Curriculum Vitae

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Department of Mathematics
Imperial College London
Huxley Building, South Kensington
London SW7 2AZ, UK

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	BA, First Class Honors, Physics, Oxford University.

Professional Experience

2023-	Chair in Applied Mathematics and Stochastic Processes, Imperial College London
2009-2011	Professor of Applied Mathematics, University of Oxford
2023-	Adjunct Professor of Professor of Mathematics, Department of Mathematics, University of Utah.
2001-2023	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

2025-2028	NIH (MPI): *Identifying the functional circuitry and computational principles underlying feedback-induced coherent oscillations.* ($3.8 million). **PENDING**
2018-2023	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

Samantha Linn (2025-2028) NSF postdoctoral fellowship, Imperial College
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

Demosthenes Georgiou [1st year Imperial**]**
Jose Giral-Barajas [2nd year Imperial**]**
Kevin Chen [2nd year Imperial]
Ryan Schumm. Ph. D 2023 [Research Scientist, NSA]
Hyunjoong Kim. Ph. D 2020. [Assistant Professor University of Cincinnati]
Patrick Murphy. Ph. D 2020 [Assistant Professor, San Jose State University]
Bridget Fan. Ph. D 2019 [Research Scientist].
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 Lin. 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].

Additional Professional Activities

Publications: 290 refereed journal articles, 4 books and 1 edited book.

Google Scholar: 14018 citations, h-index = 60

Professional memberships: SIAM Dynamical Systems and Life Sciences Activity Groups, Institute for Applied Mathematics

Editorial board member: SIAM Life Sciences (2025-), SIAM J. Appl. Math (2011-2021), Journal of Mathematical Biology (2011-2021), Journal of Mathematical Neuroscience (2011-2021), Brain Multiphysics, Biological Cybernetics (2011-2021), Phys. Rev. E (2013-2018), European J. of Applied Mathematics (2011-2018)

Invited Plenary Speaker:

SIAM Life Sciences (2008),
SIAM Nonlinear Waves (2014)
Conference on Advanced COmputational Methods in ENgineering ACOMEN2025 (2025)

Distinguished Colloquia: Georgia State (2018), Notre Dame (2019)

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, Notre Dame, Brandeis…