Curriculum Vitae

Jonathan Adam Sherratt

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Date of Birth: 2 February 1967

Citizenship: British

Education

Sept 1978–Oct 1984	Tiffin School, Kingston-upon-Thames
Oct 1985–June 1988	University of Cambridge (Queens' College)
Sept 1988–Aug 1989	Department of Applied Mathematics, University of Washington
Oct 1989–July 1991	University of Oxford (Lincoln College)

Academic Career

Oct 1991– Dec 1993	Merton College, Oxford Junior Research Fellow
Jan 1994–Sept 1997	Department of Mathematics, University of Warwick Lecturer in Mathematics
Oct 1997–Dec 1997	Department of Mathematics, University of Warwick Senior Lecturer in Mathematics
Jan 1998–	Department of Mathematics, Heriot-Watt University Professor of Mathematics

Degrees

B.A. (hons) in mathematics, University of Cambridge, triple first class (June 1988)

D.Phil. in mathematics, University of Oxford (June 1991)
  Thesis: "Mathematical models of wound healing"
   Supervisors: by J.D. Murray FRS and P.K. Maini FRS

Fellowships and Prizes

I received various undergraduate and postgraduate prizes which are not listed.

- Sixth Bellman Prize, for the best paper published in *Mathematical Biosciences* during 1994 and 1995. Awarded to co-authors Paul Dale, Philip Maini and myself in October 1997.

- EPSRC Advanced Research Fellowship, October 2000–September 2005.

- Elected to a Fellowship of the Royal Society of Edinburgh, March 2001.

- Sir Edward Whittaker Memorial Prize, awarded in October 2001 by the Edinburgh Mathematical Society.

- Akira Okubo Prize, awarded in August 2003 by the Society for Mathematical Biology.

- Adams' Prize, awarded in March 2006 by the University of Cambridge.

- Whitehead Prize, awarded in June 2006 by the London Mathematical Society.

- Invited Fellowship of the Institute of Mathematics and its Applications, November 2006.

- Leverhulme Research Fellowship, May 2009–April 2011.

Research Student Supervision

Paul Dale: *Oct 1992–July 1995* "Control of scarring in adult and foetal wounds"
(with Dr P.K. Maini). Paul is an Anglican Minister in Kirribilli, Australia.

Luke Olsen: *Oct 1992–May 1996* "Modelling wound contraction"
(with Dr P.K. Maini). Luke is a financial modeller in the City of London.

Markus Owen: *Oct 1994–July 1997* "Modelling the macrophage invasion of early tumour growth".
After a couple of postdoc positions, Markus was a Lecturer in Mathematics at Loughborough University before moving to University of Nottingham, where he is now Professor of Mathematics.

Alison Kay: *Oct 1996–June 1999* "Modelling and simulation of ecological invasions".
Alison is a Senior Mathematical Modeller at the Centre for Ecology and Hydrology, Wallingford, UK.

Steven Webb: *Oct 1997–Sept 2000* "Mathematical oncology and periodic wave train forcing". Steven won the Heriot-Watt University MacFarlane Prize for the most outstanding contribution to the research of the university by a PhD graduate. After a couple of postdoc positions, he was a Lecturer in Mathematics at University of Strathclyde and then a Reader in mathematics at Liverpool John Moores University. He is currently a Modeller at Syngenta UK.

Helen Wearing: *Oct 1998–Nov 2001* "Mathematical modelling of cell–cell signalling in developmental biology and wound healing".
After postdoc positions, Helen moved to the University of New Mexico, where she is now Professor in Mathematics and Biology (joint appointment).

Christina Cobbold: *Oct 1998–Oct 2001* "Mathematical modelling of problems in human biology: dermal wound healing and atherosclerosis".
After postdoc positions, Christina moved to the University of Glasgow, where she is now Professor of Mathematics.

Stephen Turner: *Oct 1999–Nov 2002* "Mathematical modelling of cancer invasion and biological cell movement". Stephen's background was in clinical medicine, and he returned to this after his PhD to complete his clinical training. He is currently a Senior Registrar in General Adult Psychiatry (North & Central London rotation), and holds an Honorary Research Associate position at University College London.

Helen Waugh: *Oct 2002–Aug 2006* "Mathematical modelling of diabetic wound healing". Helen is a Senior Business Analyst at Doosan Power Systems, Paisley.

Nicola Armstrong: *Oct 2004–Sep 2007* "Mathematical modelling of cell–cell adhesion in cancer" (with Dr K.J. Painter). Nicola is Head of Mathematics at Fettes College, Edinburgh.

Matthew Smith: *Oct 2004–Oct 2007* "Mathematical investigations into the mechanism driving the spatiotemporal dynamics of cyclic populations". Matthew won the Heriot-Watt University MacFarlane Prize for the most outstanding contribution to the research of the university by a PhD graduate. After his PhD, Matthew moved to Microsoft Research, Cambridge and he is now a Solution Architect for Connected Digital Services, Microsoft.

Jenny Bloomfield: *Oct 2007–April 2011* "Mathematical modelling of cell–cell interactions" (with Dr K.J. Painter). Jenny is Senior Public Affairs Officer at the Scottish Council for Voluntary Organisations.

Jennifer Reynolds: *Apr 2008–Dec 2011* "Mathematical modelling of field vole dynamics" (with Dr A. White). Jennifer moved to a postdoctoral research position at the University of Minnesota.

Ayawoa Dagbovie: *Aug 2010–Aug 2013* "Applications of absolute stability to ecological systems". Ayawoa is an instructor at the African Institute for Mathematical Sciences in Ghana.

Rachel Taylor: *Sep 2010–March 2013* "Seasonal forcing in ecology and epidemiology" (with Dr A. White). Rachel is a Risk Analyst at the Animal and Plant Health Agency.

Arianna Bianchi: *Jan 2013– Dec 2015* "Mathematical modelling of wound healing" (with Dr K.J. Painter). Arianna is a mathematics school teacher in Sienna, Italy.

Jamie Bennett: *Sep 2015– Dec 2018* "Periodic travelling wave generation in the wake of ecological invasions". Jamie is a postdoc at Ben-Gurion University, Israel.

Lukas Eigentler: *Sep 2017– Jul 2020* "Modelling dryland vegetation patterns: nonlocal dispersal, temporal variability in precipitation and species coexistence". Lukas is a lecturer at the University of Warwick.

Emine Endes: *Sep 2017– Sep 2022* "A non-local mathematical model for wound healing".

Toyo Vignal: *Sep 2020–* "Modelling vegetation dynamics in drylands".

Clara Lotter: *Sep 2022–*   "Modelling wound healing in the lung".

Journal Editorships

- Associate Editor of *Mathematical Medicine and Biology* (formerly *IMA Journal of Mathematics Applied in Medicine and Biology*), January 1996–September 2006

- Associate Editor of *Journal of Theoretical Medicine*, January 1997–September 2006

- Member of the Editorial Board of *Journal of Theoretical Biology*, March 2000–2004

- Member of the Editorial Board of *Ecology Letters*, December 2004–May 2005

- Member of the Guest Editorial Board of *Journal of Mathematical Modelling of Natural Phenomena* for a special issue on morphogenesis, published in 2009.

- Member of the Guest Editorial Board of *Journal of Mathematical Modelling of Natural Phenomena* for a special issue on reaction-diffusion waves, published in 2010.

- Member of the Editorial Board of *Nonlinearity*, January 2010–July 2013.

Software

I am sole author/developer of WAVETRAIN, a free open-source software package for studying periodic travelling wave solutions of partial differential equations. WAVETRAIN0.0 was released in September 2011. Following a series of revisions and major extensions, WAVETRAIN1.2 was released in April 2015. The WAVETRAIN home page is `http://www.ma.hw.ac.uk/wavetrain`.

Papers in Peer-Reviewed Journals

Published or in press

1. J.A. Sherratt, J.D. Murray: Models of epidermal wound healing. *Proc. R. Soc. Lond.* B **241**, 29-36 (1990).

2. J.A. Sherratt, J.D. Murray: Mathematical analysis of a basic model for epidermal wound healing. *J. Math. Biol.* **29**, 389-404 (1991).

3. J.A. Sherratt: A perturbation problem arising from a mechanical model for epithelial morphogenesis. *IMA J. Appl. Math.* **47**, 147-162 (1991).

4. J.A. Sherratt, M.A. Nowak: Oncogenes, anti-oncogenes and the immune response to cancer. *Proc. R. Soc. Lond.* B **248**, 261-271 (1992).

5. J.A. Sherratt, J.D. Murray: Epidermal wound healing: the clinical implications of a simple mathematical model. *Cell Transplantation* **1**, 365-371 (1992).

6. J.A. Sherratt, P. Martin, J.D. Murray, J. Lewis: Mathematical models of wound healing in embryonic and adult epidermis. *IMA J. Math. Appl. Med. Biol.* **9**, 177-196 (1992).

7. P.K. Maini, D.L. Benson, J.A. Sherratt: Pattern formation in reaction-diffusion models with spatially inhomogeneous diffusion coefficients. *IMA J. Math. Appl. Med. Biol.* **9**, 197-213 (1992).

8. J.A. Sherratt, J.D. Murray: Epidermal wound healing: a theoretical approach. *Comments Theor. Biol.* **2**, 315-333 (1992).

9. D.L. Benson, J.A. Sherratt, P.K. Maini: Diffusion driven instability in an inhomogeneous domain. *Bull. Math. Biol.* **55**, 365-384 (1993).

10. J.A. Sherratt, J. Lewis: Stress-induced alignment of actin filaments and the mechanics of cytogel. *Bull. Math. Biol.* **55**, 637-654 (1993).

11. J.A. Sherratt, E.H. Sage, J.D. Murray: Chemical control of eukaryotic cell movement: a new model. *J. Theor. Biol.* **162**, 23-40 (1993).

12. J.A. Sherratt: Actin aggregation and embryonic epidermal wound healing. *J. Math. Biol.* **31**, 703-716 (1993).

13. J.A. Sherratt: Cellular growth control and travelling waves of cancer. *SIAM J. Appl. Math.* **53**, 1713-1730 (1993).

14. D.L. Benson, P.K. Maini, J.A. Sherratt: Analysis of pattern formation in reaction-diffusion models with spatially inhomogeneous diffusion coefficients. *Math. Comp. Modelling* **17**, 29-34 (1993).

15. J.A. Sherratt: The amplitude of periodic plane waves depends on initial conditions in a variety of λ–ω systems. *Nonlinearity* **6**, 703-716 (1993).

16. J.A. Sherratt: Transition waves that leave behind regular or irregular spatiotemporal oscillations in a system of three reaction-diffusion equations. *Int. J. Bifurc. Chaos* **3**, 1269-1279 (1993).

17. J.A. Sherratt: Chemotaxis and chemokinesis in eukaryotic cells: the Keller-Segel equations as an approximation to a detailed model. *Bull. Math. Biol.* **56**, 129-146 (1994).

18. P.D. Dale, J.A. Sherratt, P.K. Maini: On the speed of corneal epithelial wound healing. *Appl. Math. Lett.* **7**, 11-14 (1994).

19. J.A. Sherratt: Irregular wakes in reaction-diffusion waves. *Physica D* **70**, 370-382 (1994).

20. J.A. Sherratt: On the speed of amplitude transition waves in reaction diffusion equations of λ–ω type. *IMA J. Appl. Math.* **52**, 79-92 (1994).

21. T. Höfer, P.K. Maini, J.A. Sherratt, M.A.J. Chaplain, P. Chauvet, D. Metevier, P.C. Montes, J.D. Murray: A resolution of the chemotactic wave paradox. *Appl. Math. Lett.* **7**, 1-5 (1994).

22. J.A. Sherratt: On the evolution of periodic plane waves in reaction-diffusion equations of λ–ω type. *SIAM J. Appl. Math.* **54**, 1374-1385 (1994).

23. P.D. Dale, P.K. Maini, J.A. Sherratt: Mathematical modelling of corneal epithelial wound healing. *Math. Biosci.* **124**, 127-147 (1994).
    This paper was awarded the Bellman Prize for the best paper in Mathematical Biosciences during 1994 and 1995.

24. J.A. Sherratt: Turing bifurcations with a temporally varying diffusion coefficient. *J. Math. Biol.* **33**, 295-308 (1995).

25. T. Höfer, <u>J.A. Sherratt</u>, P.K. Maini: *Dictyostelium discoideum*: cellular self-organisation in an excitable biological medium. *Proc. R. Soc. Lond.* B **259**, 249-257 (1995).

26. <u>J.A. Sherratt</u>: Diffusion driven instability in oscillating environments. *Eur. J. Appl. Math.* **6**, 355-372 (1995).

27. <u>J.A. Sherratt</u>, M.A. Lewis, A.C. Fowler: Ecological chaos in the wake of invasion. *Proc. Natl. Acad. Sci. USA* **92**, 2524-2528 (1995).

28. <u>J.A. Sherratt</u>: Unstable wavetrains and chaotic wakes in reaction-diffusion systems of λ–ω type. *Physica D* **82**, 165-179 (1995).

29. T. Höfer, <u>J.A. Sherratt</u>, P.K. Maini: Cellular pattern formation in a model of *Dictyostelium* aggregation. *Physica D* **85**, 425-444 (1995).

30. A.J. Perumpanani, <u>J.A. Sherratt</u>, P.K. Maini: Phase differences in reaction-diffusion-advection systems and applications to morphognesis. *IMA J. Appl. Math.* **55**, 19-33 (1995).

31. P.D. Dale, L. Olsen, P.K. Maini, <u>J.A. Sherratt</u>: Travelling waves in wound healing. *FORMA* **10**, 205-222 (1995). (A review paper).

32. <u>J.A. Sherratt</u>, P.K. Maini, W. Jäger, W.A. Müller: A receptor based model for pattern formation in *Hydra*. *FORMA* **10**, 77-95 (1995).

33. L. Olsen, <u>J.A. Sherratt</u>, P.K. Maini: A mechanochemical model for adult dermal wound contraction and the permanence of the contracted tissue displacement profile. *J. Theor. Biol.* **177**, 113-128 (1995).

34. P.D. Dale, <u>J.A. Sherratt</u>, P.K. Maini: A mathematical model for collagen fibre formation during foetal and adult dermal wound healing. *Proc. R. Soc. Lond.* B **263**, 653–660 (1996).

35. <u>J.A. Sherratt</u>, B.P. Marchant: Algebraic decay and variable speeds in wave front solutions of a scalar reaction-diffusion equation. *IMA J. Appl. Math.* **56**, 289-302 (1996).

36. L. Olsen, <u>J.A. Sherratt</u>, P.K. Maini: A mathematical model for fibro-proliferative wound healing disorders. *Bull. Math. Biol.* **58**, 787-808 (1996).

37. <u>J.A. Sherratt</u>: Periodic waves in reaction-diffusion models of oscillatory biological systems. *FORMA* **11**, 61-80 (1996).

38. <u>J.A. Sherratt</u>, B.P. Marchant: Non-sharp travelling wave fronts in the Fisher equation with degenerate nonlinear diffusion. *Appl. Math. Lett.* **9**, 33-38 (1996).

39. <u>J.A. Sherratt</u>: Periodic travelling waves in a family of deterministic cellular automata. *Physica D* **95**, 319-335 (1996).

40. <u>J.A. Sherratt</u>: Oscillatory and chaotic wakes behind moving boundaries in reaction-diffusion systems. *Dyn. Stab. Sys.* **11**, 303-324 (1996)

41. A.J. Perumpanani, <u>J.A. Sherratt</u>, J. Norbury, H.M. Byrne: Biological inferences from a mathematical model for malignant invasion. *Invasion and Metastasis* **16**, 209-221 (1996).

42. <u>J.A. Sherratt</u>, B.T. Eagan, M.A. Lewis: Oscillations and chaos behind predator-prey invasion: mathematical artifact or ecological reality? *Phil. Trans. R. Soc.* B **352**, 21-38 (1997)

43. <u>J.A. Sherratt</u>: A comparison of two numerical methods for oscillatory reaction-diffusion equations. *Appl. Math. Lett.* **10**, 1-5 (1997).

44. J. Sneyd, <u>J.A. Sherratt</u>: On the propagation of calcium waves in an inhomogeneous medium. *SIAM J. Appl. Math.* **57**, 73-94 (1997).

45. P.D. Dale, <u>J.A. Sherratt</u>, P.K. Maini: The role of fibroblast migration in collagen fibre formation during foetal and adult dermal wound healing. *Bull. Math. Biol.* **59**, 1077-1100 (1997).

46. A.J. Perumpanani, <u>J.A. Sherratt</u>, J. Norbury: Mathematical modelling of capsule formation and multinodularity in benign tumour growth. *Nonlinearity* **10**, 1599-1614 (1997).

47. E.A. Gaffney, P.K. Maini, <u>J.A. Sherratt</u>, P.D. Dale: Wound healing in the corneal epithelium: biological mechanisms and mathematical models. *J. Theor. Med.* **1**, 13-23 (1997). (A review paper).

48. M.R. Owen, <u>J.A. Sherratt</u>: Pattern formation and spatiotemporal irregularity in a model for macrophage-tumour interaction. *J. Theor. Biol.* **189**, 63-80 (1997).

49. L. Olsen, <u>J.A. Sherratt</u>, P.K. Maini, F. Arnold: A mathematical model for the capillary endothelial cell extracellular matrix interactions in wound healing angiogenesis. *IMA J. Math. Appl. Med. Biol.* **14**, 261-282 (1997).

50. L. Olsen, P.K. Maini, <u>J.A. Sherratt</u>: Spatially varying equilibria of mechanical models: application to dermal wound contraction. *Math. Biosci.* **147**, 113-129 (1998).

51. J.C. Dallon, <u>J.A. Sherratt</u>: A mathematical model for fibroblast and collagen orientation. *Bull. Math. Biol.* **60**, 101-130 (1998).

52. M.R. Owen, <u>J.A. Sherratt</u>: Modelling the macrophage invasion of tumours: effects on growth and composition. *IMA J. Math. Appl. Med. Biol.* **15**, 165-185 (1998).

53. <u>J.A. Sherratt</u>: On the transition from initial data to travelling waves in the Fisher-KPP equation. *Dyn. Stab. Sys.* **13**, 167-174 (1998).

54. <u>J.A. Sherratt</u>: Invasive wave fronts and their oscillatory wakes are linked by a modulated travelling phase resetting wave. *Physica D* **117**, 145-166 (1998).

55. M.R. Owen, <u>J.A. Sherratt</u>: Mathematical modelling of juxtacrine cell signalling. *Math. Biosci.* **152**, 125-150 (1998).

56. D.L. Benson, P.K. Maini, <u>J.A. Sherratt</u>: Unravelling the Turing bifurcation using spatially varying diffusion coefficients. *J. Math. Biol.* **37**, 381-417 (1998).

57. L. Olsen, P.K. Maini, <u>J.A. Sherratt</u>, B. Marchant: Simple modelling of extracellular matrix alignment in dermal wound healing. I. Cell flux induced alignment. *J. Theor. Med.* **1**, 175-192 (1998).

58. A.J. Perumpanani, D.L. Simmons, A.J.H. Gearing, K.M. Miller, G. Ward, J. Norbury, M. Schneemann, J.A. Sherratt: Extracellular matrix mediated chemotaxis can impede cell migration. *Proc. R. Soc. Lond.* B **265**, 2347-2352 (1998).

59. S.D. Webb, J.A. Sherratt, R.G. Fish: Mathematical modelling of tumour acidity: regulation of intracellular pH. *J. Theor. Biol.* **196**, 237-250 (1999).

60. A.J. Perumpanani, J.A. Sherratt, J. Norbury, H. Byrne: A two parameter family of travelling waves with a singular barrier arising from the modelling of matrix mediated malignant invasion. *Physica D* **126**, 145-159 (1999).

61. M.R. Owen, J.A. Sherratt, S.R. Myers: How far can a juxtacrine signal travel? *Proc. R. Soc. Lond.* B **266**, 579-585 (1999).

62. E.A. Gaffney, P.K. Maini, J.A. Sherratt, S. Tuft: The mathematical modelling of cell kinetics in corneal epithelial wound healing. *J. Theor. Biol.* **197**, 15-40 (1999).

63. L. Olsen, P.K. Maini, J.A. Sherratt, J. Dallon: Mathematical modelling of anisotropy in fibrous connective tissue. *Math. Biosci.* **158**, 145-170 (1999).

64. M.R. Owen, J.A. Sherratt: Mathematical modelling of macrophage dynamics in tumours. *Math. Models Meth. Appl. Sci.* **9**, 513-539 (1999).

65. A.L. Kay, J.A. Sherratt: On the persistence of spatiotemporal oscillations generated by invasion. *IMA J. Appl. Math,* **63**, 199-216 (1999).

66. J. Dallon, J.A. Sherratt, P.K. Maini: Mathematical modelling of extracellular matrix dynamics using discrete cells: fibre orientation and tissue regeneration. *J. Theor. Biol.* **199**, 449-471 (1999).

67. S.D. Webb, J.A. Sherratt, R.G. Fish: Alterations in proteolytic activity at low pH and its association with invasion: a theoretical model. *Clin. Exp. Metastasis* **17**, 397-407 (1999).

68. M.R. Owen, J.A. Sherratt, H.J. Wearing: Lateral induction by juxtacrine signalling is a new mechanism for pattern formation. *Dev. Biol.* **217**, 54-61 (2000).

69. J.A. Sherratt: Travelling wave solutions of a mathematical model for tumour encapsulation. *SIAM J. Appl. Math.* **60**, 392-407 (2000).

70. H.J. Wearing, M.R. Owen, J.A. Sherratt: Mathematical modelling of juxtacrine patterning. *Bull. Math. Biol.* **62**, 293-320 (2000).

71. C.A. Cobbold, J.A. Sherratt: Mathematical modelling of nitric oxide activity in wound healing can explain keloid and hypertrophic scarring. *J. Theor. Biol.* **204**, 257-288 (2000).

72. H.J. Wearing, J.A. Sherratt: Keratinocyte growth factor signalling: a mathematical model of dermal–epidermal interaction in epidermal wound healing. *Math. Biosci.* **165**, 41-62 (2000).

73. J. Dallon, J.A. Sherratt, P.K. Maini, M.W.J. Ferguson: Biological implications of a discrete mathematical model for collagen deposition and alignment in wound repair. *IMA J. Math. Appl. Med. Biol.* **17**, 379-393 (2000).

74. <u>J.A. Sherratt</u>: Wave front propagation in a competition equation with a new motility term modelling contact inhibition between cell populations. *Proc. R. Soc. Lond.* A **456**, 2365-2386 (2000).

75. J.C. Dallon, <u>J.A. Sherratt</u>: A mathematical model for spatially varying extracellular matrix alignment. *SIAM J. Appl. Math.* **61**, 506-527 (2000).

76. A.L. Kay, <u>J.A. Sherratt</u>: Spatial noise stabilizes periodic wave patterns in oscillatory systems on finite domains. *SIAM J. Appl. Math.* **61**, 1013-1041 (2000).

77. <u>J.A. Sherratt</u>: Periodic travelling waves in cyclic predator-prey systems. *Ecology Lett.* **4**, 30-37 (2001).

78. J.C. Dallon, <u>J.A. Sherratt</u>, P.K. Maini: Modeling the effects of TGFβ on extracellular matrix alignment in dermal wound repair. *Wound Repair Regen.* **9**, 278-286 (2001).

79. A.L. Kay, <u>J.A. Sherratt</u>, J.B. McLeod: Comparison theorems and variable speed waves for a scalar reaction-diffusion equation. *Proc. R. Soc. Edin.* A **131A**, 1133-1161 (2001).

80. H.J. Wearing, <u>J.A. Sherratt</u>: Nonlinear analysis of juxtacrine patterns. *SIAM J. Appl. Math.* **62**, 283-309 (2001)

81. B.P. Marchant, J. Norbury, <u>J.A. Sherratt</u>: Travelling wave solutions to a haptotaxis-dominated model of malignant invasion. *Nonlinearity* **14**, 1653-1671 (2001).

82. <u>J.A. Sherratt</u>, M.A.J. Chaplain: A new mathematical model for avascular tumour growth. *J. Math. Biol.* **43**, 291-312 (2001).

83. <u>J.A. Sherratt</u>, X. Lambin, C.J. Thomas, T.N. Sherratt: Generation of periodic waves by landscape features in cyclic predator-prey systems. *Proc. R. Soc. Lond.* B **269**, 327-334 (2002).

84. N.J. Savill, R. Weller, <u>J.A. Sherratt</u>: Mathematical modelling of nitric oxide regulation of rete peg formation in psoriasis. *J. Theor. Biol.* **214**, 1-16 (2002)

85. S.D. Webb, <u>J.A. Sherratt</u>, R.G. Fish: Cells behaving badly: a theoretical model for the FAS/FAS-L system in tumour immunology. *Math. Biosci.* **179**, 113-129 (2002) *The model in this paper was selected for translation into CellML by the University of Auckland (*`www.cellml.org`*).*

86. S. Turner, <u>J.A. Sherratt</u>: Intercellular adhesion and cancer invasion: a discrete simulation using the extended Potts model. *J. Theor. Biol.* **216**, 85-100 (2002)

87. <u>J.A. Sherratt</u>, R. Weller, N.J. Savill: Modelling blood flow regulation by nitric oxide in psoriatic plaques. *Bull. Math. Biol.* **64**, 623-641 (2002)

88. <u>J.A. Sherratt</u>, J.C. Dallon: Theoretical models of wound healing: past successes and future challenges. *C.R. Biologies* **325**, 557-564 (2002). (A review paper).

89. C.A. Cobbold, <u>J.A. Sherratt</u>, S.R.J. Maxwell: Lipoprotein oxidation and its significance for atherosclerosis: a mathematical approach. *Bull. Math. Biol.* **64**, 65-96 (2002).

90. P.K. Maini, <u>J.A. Sherratt</u>, L. Olsen: Mathematical models for cell-matrix interactions during dermal wound healing. *Int. J. Bif. Chaos* **12**, 2021-2029 (2002).

91. S.R. McDougall, A.R.A. Anderson, M.A.J. Chaplain, <u>J.A. Sherratt</u>: Mathematical modelling of flow through vascular networks: implications for tumour-induced angiogenesis and chemotherapy strategies. *Bull. Math. Biol.* **64**, 673-702 (2002).

92. S.D.Webb, <u>J.A. Sherratt</u>: A perturbation problem arising from the modelling of soluble Fas ligand in tumour immunology. *Math. Comp. Modelling* **37**, 323-331 (2003).

93. N.J. Savill, <u>J.A. Sherratt</u>: The control of epidermal stem cell clusters by Notch mediated lateral induction. *Dev. Biol.* **258**, 141-153 (2003).

94. <u>J.A. Sherratt</u>: Periodic travelling wave selection by Dirichlet boundary conditions in oscillatory reaction-diffusion systems. *SIAM J. Appl. Math.* **63**, 1520-1538 (2003).

95. <u>J.A. Sherratt</u>, X. Lambin, T.N. Sherratt: The effects of the size and shape of landscape features on the formation of travelling waves in cyclic populations. *Am. Nat.* **162**, 503-513 (2003).

96. K.J. Painter, <u>J.A. Sherratt</u>: Modelling the movement of interacting cell populations. *J. Theor. Biol.* **225**, 327-339 (2003).

97. S.D. Webb, <u>J.A. Sherratt</u>: Oscillatory reaction-diffusion equations with temporally varying parameters. *Math. Comp. Modelling* **39**, 45-60 (2004).

98. S. Turner, <u>J.A. Sherratt</u>, K.J. Painter, N.J. Savill: From a discrete to a continuous model of biological cell movement. *Phys. Rev.* E **69**, art. no. 021910 (2004).

99. S. Turner, <u>J.A. Sherratt</u>, D. Cameron: Tamoxifen treatment failure in cancer and the nonlinear dynamics of TGF-beta. *J. Theor. Biol.* **229**, 101-111 (2004).

100. <u>J.A. Sherratt</u>: An analysis of vegetation stripe formation in semi-arid landscapes. *J. Math. Biol.* **51**, 183-197 (2005).

101. H.V. Waugh, <u>J.A. Sherratt</u>: Macrophage dynamics in diabetic wound healing. *Bull. Math. Biol.* **68**, 197-207 (2006). *The model in this paper was selected for translation into CellML by the University of Auckland (*`www.cellml.org`*).*

102. N.J. Armstrong, K. Painter, <u>J.A. Sherratt</u>: A continuum approach to modelling cell adhesion. *J. Theor. Biol.* **243**, 98-113 (2006).

103. M. Smith, A. White, X. Lambin, <u>J.A. Sherratt</u>, M. Begon: Delayed density dependent season length alone can lead to multiannual rodent population cycles. *Am. Nat.* **167**, 695-704 (2006).

104. S. McDougall, J. Dallon, <u>J.A. Sherratt</u>, P. Maini: Fibroblast migration and collagen deposition during dermal wound healing: mathematical modelling and clinical implications. *Phil. Trans. R. Soc. Lond.* A **364**, 1385-1405 (2006).

105. <u>J.A. Sherratt</u>, G.J. Lord: Nonlinear dynamics and pattern bifurcations in a model for vegetation stripes in semi-arid environments. *Theor. Pop. Biol.* **71**, 1-11 (2007).

106. H.V. Waugh, <u>J.A. Sherratt</u>: Modelling the effects of treating diabetic wounds with engineered skin substitutes. *Wound Repair Regen.* **15**, 556-565 (2007). *The model in this paper was selected for translation into CellML by the University of Auckland (*`www.cellml.org`*).*

107. M.J. Smith, <u>J.A. Sherratt</u>: The effects of unequal diffusion coefficients on periodic travelling waves in oscillatory reaction-diffusion systems. *Physica D* **236**, 90-103 (2007).

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110. M.J. Smith, A. White, <u>J.A. Sherratt</u>, S. Telfer, M. Begon, X. Lambin: Disease effects on reproduction can cause population cycles in seasonal environments. *J. Animal Ecol.* **77**, 378-389 (2008). *This paper was selected as "must read" by Faculty of 1000 Biology.*

111. M.J. Smith, <u>J.A. Sherratt</u>, X. Lambin: The effects of density-dependent dispersal on the spatiotemporal dynamics of cyclic populations. *J. Theor. Biol.* **254**, 264-274 (2008).

112. <u>J.A. Sherratt</u>: A comparison of periodic travelling wave generation by Robin and Dirichlet boundary conditions in oscillatory reaction-diffusion equations. *IMA J. Appl. Math.* **73**, 759-781 (2008).

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121. <u>J.A. Sherratt</u>: On the form of smooth-front travelling waves in a reaction-diffusion equation with degenerate nonlinear diffusion. *Math. Model. Nat. Phenom.* **5**, 63-78 (2010).

122. <u>J.A. Sherratt</u>: Pattern solutions of the Klausmeier model for banded vegetation in semi-arid environments I. *Nonlinearity* **23**, 2657-2675 (2010). This paper was selected for the "*Nonlinearity* Highly Downloaded Collection" for 2010.

123. J.M. Bloomfield, <u>J.A. Sherratt</u>, K.J. Painter, G. Landini: Cellular automata and integrodifferential equation models for cell renewal in mosaic tissues. *J. R. Soc. Interface* **7**, 1525-1535 (2010).

124. J.M. Bloomfield, K.J. Painter, <u>J.A. Sherratt</u>: How does cellular contact affect differentiation mediated pattern formation? *Bull. Math. Biol.* **73**, 1529-1558 (2011).

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126. <u>J.A. Sherratt</u>: Pattern solutions of the Klausmeier model for banded vegetation in semi-arid environments II. Patterns with the largest possible propagation speeds. *Proc. R. Soc. Lond.* A **467**, 3272-3294 (2011)

127. <u>J.A. Sherratt</u>: Numerical continuation methods for studying periodic travelling wave (wavetrain) solutions of partial differential equations. *Appl. Math. Computation* **218**, 4684-4694 (2012).

128. <u>J.A. Sherratt</u>, A.D. Synodinos: Vegetation patterns and desertification waves in semi-arid environments: mathematical models based on local facilitation in plants. *Discrete Cont. Dyn. Syst. Ser. B* **17**, 2815-2827 (2012).

129. J.J.H. Reynolds, F.P. Massey, X. Lambin, S. Reidinger, <u>J.A. Sherratt</u>, M.J. Smith, A. White, S.E. Hartley: Delayed induced silica defences in grasses and their potential for destabilising herbivore population dynamics. *Oecologia* **170**, 445-456 (2012).

130. <u>J.A. Sherratt</u>, M.J. Smith: Transition to spatiotemporal chaos via stationary branching shocks and holes. *Physica D* **241**, 1671-1679 (2012).

131. <u>J.A. Sherratt</u>: Pattern solutions of the Klausmeier model for banded vegetation in semi-arid environments III: the transition between homoclinic solutions. *Physica D* **242**, 30-41 (2013).

132. R.A. Taylor, A. White, <u>J.A. Sherratt</u>: The impact of variations in seasonality on population cycles. *Proc. R. Soc. Lond.* B **280**, 20122714 (2013).

133. <u>J.A. Sherratt</u>: Pattern solutions of the Klausmeier model for banded vegetation semi-arid environments IV: slowly moving patterns and their stability. *SIAM J. Appl. Math.* **73**, 330-350 (2013).

134. <u>J.A. Sherratt</u>: Numerical continuation of boundaries in parameter space between stable and unstable periodic travelling wave (wavetrain) solutions of partial differential equations. *Adv. Comput. Math.* **39**, 175-192 (2013).

135. <u>J.A. Sherratt</u>: History-dependent patterns of whole ecosystems. *Ecological Complexity* **14**, 8-20 (2013).

136. <u>J.A. Sherratt</u>: Pattern solutions of the Klausmeier model for banded vegetation in semi-arid environments V: the transition from patterns to desert. *SIAM J. Appl. Math.* **73**, 1347-1367 (2013). This paper was selected as the subject of a "research nugget" article on SIAM's online news site. It also formed the basis for an article in Bionieuws, a Dutch magazine for biologists.

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Book Chapters, Papers in Conference Proceedings, Magazine Articles

1. P.K. Maini, D.L. Benson, <u>J.A. Sherratt</u>: Environmental instability in heterogeneous domains. *J. Agricul. Sci.* 119, 138-139 (1992).

2. <u>J.A. Sherratt</u>, J. Lewis: Stress-induced alignment of intracellular actin filaments. *Mol. Biol. Cell* 3(S), A37 (1992).

3. D.L. Benson, P.K. Maini, <u>J.A. Sherratt</u>: Pattern formation in heterogeneous domains. In: *Experimental and theoretical advances in biological pattern formation*, ed. H.G. Othmer, P.K. Maini, J.D. Murray, Plenum Press, New York, pp. 29-32 (1993).

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5. T. Höfer, P.K. Maini, <u>J.A. Sherratt</u>: A mathematical model for chemotactic movement and aggregation in cellular slime moulds. *J. Agricul. Sci.* 123, 149-154 (1994).

6. P.D. Dale, <u>J.A. Sherratt</u>, P.K. Maini: Corneal epithelial wound healing. *J. Biol. Sys.* 3, 957-965 (1995).

7. <u>J.A. Sherratt</u>: Trust me I'm a mathematician. *New Scientist* 1997, 36-39 (1995).

8. T. Höfer, P.K. Maini, <u>J.A. Sherratt</u>, M.A.J. Chaplain, J.D. Murray: Resolving the chemotactic wave paradox: a mathematical model for chemotaxis of *Dictyostelium* amoebae. *J. Biol. Sys.* 3, 967-973 (1995).

9. L. Olsen, <u>J.A. Sherratt</u>, P.K. Maini: A mechanochemical model for adult dermal wound contraction. *J. Biol. Sys.* 3, 1021-1031 (1995).

10. L. Olsen, P.K. Maini, <u>J.A. Sherratt</u>: A mechanochemical model for normal and abnormal dermal wound repair. *Nonlinear Analysis – Theory, Methods, Appl.* 30, 3333-3338 (1997).

11. <u>J.A. Sherratt</u>, A.J. Perumpanani, J. Norbury: Mathematics of complex systems. *Brit. J. Cancer* 76 (suppl. 1): 10 (1997).

12. <u>J.A. Sherratt</u>: Mathematical modelling of cancer invasion and metastasis. *Clin. Exp. Metastasis* 15, 63-65 (1997).

13. M.R. Owen, <u>J.A. Sherratt</u>: The macrophage invasion of tumours: effects on growth, composition, and spatial structure. *Clin. Exp. Metastasis* 15, 66 (1997).

14. A.J. Perumpanani, <u>J.A. Sherratt</u>, J. Norbury: Modelling matrix degradation during tumour invasion. *Clin. Exp. Metastasis* 15, 69 (1997).

15. <u>J.A. Sherratt</u>, J.C. Dallon, T. Höfer, P.K. Maini: Mathematical modelling of signalling in *Dictyostelium discoideum*. In: *Microbial signalling and communication*, ed. R.R. England, G. Hobbs, N.J. Bainton, D. McL. Roberts, Cambridge University Press, pp. 241-254 (1999).

16. <u>J.A. Sherratt</u>, M.R. Owen, A.J. Perumpanani: Pattern formation in cancer. In: *On growth and form: spatio-temporal patterning in biology*, ed. M.A.J. Chaplain, G.D. Singh, J. McLachlan, John Wiley & Son, pp. 47-74 (1999).

17. S.D. Webb, <u>J.A. Sherratt</u>, R.G. Fish: Modelling Tumour Acidity and Invasion. In: *The tumour microenvironment: causes and consequences of hypoxia and acidity*, Novartis Foundation, London, John Wiley & Son, pp. 169-185 (2001).

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20. <u>J.A. Sherratt</u>: Healing by numbers: mathematics meets medicine. *The Biologist* 48, 254-258 (2001).

21. P.K. Maini, J.C. Dallon, <u>J.A. Sherratt</u>: A multiscale model for collagen alignment in wound healing. *J. Physiol.* 561P, SA11 [abstract] 186 (2005).

22. <u>J.A. Sherratt</u>, M.J. Smith, J.D.M. Rademacher: Spatiotemporal dynamics in ecology: insights from physics. In: *XVIth International Congress on Mathematical Physics*, ed. P. Exner, World Scientific, pp. 651-655 (2010).

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Review Papers in Book Chapters and Magazines

1. <u>J.A. Sherratt</u>, J.C. Dallon, T. Höfer, P.K. Maini: Mathematical modelling of signalling in *Dictyostelium discoideum*. In: *Microbial signalling and communication*, ed. R.R. England, G. Hobbs, N.J. Bainton, D. McL. Roberts, Cambridge University Press, pp. 241-254 (1999).

2. N. Monk, <u>J.A. Sherratt</u>, M.R. Owen: Spatiotemporal patterning in models of juxtacrine intercellular signalling with feedback. In: *Mathematical models for biological pattern formation*, ed. P.K. Maini, H.G. Othmer, Springer-Verlag, pp. 165-192 (2000).

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Publications in Conference Proceedings

1. P.K. Maini, D.L. Benson, <u>J.A. Sherratt</u>: Environmental instability in heterogeneous domains. *J. Agricul. Sci.* **119**, 138-139 (1992).

2. <u>J.A. Sherratt</u>, J. Lewis: Stress-induced alignment of intracellular actin filaments. *Mol. Biol. Cell* **3(S)**, A37 (1992).

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9. L. Olsen, P.K. Maini, <u>J.A. Sherratt</u>: A mechanochemical model for normal and abnormal dermal wound repair. *Nonlinear Analysis – Theory, Methods, Appl.* **30**, 3333-3338 (1997).

10. <u>J.A. Sherratt</u>, A.J. Perumpanani, J. Norbury: Mathematics of complex systems. *Brit. J. Cancer* **76** (suppl. 1): 10 (1997).

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13. A.J. Perumpanani, <u>J.A. Sherratt</u>, J. Norbury: Modelling matrix degradation during tu-mour invasion. *Clin. Exp. Metastasis* **15**, 69 (1997).

14. <u>J.A. Sherratt</u>, M.R. Owen, A.J. Perumpanani: Pattern formation in cancer. In: *On growth and form: spatio-temporal patterning in biology*, ed. M.A.J. Chaplain, G.D. Singh, J. McLachlan, John Wiley & Son, pp. 47-74 (1999).

15. S.D. Webb, <u>J.A. Sherratt</u>, R.G. Fish: Modelling Tumour Acidity and Invasion. In: *The tumour microenvironment: causes and consequences of hypoxia and acidity*, Novartis Foundation, London, John Wiley & Son, pp. 169-185 (2001).

16. P.K. Maini, J.C. Dallon, <u>J.A. Sherratt</u>: A multiscale model for collagen alignment in wound healing. *J. Physiol.* **561**P, SA11 [abstract] 186 (2005).

17. <u>J.A. Sherratt</u>, M.J. Smith, J.D.M. Rademacher: Spatiotemporal dynamics in ecology: insights from physics. In: *XVIth International Congress on Mathematical Physics*, ed. P. Exner, World Scientific, pp. 651-655 (2010).

18. <u>J.A. Sherratt</u>: Turing patterns in deserts. In: *How the World Computes*, ed. S.B. Cooper, A. Dawar, B. Löwe, Lecture Notes in Computer Science 7318, Springer, New York, pp. 667-674 (2012).

Organisation of Scientific Meetings

- Organisor of a workshop on "Mathematical Modelling of Cancer Invasion and Metastasis", University of Warwick, 11–13 September 1996.

- Member of organising committee of the "Eighth IMA Conference on the Mathematical Theory of Biological Systems", Oxford, 2–4 July 1997.

- Member of organising committee of the "Nineth IMA Conference on the Mathematical Theory of Biological Systems", Oxford, July 1998.

- Organiser of workshop on "Chaos and Fractals in Medicine", 15-16 December 1998, University of Warwick.

- Organiser of workshop on "From Single Cells to Continua", 22-25 March 1999, ICMS, Edinburgh.

- Co-organiser of workshop on "Brain Tumour Modelling", 27-28 June 2001, ICMS, Edinburgh.

- Member of the scientific committee for "European Conference on Mathematical and Theoretical Biology 2008", 29 June-4 July 2008, Edinburgh.

- Member of the advisory committee for the 2008/9 program on "Developmental Biology" at the Mathematical Biosciences Institute, Iowa State University.

- Organiser of a Maxwell Colloquium celebrating the work of James D. Murray, 14-15 February 2008, Edinburgh.

- Organiser of minisymposia at Maths2010, 6-9 April 2010, Edinburgh.

- Co-organiser of workshop on "Current Challenges for Mathematical Modelling of Cyclic Populations" at Banff International Research Station, 10-15 November 2013.

Papers Presented at Scientific Meetings
▶ *denotes a main invited lecture*
▷ *denotes an invited lecture in a minisymposium or similar*

1991:
- First European Conference on Mathematics Applied to Biology and Medicine, Grenoble, France.
- British Applied Mathematics Colloquium, Oxford, England.
- First European Tissue Repair Society Meeting, Oxford, England.

1992:
- Twelfth Conference on Ordinary and Partial Differential Equations, Dundee, Scotland.
▶ - Sixth IMA Conference on the Mathematical Theory of the Dynamics of Biological Systems, Oxford, England. (Plenary lecture).
- NATO Advanced Research Workshop on Biological Pattern Formation, Oxford, England.
- Thirty-second Annual Meeting of the American Society for Cell Biology, Denver, USA.

1993:   • Fifth International Workshop on Hydroid Development, Gunzbürg, Germany.

▶ • Oberwolfach Symposium on Mathematical Biology, Oberwolfach, Germany. (All speakers at this week-long meeting were invited).

• Second European Conference on Mathematics Applied to Medicine and Biology, Lyon, France.

1994: ▶ • ESF Workshop on Biological Pattern Formation, Heidelberg, Germany. (Most speakers at this week-long meeting were invited).

• Euromech 323: Reaction-Diffusion Phenomena in Physical and Chemical Systems, Norwich, England.

• Fourth European Tissue Repair Society Meeting, Oxford, England.

1995: ▶ • ICMS Workshop on Wound Healing, Edinburgh, Scotland. (Plenary lecture).

▶ • London Mathematical Society Spitalfields Day, Edinburgh, Scotland. (I was one of four speakers, all invited).

• ICIAM Congress, Hamburg, Germany.

▶ • Workshop on Dynamics of Piecewise Linear Differential Equations, Newton Institute, Cambridge, England. (All speakers at this three-day meeting were invited).

▶ • Workshop on Current Issues and Controversies in Biological Dynamics, Newton Institute, Cambridge, England. (All speakers at this week-long meeting were invited).

1996: ▶ • EPSRC Postgraduate School on Applied Nonlinear Mathematics, Bristol, England. (Invited instructional lecture).

• Workshop on Mathematical Modelling of Cancer Invasion and Metastasis, Warwick, England. (I was the main organiser of this workshop).

▶ • Third European Conference on Mathematics Applied to Biology and Medicine, Heidelberg, Germany. (Plenary lecture).

▶ • Oberwolfach Symposium on Mathematical Modelling in Biology, Oberwolfach, Germany. (All speakers at this week-long meeting were invited).

1997: ▶ • Workshop on Using Functional Analysis to Extract Physical Properties of PDEs, University of Surrey, England. (Most speakers at this two-day meeting were invited).

▶ • Joint meeting of the British Oncological Association, the Association of Cancer Physicians and the Royal College of Radiologists, St Andrews, Scotland. (Plenary lecture).

1998: ▶ • The Mathematical Biology of Patterns and Processes, Bath, England. (Plenary lecture).

▶ • Gordon Conference on Theoretical Biology and Biomathematics, Tilton, New Hampshire, USA. (Plenary lecture).

▶ • Pattern Formation and Morphogenesis: the Basic Process (part of the IMA program on Mathematical Biology), Minnesota, USA. (Most speakers at this week-long meeting were invited).

▶ • On Growth and Form (a meeting to commemorate the work of D'Arcy Thompson), Dundee, Scotland. (Plenary lecture).

1999: ▶ • Meeting of the Society for General Microbiology, Edinburgh, Scotland. (I gave a lecture in the Main Symposium of this meeting; all of these lectures were invited).

▶ • Dynamics Days 1999, Como, Italy. (Plenary lecture).

▷ • ICIAM99, Edinburgh, Scotland. (Invited speaker in a minisymposium).

▶ • Scottish Computational Mathematics Symposium, Edinburgh, Scotland. (I was one of four speakers, all invited).

2000: ▶ • IMA Symposium on Mathematics in Medicine, Glasgow, Scotland. (Plenary lecture).

• Annual Meeting of the Society for Mathematical Biology, Salt Lake City, USA.

• UK Nitric Oxide Forum, Stevenage, England.

▶ • Nottingham Study Group on Mathematical Modelling in Medicine. (I gave an invited lecture presenting a case study from my own research).

2001: ▶ • Joint MRC/NIGMS Meeting on Computational Cell Biology, London, England. (All speakers at this three-day meeting were invited).

▶ • Workshop on Vertical Integration in Biology, Isaac Newton Institute, Cambridge, England. (All speakers at this three-day meeting were invited).

2003: ▶ • Annual meeting of the Society for Mathematical Biology, Dundee, Scotland. (Akira Okubo Lecture).

▶ • Computational Modelling in Medicine, Edinburgh, Scotland. (Plenary lecture).

2004: • Swimming Micro-organisms and Cells, Glasgow, Scotland.

2005: ▷ • European Society for Mathematical and Theoretical Biology meeting, Dresden, Germany. (Invited speaker in a minisymposium).

• Annual Meeting of the British Ecological Society, Hatfield, England.

2006: ▶ • Continuum Mechanics and Diffusion, Durham, England. (All speakers at this one-day meeting were invited).

▶ • Applied Asymptotics and Modelling Workshop, Edinburgh, Scotland. (Most speakers at this week-long meeting were invited).

• Which Mathematics for Biology?, Anogia, Greece.

2007: ▶ • Mathematical Modelling and Analysis of Cancer Invasion of Tissues, Dundee, Scotland. (Plenary lecture).

- ▶ • Patterns for reaction-diffusion equations, Barcelona, Spain. (I was one of two invited overseas speakers).
- ▶ • Summer School on Mathematics in Biomedical Engineering, Warwick, England. (Invited instructional lecture).
- • Annual Meeting of the British Ecological Society, Glasgow, Scotland.

2008: ▶ • Pattern formation and functional morphology, RICAM, Linz, Austria. (Plenary lecture).
- • Maxwell Colloquium celebrating the work of James D. Murray, Edinburgh, Scotland. (I was the organiser of this meeting).
- ▶ • Colloquium on Models of Population Dynamics and Evolution, Leicester, England. (Plenary lecture).
- ▶ • British Mathematical Colloquium, York, England. (Invited "morning lecture").
- ▷ • European Conference on Mathematical and Theoretical Biology, Edinburgh, Scotland. (Invited speaker in two minisymposia).
- ▶ • European Congress of Mathematics, Amsterdam, Netherlands. (Invited "science lecture").
- ▶ • Workshop on Dynamics of Patterns, CWI Amsterdam, Netherlands. (All speakers at this one-day meeting are invited).

2009: ▶ • First joint conference of the Society of Mathematical Biology and the Chinese Society of Mathematical Biology, Hangzhou, China. (Plenary lecture).
- ▶ • Conference on Multiply Structured Populations in Biology, University of Bath. (Invited lecture).
- ▶ • International Congress of Mathematical Physics, Prague, Czech Republic. (Invited lecture).

2010: ▶ • Nonlinear PDEs arising in mathematical biology: cell migration and tissue mechanics, Edinburgh, April 2010. (Most speakers at this 3-day meeting were invited).
- ▷ • Conference on Computational and Mathematical Population Dynamics, Bordeaux, France, May/June 2010. (Invited speaker in two minisymposia).
- ▶ • Workshop on cancer modelling, Dundee, August 2010. (Invited lecture).
- ▶ • Workshop on PDE models of biological processes, Taiwan, December 2010. (Invited plenary lecture).

2011: ▶ • Workshop on Ecology and Control of Invasive Species, Mathematical Biosciences Institute, Ohio State University, USA, February 2011. (Invited plenary lecture).
- • Patterns, Nonlinear Dynamics and Applications, University of Bath, June 2011.
- ▶ • Mathematical Frontiers in the Life Sciences, University of Limerick, Ireland, July 2011. (Invited lecture).
- ▶ • Mathematical and Theoretical Ecology 2011: Linking Models with Ecological Processes, University of Essex, England, September 2011. (Invited keynote speaker).

2012: ▶ • Pattern Formation: The inspiration of Alan Turing. St John's College, Oxford, March 2012. (Invited lecture).

▶ • International Conference on Applied Mathematics, City University, Hong Kong, May 2012. (Invited speaker).

▶ • Morphogenesis/Emergence as a Computability Theoretic Phenomenon, Cambridge, June 2012. (Invited speaker in a special session).

2013: ▶ • The Mathematics Behind Biological Invasions, University of Alberta, May/June 2013. (Distinguished lecturer at this international summer school).

▷ • Canadian Mathematics Society, Halifax, Canada, June 2013. (Invited speaker in a minisymposia).

▶ • Young Researchers in Mathematics Conference, Edinburgh, June 2013. (Invited speaker).

▶ • The Oxford Conference on Challenges in Applied Mathematics, Oxford, July 2013. (Invited plenary lecture).

2014: ▶ • International Workshop on Numerical Methods and Emerging Computational Challenges in Mathematical Biology, Dundee, May 2014. (Invited plenary lecture).

▶ • Graduate School on Evolution Equations, Edinburgh, October 2014. (Invited lecture).

▶ • Drylands, Deserts and Desertification Conference, Sede Boqer, Israel, November 2014. (Invited speaker in a special session).

▶ • Spatio-temporal dynamics in Ecology: Building bridges between Ecology and the Mathematical and Physical Sciences. Lorenz Centre, Leiden, December 2014. (Invited participant).

2015: • Third Oxford Interdisciplinary Desert Conference, Oxford, UK, April 2015.

▶ • Mathematical and Theoretical Ecology 2015, Niteroj, Brazil, August 2015. (Invited keynote speaker).

2016: ▶ • Patterns of Vegetation in Water Controlled Ecosystems, Venice, Italy, January 2016. (Invited lecturer at this graduate school).

2018: ▶ • Workshop on Collective Dynamics and Self-Organization in Biological Sciences, Edinburgh, UK, April/May 2018. (Invited lecture).

2019: ▶ • On Growth and Pattern Formation, Oxford, UK, September 2019. (Invited lecture).

2023: ▶ • EdMathBio, Edinburgh, May 2023. (Invited lecture).

▶ • Modelling diffusive systems, Edinburgh, September 2023. (Invited public lecture).

Invited Research Seminars

1990: Mathematical Institute, University of Oxford.

1991: Department of Cell and Structural Biology, University of Manchester.

1992:   National Institute for Medical Research, London.

School of Mathematical Sciences, University of Bath.

Centre for Mathematical Biology, University of Oxford.

Department of Mathematics, University of Pittsburgh, USA.

Department of Mathematics, University of Delaware, USA.

Department of Mathematics, University of Utah, USA.

Department of Applied Mathematics, University of Washington.

1993:   Department of Mathematics, University of Warwick.

School of Mathematics, University of Bangor.

Mathematical Institute, University of Heidelberg, Germany.

1994:   Department of Mathematics, University of Warwick.

Centre for Nonlinear Studies, University of Leeds.

1995:   Department of Mathematical Sciences, University of Loughborough.

Department of Mathematical and Computing Sciences, University of Surrey.

Department of Mathematics, University College London.

Centre for Mathematical Biology, University of Oxford.

1996:   Department of Theoretical Mechanics, University of Nottingham.

Department of Mathematics, Imperial College London.

Department of Mathematics, University of Warwick.

Department of Mathematics, University of Utah, USA.

Department of Applied Mathematics and Theoretical Physics, University of Cambridge.

Department of Mathematics, University of Sheffield.

1997:   Department of Applied Mathematics, University of Washington, USA.

Department of Mathematics, University of Pittsburgh, USA.

Department of Mathematics, Boston University, USA.

Department of Mathematics, Massachusetts Institute of Technology, USA.

Department of Mathematics, University of Birmingham.

Department of Mathematics, Heriot-Watt University.

Department of Mathematics, University of Warwick.

School of Mathematics, University of Leeds.

Department of Theoretical Mechanics, University of Nottingham.

Centre for Mathematical Biology, University of Oxford.

1998:   Department of Mathematics, Strathclyde University.

Department of Mathematics, University of Glasgow.

Department of Mathematics, University of St Andrews.

Department of Biology, Heriot-Watt University.

Department of Mathematics, University of Edinburgh.

Department of Mathematics, Glasgow Caledonian University.

1999:   Institute of Mathematics and its Applications colloquium, Edinburgh.

Department of Oncology, University of Edinburgh.

Edinburgh Mathematical Society colloquium, University of Abertay.

Department of Mathematics, University of Dundee.

Department of Computing Science and Mathematics, University of Stirling.

2000:   Department of Mathematics, Loughborough University.

Department of Physics, Heriot-Watt University.

Department of Mathematics, Durham University.

2001:   COMPLEX, University College London.

Department of Mathematics, University of Glasgow.

Department of Mathematics, University of Liverpool.

NIDDK, National Institutes of Health, Bethesda, USA.

2005:   Department of Mathematics, University of York.

Department of Biology, University of York.

Department of Mathematics, University of Birmingham.

Department of Mathematics, University of Glasgow.

2006:   Department of Mathematical Sciences, University of Bath.

Department of Mathematics, University of Leeds.

Department of Animal and Plant Sciences, University of Sheffield.

Centre for Inflammation Research, Royal Infirmary, Edinburgh.

Department of Mathematics, University of Glasgow.

2007:   Department of Mathematics, University of Edinburgh.

Department of Mathematics, Queen's University Belfast.

Department of Biology, Queen's University Belfast.

Department of Mathematics, University of Birmingham.

Department of Computing Science & Mathematics, University of Stirling.

School of Mathematical Sciences, University of Nottingham.

2008: Institute of Integrative and Comparative Biology, University of Leeds.

Centrum Wiskunde & Informatica, Amsterdam, The Netherlands.

Department of Mathematics, Virginia Commonwealth University, USA.

Department of Biology, University of Maryland, USA.

Center for Scientific Computation and Mathematical Modeling, University of Maryland, USA.

Department of Applied Mathematics and Theoretical Physics, University of Cambridge. (Applied & Computational Mathematics seminar).

2009: Microsoft Research, Cambridge.

Bristol Centre for Complexity Sciences.

Department of Mathematics, Capital Normal University, Beijing, China.

2010: Mathematical Institute, University of Oxford.

Department of Mathematics, University of Surrey.

2011: Division of Mathematics, University of Dundee.

Department of Mathematics, Howard University, Washington DC, USA.

School of Mathematics, University of Edinburgh.

2012: Department of Computing Science and Mathematics, University of Stirling.

2013: School of Mathematics, University of Edinburgh.

Department of Mathematics, University of Sussex.

Public Lecture, International Centre for Mathematical Sciences, Edinburgh.

2014: Division of Mathematics, University of Dundee.

2015: School of Mathematical Sciences, University of Nottingham.

Institute for Complex Systems and Mathematical Biology, University of Aberdeen.

2016: Mathematical Institute, Universitaat of Leiden.

School of Mathematics and Statistics, University of St Andrews.

2017: School of Mathematics and Statistics, University of Sheffield.

2018: van Leeuwenhoek Lecture, Universitaat Leiden.