

Dr Konstantin Blyuss

Curriculum Vitae

Address: Department of Mathematics
University of Sussex
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United Kingdom

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Languages: English, German, Ukrainian, Russian

Employment

June 2017 - present Reader in Mathematics, Department of Mathematics, University of Sussex, UK

Oct 2010 - May 2017 Lecturer, Senior Lecturer, Department of Mathematics, University of Sussex, UK

Aug 2008 - Sept 2010 Lecturer in Complexity Sciences, Department of Engineering Mathematics, University of Bristol, UK

Oct 2006 - July 2008 Temporary Lecturer in Applied Mathematics, School of Computing and Mathematics, Keele University, UK

Mar 2006 - Sept 2006 Postdoctoral mathematical biologist, Department of Zoology, University of Oxford, UK

Oct 2003 - Feb 2006 EPSRC Research Fellow, Department of Mathematical Sciences, University of Exeter, UK

Education

- 2015-present** Fellow of the Higher Education Academy, UK
- 2006-2007** Postgraduate Certificate in Higher Education, Keele University, UK
- 2000-2003** PhD in mathematics, University of Surrey, UK
Thesis title: "Perturbed multi-symplectic systems: intersections of invariant manifolds and transverse instability"
- 1999-2000** Diploma (M.Sc.) in theoretical physics, Brandenburg Technical University (BTU), Germany
- 1995-2000** B.Sc., Diploma (M.Sc.) with Distinction in physics, Dnipropetrovsk State University, Ukraine

Publication list (*h*-index: 25)

70. A. Ross, S.N. Kyrychko, **K.B. Blyuss**, Y.N. Kyrychko, Dynamics of coupled Kuramoto oscillators with distributed delays, *Chaos* **31**, 103107 (2021).
69. **K.B. Blyuss**, S.N. Kyrychko, Y.N. Kyrychko, Time-delayed and stochastic effects in a predator-prey model with ratio dependence and Holling Type III functional response, *Chaos* **31**, 073141 (2021).
68. F. Al Basir, Y.N. Kyrychko, **K.B. Blyuss**, S. Ray, Effects of vector maturation time on the dynamics of Cassava Mosaic Disease, *Bull. Math. Biol.* **83**, 87 (2021).
67. **K.B. Blyuss**, Y.N. Kyrychko, Effects of latency and age structure on the dynamics and containment of COVID-19, *J. Theor. Biol.* **513**, 110587 (2021).
66. **K.B. Blyuss**, F. Al Basir, V.A. Tsygankova, L.O. Biliavska, G.O. Iutynska, S.N. Kyrychko, S.V. Dziuba, O.I. Tsyliuryk, O.O. Izhboldin, Control of mosaic disease using microbial biostimulants: insights from mathematical modelling, *Ric. di Matem.* **69**, 437-455 (2020).
65. B. Rahman, M.A. Yau, Y.N. Kyrychko, **K.B. Blyuss**, Dynamics of a predator-prey model with discrete and distributed delay, *Int. J. Dyn. Syst. Diff. Eqns.* **10**, 427-449 (2020).
64. Y.N. Kyrychko, **K.B. Blyuss**, I. Brovchenko, Mathematical modelling of the dynamics and containment of Covid-19 in Ukraine, *Sci. Reps.* **10**, 19662 (2020).

63. B. Rahman, Y.N. Kyrychko, **K.B. Blyuss**, Dynamics of unidirectionally-coupled ring neural network with discrete and distributed delays, *J. Math. Biol.* **80**, 1617-1653 (2020).
62. L.B. Nicholson, **K.B. Blyuss**, F. Fatehi, Quantifying the role of stochasticity in the development of autoimmune disease, *Cells* **9**, 860 (2020).
61. F. Fatehi, Y.N. Kyrychko, **K.B. Blyuss**, Stochastic dynamics in a time-delayed model for autoimmunity, *Math. Biosci.* **322**, 108323 (2020).
60. F. Fatehi, Y.N. Kyrychko, **K.B. Blyuss**, A new approach to simulating stochastic delayed systems, *Math. Biosci.* **322**, 108327 (2020).
59. F. Fatehi, Y.N. Kyrychko, **K.B. Blyuss**, Time-delayed model of autoimmune dynamics, *Math. Biosci. Eng.* **16** 5613-5639 (2019).
58. **K.B. Blyuss**, F. Fatehi, V.A. Tsygankova, L.O. Biliavska, G.O. Iutynska, A.I. Yemets, Ya.B. Blume, RNAi-based biocontrol of wheat nematodes using natural poly-component biostimulants, *Front. Plant Sci.* **10**, 483 (2019).
57. F. Fatehi, Y.N. Kyrychko, R. Molchanov, **K.B. Blyuss**, Bifurcations and multistability in a model of cytokine-mediated autoimmunity, *Int. J. Bif. Chaos* **29** 1950034 (2019).
56. F. Al Basir, **K.B. Blyuss**, S. Ray, Modelling the effects of awareness-based interventions to control the mosaic disease of *Jatropha curcas*, *Ecol. Compl.* **36**, 92-100 (2018).
55. B. Rahman, Y.N. Kyrychko, **K.B. Blyuss**, S.J. Hogan, Dynamics of a subthalamic nucleus-globus pallidus network with three delays, *IFAC-PapersOnline* **51**, 294-299 (2018).
54. F. Fatehi, Y.N. Kyrychko, **K.B. Blyuss**, Effects of viral and cytokine delays on dynamics of autoimmunity, *Mathematics* **6**, 66 (2018).
53. N. Sherborne, **K.B. Blyuss**, I.Z. Kiss, Bursting endemic bubbles in an adaptive network, *Phys. Rev. E* **97**, 042306 (2018).
52. F. Fatehi Chenar, Y.N. Kyrychko, **K.B. Blyuss**, Mathematical model of immune response to hepatitis B, *J. Theor. Biol.* **447**, 98-110 (2018).
51. F. Fatehi, S.N. Kyrychko, A. Ross, Y.N. Kyrychko, **K.B. Blyuss**, Stochastic effects in autoimmune dynamics, *Frontiers Physiol.* **9**, 45 (2018).
50. N. Sherborne, J.C. Miller, **K.B. Blyuss**, I.Z. Kiss, Mean-field models for non-Markovian epidemics on networks, *J. Math. Biol.* **76**, 755-778 (2018).
49. G.O. Agaba, Y.N. Kyrychko, **K.B. Blyuss**, Dynamics of vaccination in a time-delayed epidemic model with awareness, *Math. Biosci.* **294**, 92-99 (2017).

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48. L. Bauer, J. Bassett, P. Hvel, Y.N. Kyrychko, **K.B. Blyuss**, Chimera states in multi-strain epidemic models with temporary immunity, *Chaos* **27**, 114317 (2017).
47. B. Rahman, **K.B. Blyuss**, Y.N. Kyrychko, Aging transition in systems of oscillators with global distributed-delay coupling, *Phys. Rev. E* **96**, 032203 (2017).
46. G.O. Agaba, Y.N. Kyrychko, **K.B. Blyuss**, Time-delayed SIS epidemic model with population awareness, *Ecol. Compl.* **31**, 50-56 (2017).
45. G. Neofytou, Y.N. Kyrychko, **K.B. Blyuss**, Time-delayed model of RNA interference, *Ecol. Compl.* **30**, 11-25 (2017).
44. G.O. Agaba, Y.N. Kyrychko, **K.B. Blyuss**, Mathematical model for the impact of awareness on the dynamics of infectious diseases, *Math. Biosci.* **286**, 22-30 (2017).
43. N. Sherborne, **K.B. Blyuss**, I.Z. Kiss, Compact pairwise models for epidemics with multiple infectious stages on degree heterogeneous and clustered networks, *J. Theor. Biol.* **407**, 387-400 (2016).
42. G. Neofytou, Y.N. Kyrychko, **K.B. Blyuss**, Mathematical model of plant-virus interactions mediated by RNA interference, *J. Theor. Biol.* **403**, 129-142 (2016).
41. **K.B. Blyuss**, Mathematical modelling of the dynamics of meningococcal meningitis in Africa, pp. 221-226, in P.J. Aston, A.J. Mulholland, K.M.M. Tant (Eds.), *UK Success Stories in Industrial Mathematics*, Springer (2016).
40. (Editorial) Systems medicine of cancer: bringing together clinical data and nonlinear dynamics of genetic networks, K.B. Blyuss, R. Manchanda, J. Kurths, A. Alsaedi, A. Zaikin, *Comp. Math. Mod. Med.* 2016, 7904693 (2016).
39. G. Neofytou, Y.N. Kyrychko, **K.B. Blyuss**, Time-delayed model of immune response in plants, *J. Theor. Biol.* **289**, 28-39 (2016).
38. B. Rahman, **K.B. Blyuss**, Y.N. Kyrychko, Dynamics of neural systems with discrete and distributed time delays, *SIAM J. Appl. Dyn. Syst.* **14**, 2069-2095 (2015).
37. N. Sherborne, **K.B. Blyuss**, I.Z. Kiss, Dynamics of multi-stage infections on networks, *Bull. Math. Biol.* **77**, 1909-1933 (2015).
36. K. Parmar, **K.B. Blyuss**, Y.N. Kyrychko, S.J. Hogan, Time-delayed models of gene regulatory networks, *Comp. Math. Meth. Med.* **2015**, 347273 (2015).
35. **K.B. Blyuss**, L.B. Nicholson, Understanding the roles of activation threshold and infections in the dynamics of autoimmune disease, *J. Theor. Biol.* **375**, 13-20 (2015).
34. **K.B. Blyuss**, Analysis of symmetries in models of multi-strain infections, *J. Math. Biol.* **69**, 1431-1459 (2014).

33. Y.N. Kyrychko, **K.B. Blyuss**, E. Schöll, Synchronization of networks of oscillators with distributed delay coupling, *Chaos* **24**, 043117 (2014).
32. **K.B. Blyuss**, Y.N. Kyrychko, Instability of disease-free equilibrium in a model of malaria with immune delay, *Math. Biosci.* **248**, 54-56 (2014).
31. A. Zakharova, I. Schneider, Y.N. Kyrychko, **K.B. Blyuss**, A. Koseska, B. Fiedler, E. Schöll, Time delay control of symmetry-breaking primary and secondary oscillation death, *Europhys. Lett.* **104**, 50004 (2013).
30. Y.N. Kyrychko, **K.B. Blyuss**, E. Schöll, Amplitude and phase dynamics in oscillators with distributed-delay coupling, *Phil. Trans. Roy. Soc. A* **371**, 20120466 (2013).
29. P. Rattana, **K.B. Blyuss**, K.T.D. Eames, I.Z. Kiss, A class of pairwise models for epidemic dynamics on weighted networks, *Bull. Math. Biol.* **75**, 466-490 (2013).
28. **K.B. Blyuss**, The effects of symmetry on the dynamics of antigenic variation, *J. Math. Biol.* **66**, 115-137 (2013).
27. **K.B. Blyuss**, Y.N. Kyrychko, Symmetry breaking in a model of antigenic variation with immune delay, *Bull. Math. Biol.* **74**, 2488-2509 (2012).
26. E. Ullner, S. Aures, L.G. Morelli, A.C. Oates, F. Juelicher, E. Nicola, R. Heussen, D. Whitmore, **K.B. Blyuss**, M. Fryett, A. Zakharova, A. Koseska, N.R. Nene, A. Zaikin, Noise and oscillations in biological systems: multidisciplinary approach between experimental biology, theoretical modelling and synthetic biology, *Int. J. Mod. Phys. B* **26**, 1246009 (2012).
25. **K.B. Blyuss**, L.B. Nicholson, The role of tunable activation thresholds in the dynamics of autoimmunity, *J. Theor. Biol.* **308**, 45-55 (2012).
24. T.J. Irving, **K.B. Blyuss**, C. Colijn, C.L. Trotter, Modelling meningococcal meningitis in the African meningitis belt, *Epidemiol. Infect.* **140**, 897-905 (2012).
23. Y.N. Kyrychko, **K.B. Blyuss**, E. Schöll, Amplitude death in systems of coupled oscillators with distributed-delay coupling, *Eur. Phys. J. B* **84**, 307-315 (2011).
22. **K.B. Blyuss**, Y.N. Kyrychko, Stability and bifurcations in an epidemic model with varying immunity period, *Bull. Math. Biol.* **72**, 490-505 (2010).
21. Y.N. Kyrychko, **K.B. Blyuss**, S.J. Hogan, E. Schöll, Control of spatiotemporal patterns in the Gray-Scott model, *Chaos* **19**, 043126 (2009).
20. Y.N. Kyrychko, **K.B. Blyuss**, P. Hövel, E. Schöll, Asymptotic properties of the spectrum of neutral delay differential equations, *Dyn. Syst.* **24**, 361-372 (2009).

19. M. Recker, **K.B. Blyuss**, C.P. Simmons, T. Tinh Hien, B. Wills, J. Farrar, S. Gupta, Immunological serotype interactions and their effect on the epidemiological pattern of dengue, *Proc. Roy. Soc. B* **276**, 2541-2548 (2009).
18. **K.B. Blyuss**, S. Gupta, Stability and bifurcations in a model of antigenic variation in malaria, *J. Math. Biol.* **58**, 923-937 (2009).
17. Y.N. Kyrychko, **K.B. Blyuss**, Persistence of travelling waves in a generalized Fisher equation, *Phys. Lett. A* **373**, 668-674 (2009).
16. **K.B. Blyuss**, Y.N. Kyrychko, P. Hövel, E. Schöll, Control of unstable steady states in neutral time-delayed systems, *Eur. Phys. J. B* **65**, 571-576 (2008).
15. **K.B. Blyuss**, G. Derks, Transverse intersection of invariant manifolds in perturbed multi-symplectic systems, *Dyn. Syst.* **23**, 219-256 (2008).
14. C.D. Wright, **K.B. Blyuss**, P. Ashwin, Master-equation approach to understanding multi-state phase-change memories and processors, *Appl. Phys. Lett.* **90**, 063113 (2007).
13. Y.N. Kyrychko, **K.B. Blyuss**, A. Gonzalez-Buelga, S.J. Hogan & D.J. Wagg, Stability switches in a neutral delay differential equation with application to real-time dynamic substructuring, *Appl. Mech. Mat.* **5-6**, 79-84 (2006).
12. **K.B. Blyuss**, P. Ashwin, A.P. Bassom, C.D. Wright, Front propagation in a phase-field model with phase-dependent heat absorption, *Physica D* **215**, 127-136 (2006).
11. Y.N. Kyrychko, **K.B. Blyuss**, A. Gonzalez-Buelga, S.J. Hogan & D.J. Wagg, Real-time dynamic substructuring in a coupled oscillator-pendulum system, *Proc. Roy. Soc. A* **462**, 1271-1294 (2006).
10. **K.B. Blyuss**, On a model of spatial spread of epidemics with long-distance travel, *Phys. Lett. A* **345**, 129-136 (2005).
9. Y.N. Kyrychko & **K.B. Blyuss**, Global properties of a delayed SIR model with temporary immunity and nonlinear incidence rate, *Nonlinear Anal. Real World Appl.* **6**, 495-507 (2005).
8. **K.B. Blyuss** & Y.N. Kyrychko, On a basic model of a two-disease epidemic, *Appl. Math. Comput.* **160**, 177-187 (2005).
7. **K.B. Blyuss**, P. Ashwin, A.P. Bassom, C.D. Wright, Master equation approach to the study of phase change processes in data storage media, *Phys. Rev. E* **71**, 011607 (2005).
6. Y.N. Kyrychko, M.V. Bartuccelli & **K.B. Blyuss**, Persistence of travelling wave solutions of a fourth order diffusion system, *J. Comput. Appl. Math.* **176**, 433-443 (2005).

5. M.V. Bartuccelli, **K.B. Blyuss** & Y.N. Kyrychko, Length scales and positivity of solutions of a class of reaction-diffusion equations, *Comm. Pure Appl. Anal.*, **3**, 25-40 (2004).
4. **K.B. Blyuss**, T.J. Bridges, G. Derks, Transverse instability and its long-term development for solitary waves of the (2+1)-Boussinesq equation, *Phys. Rev. E* **67**, 056626 (2003).
3. **K.B. Blyuss**, Melnikov analysis for multi-symplectic PDEs, *Proc. Inst. Math. Kyiv* **43**, 720-724 (2002).
2. **K.B. Blyuss**, Chaotic behaviour of solutions to a perturbed Korteweg-de Vries equation, *Rep. Math. Phys.* **49**, 29-38 (2002).
1. **K.B. Blyuss**, Chaotic behaviour of nonlinear waves and solitons of perturbed Korteweg-de Vries equation, *Rep. Math. Phys.* **46**, 47-54 (2000).

Research interests

My research falls mainly within the following topics

- Mathematical epidemiology and immunology
- Modelling plant immune responses and RNA interference
- Delay differential equations
- Applied dynamical systems

Awards/Grants

- | | |
|----------------------------|---|
| Oct 1999 - Oct 2000 | Land Brandenburg Scholarship, Germany |
| Oct 2000 - Oct 2003 | Overseas Research Student (ORS) Award, UK |
| August 2005 | Financial support from the Isaac Newton Institute for Mathematical Sciences, Cambridge, to participate in the training course and workshop on "Pattern Formation" |
| Sept 2009 | Award of £12,400 from MiR grant to organize a Workshop on "Mathematical Modelling of Epidemics" |
| November 2010 | Co-I on a £3.6 mln EPSRC grant for a Bristol Centre of Complexity Sciences |

Professional activities

- Sept 2019** Co-organiser of a mini-symposium on “Recent advances in time-delayed systems”, Dynamics Days Europe, Rostock, Germany
- July 2019** Organiser of a mini-symposium on “Mathematical models of epidemics and awareness”, International Conference on Industrial and Applied Mathematics, Valencia, Spain
- June 2018** Organiser of a mini-symposium on “Time-delayed models of neural networks”, 14th IFAC Workshop on Time Delay Systems, Budapest, Hungary
- June 2017** Co-organiser of a mini-symposium on “Complex Networks: Delays and Collective Dynamics”, Dynamics Days Europe, Szeged, Hungary
- May 2017** Co-organiser of a mini-symposium on “Recent advances in time-delayed models of gene regulatory networks”, SIAM Conference on Applications of Dynamical Systems, Snowbird, USA
- April 2017** Invited co-organiser of a mini-symposium on “Applied delay differential equations”, British Applied Mathematics Colloquium, University of Surrey, UK
- July 2016** Organiser of a mini-symposium on “Recent advances in mathematical modelling of gene regulatory circuits”, European Conference on Mathematical and Theoretical Biology, Nottingham, UK
- 2014 - present** Editor of the “Computational and Mathematical Methods in Medicine” journal
- May 2013** Co-organiser of a mini-symposium on “Complex systems with delays”, SIAM Conference on Applications of Dynamical Systems, Snowbird, USA
- July 2011** Co-organiser of a mini-symposium on “Time delays and synchronization in biological systems”, ICIAM 2011, Vancouver, Canada
- Sept 2009** Organiser of a two-day Workshop on “Mathematical Modelling of Epidemics”, University of Bristol, UK

Invited presentations

- 19-22 Sept 2021** Invited talk at International Conference on “Nonlinear dynamics of oscillatory systems”, Nizhny Novgorod, Russia
- 23-27 Aug 2021** Mini-symposium on “Time delayed systems: theory and experiment”, Dynamics Days Europe, Nice, France
- 2-5 Feb 2021** Keynote presentation at a Virtual International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”
- 24-27 Aug 2020** Mini-symposium on “Modelling the dynamics of Covid19 pandemic”, Dynamics Days Digital 2020
- 12 May 2020** Oberseminar “Nonlinear dynamics” Weierstrass Institute, Berlin, Germany
- 4-7 Feb 2020** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Trento, Italy
- 11-13 Sept 2019** Keynote talk, Workshop on “Stochastic methods in health and disease”, University of Leeds, Leeds, UK
- 2-6 Sept 2019** Mini-symposium on “Dynamics of delay differential equations, and application”, Dynamics Days Europe, Rostock, Germany
- 15-19 July 2019** Mini-symposium on “Mathematical models of epidemics and awareness”, International Conference on Industrial and Applied Mathematics, Valencia, Spain
- 3-6 Feb 2019** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Naples, Italy
- 17-19 Dec 2018** Plenary talk, Workshop on “Perspectives on Complex Systems” Technical University Berlin, Berlin, Germany
- 17-19 Dec 2018** Plenary talk, Workshop on “Perspectives on Complex Systems” Technical University Berlin, Berlin, Germany
- 21 Nov 2018** Research seminar, Department of Mathematics and Applications University of Naples Federico II, Naples, Italy
- 28-30 June 2018** Mini-symposium on “Time delays in biological systems”, 14th IFAC Workshop on Time Delay Systems, Budapest, Hungary

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- 7-9 Feb 2018** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Torino, Italy
- 5-9 June 2017** Mini-symposium on “Complex Networks: Delays and Collective Dynamics”, Dynamics Days Europe, Szeged, Hungary
- 21-25 May 2017** Mini-symposium on “Dynamical Models of Plant Response to Threats”, SIAM Conference on Applications of Dynamical Systems, Snowbird, USA
- 10-12 April 2017** Mini-symposium on “Applied delay differential equations”, British Applied Mathematics Colloquium, University of Surrey, Guildford, UK
- 22 March 2017** Research seminar, Institute for Cross-Disciplinary Physics and Complex Systems, Palma, Mallorca, Spain
- 31 Jan-3 Feb 2017** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Évora, Portugal
- 6 Sept 2016** Research seminar, John Innes Centre, Norwich, UK
- 2-5 Feb 2016** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Évora, Portugal
- 11-15 May 2015** Short Thematic Program on “Delay-Differential equations in physical sciences and engineering”, Fields Institute, Toronto, Canada
- 19 Mar 2015** Mathematics research seminar, Leicester University, UK
- 4-6 Feb 2015** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Lisbon, Portugal
- 10-12 Feb 2014** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Lisbon, Portugal
- 19-23 May 2013** Mini-symposium on “Delayed Network Dynamics, SIAM Conference on Applications of Dynamical Systems, Snowbird, USA
- 9 Jan 2013** Infection and Immunity Workshop, Bristol, UK

- 20-27 May 2012** International Workshop “Emergent Dynamics in Oscillatory Networks”, Crimea, Ukraine
- 6 Mar 2012** Mathematics research seminar, Imperial College, UK
- 8-10 Feb 2012** Keynote presentation at an International Workshop on “Dynamical Systems Applied to Biology and Natural Sciences”, Lisbon, Portugal
- 23 Nov 2011** Mathematics research seminar, Portsmouth, UK
- 5-8 Sept 2011** Mini-symposium on “Noise and oscillations in biological systems”, 5th International Conference on Physics and Control, León, Spain
- 3 Dec 2010** Mathematical biology seminar, Bath, UK
- 15 Dec 2009** Theoretical physics research seminar, Cottbus, Germany
- 20 Nov 2009** Severnside Alliance for Translational Research, Bristol, UK
- 18 Nov 2009** Complexity Forum, Warwick, UK
- 11 March 2009** Theoretical Physics seminar, Manchester, UK
- 23 Jan 2009** Applied mathematics seminar, Surrey, UK
- 9 Oct 2008** Mathematics seminar, Sussex, UK
- 12 March 2008** 2nd Colloquium on Models of Population Dynamics and Evolution, Leicester, UK
- 11 Oct 2007** Applied mathematics seminar, Essex, UK
- 27 Oct 2005** Research seminar at Isaac Newton Institute, Cambridge, UK
- 21 January 2005** Applied nonlinear mathematics seminar, Bristol, UK
- 6 January 2005** Departmental seminar, Institute for Theoretical Physics TU Berlin, Germany
- 14 May 2004** Applied mathematics seminar, Exeter, UK
- 21 January 2003** Physics colloquium, Cottbus, Germany

Contributed presentations

- 4-8 June 2012** Delayed Complex Systems, Palma, Spain
- 20-27 May 2012** 7th Crimean School and Workshop on "Emergent Dynamics of Oscillatory Networks", Crimea, Ukraine
- 1-5 August 2011** Equadiff, Loughborough, UK
- 31 May - 4 June 2010** Emerging Topics in Dynamical Systems and Partial Differential Equations, Barcelona, Spain
- 6-9 April 2010** British Applied Mathematics Colloquium, Edinburgh, UK
- 5-9 Oct 2009** Delayed Complex Systems, Dresden, Germany
- 2 June 2009** Mathematics, Computation and Biology, Bristol, UK
- 7-9 April 2009** British Applied Mathematics Colloquium, Nottingham, UK
- 17-19 Nov 2008** Complex Dynamics in Large Coupled Systems, Berlin, Germany
- 9-11 Sept 2008** Emergence in Complex Systems, Bath, UK
- 25-29 August 2008** Dynamics Days Europe 2008, Delft, Netherlands
- 3-7 Sept 2007** 3rd International Conference on Physics and Control, Potsdam, Germany
- 9-13 July 2007** Dynamics Days Europe 2007, Loughborough, UK
- 4-7 April 2007** British Applied Mathematics Colloquium, University of Bristol, UK
- 25-29 Sept 2006** Dynamics Days Europe 2006, Crete, Greece
- 15-26 May 2006** 6th Crimean School and Workshop on "Nonlinear Dynamics, Chaos and Applications", Crimea, Ukraine
- 19-23 Sept 2005** Theoretical aspects of pattern formation, Surrey, UK
- 5-8 Sept 2005** Successes and failures of continuous models for discrete systems, Bristol, UK
- 25-28 July 2005** XXV Dynamics Days Europe, Berlin, Germany

- 28 June 2005** Workshop on Dynamics, Dept. of Mathematical Sciences, University of Exeter, UK
- 4-7 Apr 2005** British Applied Mathematics Colloquium, University of Liverpool, UK
- 14 May 2004** Applied mathematics seminar, Exeter, UK
- 27 January 2004** Research seminar, Surrey, UK
- 28 July - 03 Aug 2002** Dynamical System Methods in Fluid Mechanics, Oberwolfach, Germany
- 25-26 March 2002** Dynamics with Symmetry, one-day workshop, Leeds, UK
- 9-15 July 2001** IV International Conference: Symmetry in Nonlinear Mathematical Physics, Kiev, Ukraine
- 20-23 June 1999** Dynamics Days Europe 1999, Como, Italy
- 18-21 May 1999** XXXI Symposium on Mathematical Physics, Torun, Poland

Teaching experience

Oct 2010 - present

University of Sussex:

“Linear algebra 1”, 1st year undergraduate module

“Geometry”, 1st year undergraduate module

“Cryptography”, MSc/MMath/3rd year module

“Numerical solution of ODEs”, MSc/MMath/4th year module

“Analysis 2”, 2nd year undergraduate module

“Applied Mathematical Models”, 3rd year undergraduate module

Aug 2008 - Sept 2010

University of Bristol:

“Mathematical Modelling”, 1st year DTC Complexity Post-graduate module

“Mathematical and Data Modelling”, 3rd year Engineering Mathematics module

Oct 2006 - July 2008

Keele University:

“Numerical Methods”, 2nd year undergraduate module

“Advanced Mathematics for Economics and Business”, 1st year undergraduate module

“Mathematical modelling”, 2nd year undergraduate module

Oct 2003 - Sept 2006

University of Exeter:

“Numerical methods and computing with Matlab”, 1st year undergraduate module

“Mathematical biology and ecology”, 3rd year undergraduate module

“Differential equations and chaos”, 4th year MMath module

Student supervision

2005-2006	Peter Basharan, Final year project, University of Exeter, UK
2005-2006	Vicky Brown, MSc project, University of Exeter, UK
2006-2007	Michael Lawton, Final year project, Keele University, UK
2009-2010	Laura Jones, MEng project, University of Bristol, UK
2009-2010	Terry Norton, MEng project, University of Bristol, UK
2010-2011	Wanyun Zheng, MMath project, University of Sussex
2011-2012	Giannis Neofytou, MSc project, University of Sussex
2012-2013	Edward Trinkwon, MMath project, University of Sussex
2012-2013	Emma Atakpa, MMath project, University of Sussex
2013-2014	Beth Boulton, MMath project, University of Sussex
2013-2014	Rosanna Barnard, MMath project, University of Sussex
2014-2015	Stephen Ashton, MMath project, University of Sussex
2014-2015	Helen Christmas, MMath project, University of Sussex
2017-2018	Khalid Aldawsari, MSc project, University of Sussex

Supervision of PhD students

2010-2013	Tom Irving, University of Bristol (PhD in 2013)
2011-2014	Muhammad Yau, University of Sussex (PhD in 2014)
2012-2016	Giannis Neofytou, University of Sussex (PhD in 2016)
2014-2016	Grace Agaba, University of Sussex (PhD in 2016)
2014-2018	Neil Sherborne, University of Sussex (PhD in 2018)
2015-2019	Farzad Fatehi, University of Sussex (PhD in 2019)

Examination of PhD theses

2013	Rubi Bilal, University College London
2015	David Haw, University of Bristol
2017	Abdullah Aldurayhim, University of Exeter
2020	Anna Zincenko, University of Leicestershire
2020	Nicholas Burgess, University of Surrey

Refereeing activity

2014-present	Editor for the <i>Computational and Mathematical Methods in Medicine</i> journal
2004-present	Referee for Applied Mathematics and Computation, Bulletin of Mathematical Biology, Chaos, Dynamical Systems, IMA Journal of Applied Mathematics, International Journal of Bifurcation and Chaos, Journal of Fluid Mechanics, Journal of Mathematical Biology, Journal of Theoretical Biology, Journal of the Royal Society Interface, Mathematical Biosciences, Nonlinear Analysis RWA, Physica A, Physics Letters A, PLoS ONE, SIGMA, Scientific Reports, Theoretical Population Biology Medical Research Council, BBSRC, CRC Press