Curriculum Vitae

Prof. Paul C. Bressloff   Department of Mathematics
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Education

1988	Ph.D, Department of Mathematics, King's College, London University
	Title of thesis: *Quantum field theory of superstrings in the light-cone gauge*
1982	MA, First Class Honors, Physics, Oxford University.

Professional Experience

2009-2011	Professor of Applied Mathematics, University of Oxford
2005-	Adjunct Professor of Ophthalmology, University of Utah.
2001-	Professor of Mathematics, Department of Mathematics, University of Utah.
1997-2000	Professor of Applied Mathematics, Department of Mathematical Sciences, Loughborough University.
1996-1997	Reader in Applied Mathematics, Department of Mathematical Sciences, Loughborough University.
1993-1995	Lecturer in Applied Mathematics, Department of Mathematical Sciences, Loughborough University, UK
1988-1993	Research Scientist, GEC-Marconi Ltd., Hirst Research Centre, London, UK

Additional Positions

2014-2017	International Visiting Chair, INRIA, Sophia-Antipolis
1999-2000	Visiting Professor, Department of Mathematics, University of Chicago

Awards

2017	Distinguished Scholarly and Creative Researcher Award, University of Utah
2016	Elected a Fellow of the Society for Industrial and Applied Mathematics
2012	Elected a Fellow of the Institute of Mathematics and its Applications
2009	Royal Society Wolfson Merit Award
2000	Elected a Fellow of the Institute of Physics.
1999	Royal Society Leverhulme Trust Research Professorship

Grants

2018-2022	NSF (CO-PI): *Functional properties and computational function of top-down feedback in early visual cortex* ($1.3 million)
2016-2020	NSF (PI): *Laminar Neural Field Models of Visual Cortex* ($400,000)
2014-2017	NSF (CO-PI): *Computation of visual context information in the primary visual cortex* ($600,000)
2012-2017	NSF-RTG grant (CO-PI): *Cross-disciplinary research training in mathematical biology* ($2,500,000).
2012-2015	NSF DMS (PI). *Stochastic Neural Field Theory*. ($350,000).
2010-2015	BBSRC LOLA (CO-PI). *Engineering Human Neural Networks* (£3,000,000).

2010-2011	John Fell Award (PI). *Mathematical Modelling of Protein Receptor Transport and its Role in Synaptic Plasticity*
2010-2012	OCCAM Research Grant (PI). *Mathematical modelling of mRNA transport and its role in learning and memory*
2008-2012	NSF DMS (PI). *Mathematical models of protein receptor trafficking in dendrites.* ($270,000).
2006	NSF DMS 0515725 (PI): *Gordon Research Conference on Theoretical Biology and Biomathematics* ($24,000)
2004-2009	NSF-RTG grant (CO-PI): *Cross-disciplinary research training in mathematical biology* ($2,500,000).
2005-2008	NSF DMS 0515725 (PI): *Neural oscillations and waves induced by local network inhomogeneities* ($232,122)
2002-2007	NSF-IGERT grant (CO-PI): *Cross-disciplinary research training in mathematical biology* ($2,942,000).
2002-2005	NSF DMS 0209824 (PI): *Spatio-temporal dynamics and multiple feature maps in primary visual cortex* ($109, 260).
1997-2001	EPSRC research grant in applied nonlinear mathematics (PI)*: Neuronal population dynamics: coordination of locomotion in a simple model vertebrate* (£118, 360).
1997	Royal Society travel grant
1997	EPSRC conference grant (£18,000).
1995-1998	EPSRC research grant in mathematical biology (PI): *Nonlinear dynamics of the pupil light reflex* (£30,000).

Postdocs

James Macluarin (2017-2018) [Assistant Professor, NJIT]
Sean Lawley (2014-2017) [Associate Professor, University of Utah]
Victor Burlakov (2010-2012) [Senior Research Associate, Oxford]
Jay Newby (2010-2012)
Berton Earnshaw (2007-2009)
Lars Schwabe (2005-2006) [Assistant Professor, University of Rostock]
Stephen Coombes. (1996-1998). [Full Professor, University of Nottingham]

Ph.D students

Ryan Schumm (4th year**)**
Hyunjoong Kim. Ph. D 2020. [Simon's Postdoc, UPenn]
Patrick Murphy. Ph. D 2020 [Postdoc, Rice University]
Bridget Fan. Ph. D 2019 [Postdoc: University of Houston].
Ethan Levien. Ph. D 2018 [Assistant Professor, Dartmouth]
Sam Carroll. Ph. D 2018
Heather Brooks. Ph. D 2018 [Assistant Professor, Harvey Mudd]
Barghav Karamched. Ph. D 2017 [Assistant Professor, Florida State University]
Bin Xu. Ph. D 2017 [Assistant Professor, Clarkson University]
Matthew Webber. Ph. D 2014*.* [Works in the City of London]
Yi Ming Lai. Ph. D 2013 [Research Associate, University of Nottingham]
Jay Newby. Ph. D 2010 [Assistant Professor, University of Alberta]
Zackary Kilpatrick. Ph. D 2010 [Associate Professor, University of Colorado Boulder]
William Nesse Ph. D. (2008). [Associate Professor (Lecturer), University of Utah]
Berton Earnshaw. Ph. D 2007 [Software engineer, CEO]

Andrew Oster. Ph.D 2006 [Associate Professor, West Washington University]
Stefanos Folias. Ph.D 2005 [Associate Professor, University of Alaska]
Matthew James. Ph. D 2002
Barry de Souza. Ph. D 2000.
Peter N. Roper. Ph. D: 1998 [Software engineer].

Departmental and University Activities

• Graduate committee (2022-20223)
• RTP committee (2020-2022)
• Chair of Career-line faculty retention and promotion committee (2019-2020)
• Faculty mentor of access students - provides the opportunity for female UGs to pursue a research project in a STEM subject
• Member of university search committee for a cluster hire (TEP) in biophysics (2016-2019)
• Chair of Applied Math Research Committee (2015,2016)
• Chair of Instructorship Committee (2014)
• Faculty member of the Mathematical Biology and Neuroscience Graduate Programs
• Designed and taught new undergraduate and graduate courses: mathematical neuroscience (2002), biophysics (2004, 2008), systems physiology (2005), statistical mechanics (2006,2011), symmetric bifurcation theory (2006), stochastic processes in biology (2008,2013,2016,2018) nonlinear waves (2016)
• Member of Graduate Committee for redesigning core graduate courses (2013)
• Member/Chair Departmental Hiring Committee (2001-2004, 2007, 2017)
• Member of Graduate Committee (2006)
• Member of Postdoc Hiring Committee (2012)
• Academic Senate (2005-2008)
• College of Science "Frontiers of Sciences" Committee (2006, 2007)
• Member of thesis committees in bioengineering, biology and ophthalmology.
• Invited popular lecturer for the local business community (Science at Breakfast) and high-school students (College of Science Open Day).

Additional Professional Activities

Publications: 250 refereed journal articles, 4 books and 1 edited book.

Google Scholar: 11150 citations, h-index = 55

Professional memberships:
SIAM Dynamical Systems and Life Sciences Activity Groups

NSF Panel member: Mathematical Sciences, Integrative Biology and Neuroscience,

Editorial board member:
SIAM J. Appl. Math (2011-2021), Journal of Mathematical Biology (2011-2021), Journal of Mathematical Neuroscience, Brain Multiphysics (new journal), Biological Cybernetics, IMA Journal of Mathematics in Medicine and Biology, Phys. Rev. E (2013-2018), European J. of Applied Mathematics (2011-2018)

Invited SIAM plenary speaker:
SIAM Life Sciences (2008)
SIAM Nonlinear Waves (2014)

MBI Scientific Advisory Board Member: (2011-2013)

Reviewer of Tenure and Full Professor Promotions:
University of California Davis, Iowa State University, University of Pittsburgh, Drexel University, Ohio State University, University of Minnesota, College of William and Mary, Georgia State, University of Chicago, Princeton, Courant, Tulane University, Harvard, UCLA…

Conference/workshop organization

Berkeley MSRI Workshop on Mathematical Neuroscience (2004)
Chair of Gordon Research Conference on Theoretical Biology and Biomathematics (2006).
Vision Workshop, Mathematical Biosciences Institute (2007)
OCCAM Conference: Mathematical Biology (2010)
OCCAM Workshop: Future Challenges in Mathematical Neuroscience (2010)
Mathematical Neuroscience , CIRM, Marseilles (2011)
Cellular and Subcellular Neuroscience workshop, MBI (2013)
BCMI Meeting in honor of Jack Cowan (2014)
SIAM Life Sciences (2014)
Axonal transport workshop, MBI (2014)
First International Conference in Mathematical Neuroscience, France (2015)

Selected invited colloquia and talks

• Mathematical Institute, Oxford University (1997).
• Centre for Nonlinear Dynamics and its Applications, University College London (1997).
• Department of Mathematics, University of Liverpool (1997).
• Conference on Applied Nonlinear Dynamics Near the Millennium, San Diego (1997).
• Conference on Neuronal Coding II, Versailles (1997).
• Department of Engineering Mathematics, Bristol University (1998).
• Department of Mathematics, St. Andrew's University (1998).
• Workshop on Bifurcation and Symmetry, University of Nottingham (Sept 1998).
• Centre for Nonlinear Dynamics and its Applications, University College London (Dec 1998).
• Department of Mathematics, University of Bristol (Feb 1999).
• Gatsby Neuroscience Institute, University College London (Feb 1999).
• Workshop on Symmetries and Spatiotemporal dynamics, University of Warwick (Feb 1999).
• Conference on Visual Cortex, Santa Fe Institute (April 1999).
• Stochastic dynamics and Chaos in the Lakes, Ambleside, U.K. (Aug 1999)
• University of Chicago: Lectures on spiking neurons (Dec 1999)
• Dynamics Days, Surrey (June 2000).
•Annual European Computational Neuroscience Summer School (2000-2002)
• Medical School of Universit'e Ren'e Descartes, Paris (July 2000)
• Summer School in Computational Neuroscience, Trieste (August 2000).
• American Association for the Advancement of Science. San Francisco (Feb 2001).
• University of California Davis (March 2001)
• SIAM Applied Nonlinear Dynamics minisymposium, Snowbird (May 2001).
• Colston Conference on Nonlinear Dynamics and Chaos: plenary speaker (June 2001).
• Summer School in Computational Neuroscience, Trieste (August 2001).
• University of Houston (Nov 2001).
• Workshop on Complex Neural Dynamics, University of Chicago (June 2002).
• Summer School in Computational Neuroscience, Obidos (August 2002).
• Mathematical Biosciences Institute, Ohio State University (Oct 2002)

- Smith-Kettlewell, San Francisco (Dec 2002)
- University of Montana (April 2003)
- UCSD (April 2003)
- Salk Institute, San Diego (April 2003)
- SIAM Dynamics minisymposium, Snowbird (May 2003).
- Workshop: Symmetry and Bifurcation in Biology (June 2003)
- Les Houches Summer School in Neurophysics (Aug 2003).
- Workshop on Neural Pattern Formation, Institute for Physics, UCSB (Oct 2003)
- Courant, NYU (Dec 2003)
- Mount Sinai (Dec 2003)
- University of Chicago (Feb 2004)
- Berkeley MSRI Workshop (co-organizer): Mathematical Neuroscience (Mar 2004)
- GRC on Theoretical Biology and Biomathematics: co-chair (June 2004)
- Conference "From Neurophysiology to Phenomenology: Mathematical Models of Visual Perception" Accademia delle Scienze of Bologna, Italy (July 2004)
- Workshop on Coupled Cells. (Houston Feb 2005)
- SIAM Dynamics minisymposium, Snowbird (May 2005).
- Park City Math Institute summer school in mathematical biology (June 2005).
- Conference on fluids and waves. University of Memphis: plenary (May 2006)
- GRC on Theoretical Biology and Biomathematics: Chair (June 2006)
- Mathematical Neuroscience, Andorra (Sep 2006)
- School on Neuromathematics of Vision, Scuola Normale Superiore, Pisa (Sep 2006)
- Mathematical Biosciences Institute: vision workshop chair (April 2007)
- University of British Columbia: Distinguished colloquium (Mar 2007)
- Society for Math Biology, San Jose (July 2007)
- Mathematical Neuroscience Conference, Montreal (Sep 2007)
- Rice University, Houston (Jan 2008)
- Conference on Mathematical Neuroscience, University of Edinburgh (Mar 2008)
- NJIT (May 2008)
- GRC on Theoretical Biology and Biomathematics: session chair (June 2008)
- Mathematics Institute, University of Oxford (July 2008)
- Humboldt University, Berlin (July 2008)
- SIAM Conferences on Life Sciences, Montreal: plenary speaker (Aug 2008)
- Mathematics Institute, University of Oxford (Dec 2008)
- Symposium on Computational Neuroscience, University of Warwick (Dec 2008)
- OCCAM Launch Event, University of Oxford (July 2009)
- Summer School in Computational Neuroscience, Freiburg (August 2009).
- CaBDYN Network Days Workshop, University of Oxford (Oct 2009)
- CaBDYN Seminar, University of Oxford (Nov 2009)
- Mathematical Biology Seminar, University of Oxford (Nov 2009)
- Mathematical Biology Seminar, University of Nottingham (Nov 2009)
- Gatsby Computational Neuroscience Unit Seminar UCL (Dec 2009)
- INRIA, Sophia-Anapolis (Jan 2010)
- Stochastic Neuroscience Conference, CIRM Marseilles (Jan 2010)
- Plenary speaker, SIAM 2010 student conference, University of Oxford (Feb 2010)
- Mathematical Neuroscience Conference, University of Warwick (Mar 2010)
- Mathematical Neuroscience Workshop, University of Edinburgh (April 2010)
- Mathematical Neuroscience Workshop, University of Warwick (June 2010)
- Conference in Honour of Olivier Faugeras' 60th, INRIA, Sophia-Anapolis (June 2010)
- Plenary speaker, Alumni Garden Party, Mathematical Institute Oxford (July 2010)
- Plenary Speaker, SIAM Nonlinear Waves and Coherent Structures (Aug 2010)