, J Phys A 38 (2005) 1021–30.

J108 NR Catarino, RS MacKay, Renormalization and quantum scaling of Frenkel-Kontorova models, J Stat Phys 121 (2005) 995–1014.

J109 C Baesens, RS MacKay, Discommensuration theory for Frenkel-Kontorova models and shadowing, Physica D 216 (2006) 179–84; Erratum, Physica D 229 (2007) 96.

J110 RS MacKay, DJC MacKay, Ergodic pumping: a mechanism to drive biomolecular conformation changes, Physica D 216 (2006) 220–34.

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