Mason A. Porter
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CURRICULUM VITAE

PERSONAL DATA

- Date of Birth: 2/10/76, Los Angeles, California, USA
- Nationality: United States citizen
- Languages: English, Spanish

EMPLOYMENT

- Faculty positions
  - 6/16–present
    - Professor, Department of Mathematics, University of California, Los Angeles (UCLA)
  - 10/07–8/16
    - Faculty, Mathematical Institute, University of Oxford
      - 7/14–8/16: Professor of Nonlinear and Complex Systems
      - 1/14–7/14: Associate Professor
      - 10/07–12/13: University Lecturer
    - Tutorial Fellow, Somerville College, University of Oxford
    - Group affiliations within Oxford
      - Faculty, Oxford Centre for Industrial and Applied Mathematics [from 10/07]
      - Affiliated Faculty
        - Complex Agent-Based Dynamic Networks (CABDyN) Complexity Cluster [from 10/07]
        - Centre for Nonlinear Partial Differential Equations, Mathematical Institute [from 11/07]
        - Discrete Mathematics group, Mathematical Institute [from 10/08]
        - Mathematical Physics group, Mathematical Institute [from 10/09]
        - Wolfson Centre for Mathematical Biology, Mathematical Institute [from 3/11]
        - Theoretical and Computational Neuroscience ("Neurotheory") [from 6/14]
- Visiting faculty positions and external affiliations
  - 9/10–present: Research Professor [Adjunct Faculty], Simon A. Levin Mathematical, Computational and Modeling Sciences Center (MCMSC), Arizona State University
  - 9/14–1/15: Visiting Scholar, Department of Biology, School of Humanities and Sciences, Stanford University
- Postdoctoral positions
  - 6/05–9/07
    - Postdoctoral Scholar, Center for the Physics of Information and Department of Physics, California Institute of Technology
      - Mentor: Michael C. Cross (Physics)
  - 8/02–5/05
    - NSF VIGRE Visiting Assistant Professor, School of Mathematics, Georgia Institute of Technology
      - Mentor: Leonid A. Bunimovich (Mathematics)
    - Research Associate, Center for Nonlinear Science, School of Physics, Georgia Institute of Technology
      - Mentor: Predrag Cvitanovic (Physics)
  - 1/03–5/03
    - Postdoctoral Scholar, Semiclassical Analysis program, Mathematical Sciences Research Institute (MSRI), Berkeley, CA, USA [on leave from postdoctoral position at Georgia Tech]

EDUCATION

- Ph.D., Center for Applied Mathematics, Cornell University [5/26/02]
  - Thesis Advisor: Richard L. Liboff (Electrical & Computer Engineering, Applied & Engineering Physics)
  - Thesis Committee: Steven H. Strogatz (Theoretical & Applied Mechanics), John Guckenheimer (Mathematics), and Gregory S. Ezra (Chemistry & Chemical Biology)
- M.S., Center for Applied Mathematics, Cornell University [1/17/01]
- B.S. with Honors, Applied Mathematics, California Institute of Technology [6/12/98]
  - Academic Advisors: Oscar P. Bruno (Applied Mathematics), Gerald B. Whitham (Applied Mathematics)
  - Undergraduate Research Mentors: Jerrold E. Marsden (Control & Dynamical Systems), Nikolai G. Makarov (Mathematics), and Charles R. Plott (Economics)
- Salutatorian, Beverly Hills High School [June 1994]

HONORS

- Departmental Teaching Award, Mathematical Institute, University of Oxford [2016]
- Finalist (of 4 total), Outstanding Supervisor (Division of Mathematical, Physical, and Life Sciences), Oxford University Student Union (OUSU) Teaching Awards [2016]
- Young Scientist Award for Socio- and Econophysics, German Physical Society (DPG) [2016]
- Whitehead Prize, London Mathematical Society (LMS) [2015]
- Erdös–Rényi Prize in Network Science, Network Science Society [2014]
- Zachary Karate Club Club Trophy (2nd recipient) [6/13]
- Invited Lecturer, "Network Dynamics" (10 lectures of about 2.5 hours each), Applied Mathematics Summer School, Shanghai Jiao Tong University [7/05/10–7/16/10]
- Sigma Xi Young Investigator Award [2008]
- Master of Arts, University of Oxford (degree by resolution) [2007]
- American Mathematical Society (AMS) Project NExT Fellowship [2003–2004]
- Society for Industrial and Applied Mathematics (SIAM) Student Paper Prize (for "An Introduction to Quantum Chaos") [2001]
- National Defense Science and Engineering Graduate (NDSEG; DoD) Fellowship [8/98–8/01]
- Honorable Mention, National Science Foundation (NSF) Graduate Fellowship [1998]
- Honorable Mention, AT&T Graduate Fellowship [1998]
- SIAM Early-Career Travel Award, International Congress on Industrial and Applied Mathematics [7/07]
- SIAM Student Travel Awards:
  - SIAM Annual Meeting [7/01]
  - SIAM Pacific Rim Conference on Dynamical Systems [8/00]
- Promoted to Sigma Xi full membership [2001]
- Undergraduate Awards
  - Caltech Merit Scholarships [junior, senior years]
  - Eric Temple Bell Prize in Undergraduate Mathematics Research [Caltech award; 1997]
  - Frederick J. Zeigler Memorial Award for Mathematics and Applied Mathematics [Caltech award; 1996]
  - Elected to Tau Beta Pi membership [junior year]
  - Elected to Sigma Xi associate membership [junior year; subsequently elected to full membership during graduate school]
  - National Dean's List (and semifinalist for National Dean's List Scholarship) [junior year]
  - Honorable Mention, McKinney Prize in Literature [Caltech award; junior, senior years]
  - National Science Scholarship [freshman, sophomore years]
- High School Awards (selected)
  - National Advanced Placement Scholar

GRANTS

- 1. Principal Investigator, "PLEXMATH: Mathematical Framework for Multiplex Networks", European Commission FET-Proactive Project [#317614], FP7-ICT-2011-8, Dynamics of Multi-Level Complex Systems (joint with A. Arenas, M. Barthelemy, J. P. Gleeson, and Y. Moreno), €1,520,540 (including €287,069 to University of Oxford) [11/12–10/15]

- Software, data, and other materials available at http://www.plexmath.eu
- 2. Principal Investigator, "Network Science: School Engagement", component of Engineering and Physical Sciences Research Council (EPSRC) Pathways to Impact Block Grant to University of Oxford, £7,000 [8/12–3/13]
- 3. Principal Investigator, "Community Structure in Multislice Networks", EPSRC grant [EP/J001759/1], £211,051 [6/12–5/14]
  - Accredited as part of Research Councils UK Global Uncertainties Programme
- 4. Principal Investigator, "Network Science: School Engagement", component of EPSRC Pathways to Impact Block Grant to University of Oxford, £5,000 [11/11–6/12]
- 5. Principal Investigator, "Coevolution, Interconnections, and Communities of Social and Political Networks in the United States Congress" (joint with J. H. Fowler), James S. McDonnell Foundation [JSMF#220020177, Studying Complex Systems Research Award], 21st Century Science Initiative, $418,038 [2/09–1/14]
- 6. EPSRC Collaborative (Industrial CASE) award to supervise a D.Phil. student, joint with Unilever, about £100,000 [10/01/11–present]
- 7. EPSRC Collaborative (Industrial CASE) awards to supervise D.Phil. students, joint with S. D. Howison (Mathematical Institute, University of Oxford) and S. Williams (HSBC bank), about £100,000 each [2 of them: 9/01/09–present, 10/01/11–present]
- 8. EPSRC Vacation Bursaries for supervision of undergraduate student research projects [2008, 2009, 2010]
- 9. Nuffield Science Bursaries for supervision of undergraduate student research project [2009, 2011]
- 10. Travel Grants from organizers to attend numerous conferences and workshops since 2000
- 11. Graduate Student Travel Grants, Cornell University (4 of them)

RESEARCH AREA

- Applied Mathematics; Network Science; Complex Systems; Nonlinear Systems. Current research projects include:
  - 1. Nonlinear Waves in Granular Crystals (with C. Daraio, P. G. Kevrekidis, & A. J. Martínez)
  - 2. Structure and Dynamics in Brain Networks (with C. J. Akerman, P. Brodersen, R. Flanagan, L. Lacasa, S. H. Lee, & T. Lillicrap)
  - 3. Plankton Dynamics (with P. K. Maini, S. Piltz, & F. Veerman)
  - 4. Systemic Risk on Networks (with S. H. Howison & V. Murevics)
  - 5. Modelling Courtship Songs in *Drosophila* (with B. Brüggemeier & S. Goodwin)
  - 6. Limit Order Books (with M. D. Gould and S. D. Howison)
  - 7. Multilayer Networks (with A. Arenas, M. Barthelemy, M. Bazzi, A. Bertozzi, G. Chowell, A. Clauset, C. M. Deane, M. De Domenico, F. Klimm, J. G. Gleeson, S. D. Howison, H. Hu, L. G. S. Jeub, E. A. Leicht, M. Kivelä, M. W. Mahoney, Y. Moreno, P. J. Mucha, M. Sarzynska, & J. Wray)
  - 8. Lagrangian Coherent Structures and Community Structure (with M. Farazmand, G. Haller, & S. H. Lee)
  - 9. Computational Homology in Networks (with H. Harrington, F. Klimm, M. Kramár, K. Mishchaikow, P. J. Mucha, & D. Taylor)
  - 10. Social Influence on Networks (with S. W. Oh)
- Google Scholar Profile: http://scholar.google.com/citations?user=hSyfNekAAAAJ&hl=en [h-index = 40; > 6000 total citations; >1500 citations in 2015]
- Slides for some presentations available at http://www.slideshare.net/masonporter/edit_my_uploads

EDITORIAL DUTIES

- Editorial Boards
  - Associate Editor, *Network Neuroscience* (MIT Press) [inaugural editorial board; 4/16–present]
  - Associate Editor, Dynamical and Complex Systems, *Transactions of Mathematics and its Applications: A Journal of the IMA* (Oxford University Press) [inaugural editorial board; 2/15–present]
  - Associate Editor, Research Spotlights section, *SIAM Review* (Society for Industrial and Applied Mathematics) [1/15–12/17]
  - Associate Editor, *IEEE Transactions on Network Science and Engineering* (Institute of Electrical and Electronic Engineers) [inaugural editorial board; 3/14–present]
  - Associate Editor, *European Journal of Applied Mathematics* (Cambridge University Press) [9/13–present]
  - Associate Editor, *IMA Journal of Applied Mathematics* (Oxford University Press) [6/13–present]
  - Associate Editor, *Journal of Complex Networks* (Oxford University Press) [inaugural editorial board; 11/12–present]
  - Executive Associate Editor, *Journal of Engineering Mathematics* (Springer Verlag) [1/11–1/16]
- Special Issues

- Editor, special issue on "Networks" [December 2016], *European Journal of Applied Mathematics* (joint with G. Bianconi)

BOOK

- 1. MAP & J. P. Gleeson [2016], "Dynamical Systems on Networks: A Tutorial", *Frontiers in Applied Dynamical Systems: Reviews and Tutorials*, Volume 4 (Springer International Publishing, Switzerland)

PUBLICATIONS IN REFEREED JOURNALS

- 1. L. G. S. Jeub, M. H. Mahoney, P. J. Mucha, & MAP [2016], "A Local Perspective on Community Structure in Multilayer Networks", to appear in *Network Science* (arXiv1510.05185)
- 2. M. De Domenico, C. Granell, MAP, & A. Arenas [2016], "The Physics of Spreading Processes in Multilayer Networks", *Nature Physics*, Advance Online Publication, doi:10.1038/nphys3865 (arXiv:1604.02021)
- 3. J. W. Pearson, S. Olver, & MAP [2016], "Numerical Methods for the Computation of Confluent and Gauss Hypergeometric Functions", to appear in *Numerical Algorithms* (arXiv:1407.7786) [associated Matlab code is available at http://hdl.handle.net/10283/607]
- 4. M. Cucuringu, P. Rombach, S. H. Lee, & MAP [2016], "Detection of Core–Periphery Structure in Networks Using Spectral Methods and Geodesic Paths", *European Journal of Applied Mathematics*, FirstView, doi:10/1017/S095679251600022X (arXiv:1410.6572)
- 5. A. J. Martínez, H. Yasuda, E. Kim, P. G. Kevrekidis, MAP, & J. Yang [2016], "Scattering of Waves by Impurities in Precompressed Granular Chains", *Physical Review E*, Vol. 93, No. 5: 052224
- 6. S. H. Lee, J. M. Magallanes, & MAP [2016], "Time-Dependent Community Structure of Cosponsorship Networks in the Congress of the Republic of Peru", *Journal of Complex Networks*, advanced access, doi:10.1093/comnet/cnw004 (arXiv:1510.01002)
- 7. S. H. Lee, M. D. Fricker, & MAP [2016], "Mesoscale Analyses of Fungal Networks as an Approach for Quantifying Phenotypic Traits", *Journal of Complex Networks*, advanced access, doi:10.1093/comnet/cnv034 (arXiv:1406.5855)
- 8. A. J. Martínez, P. G. Kevrekidis, & MAP [2016], "Superdiffusive Transport and Energy Localization in Disordered Granular Crystals", *Physical Review E*, Vol. 93, No. 2: 022902
- 9. Ma D. Sotelo Herrera, J. San Martín, & MAP [2016], "Heterogeneous, Weakly Coupled Map Lattices", *Communications in Nonlinear Science and Numerical Simulation*, Vol. 36: 549–563
- 10. R. Gallotti, MAP, & M. Barthelemy [2016], "Lost in Transportation: Information Measures and Cognitive Limits in Multilayer Navigation", *Science Advances*, Vol. 2, No. 2: e1500445
- 11. M. D. Gould, MAP, & S. D. Howison [2016], "The Long Memory of Order Flow in the Foreign Exchange Spot Market", *Market Microstructure and Liquidity*, Vol. 2, No. 1: 1650001
- 12. M. Kivelä & MAP [2015], "Estimating Interevent Time Distributions From Finite Observation Periods in Communication Networks", *Physical Review E*, Vol. 92, No. 5: 052813 [software available at http://github.com/bolozna/iet]
- 13. H. Sayama, C. Cramer, MAP, L. Sheetz, & S. Uzzo [2015], "What Are Essential Concepts About Networks?", *Journal of Complex Networks*, advanced access, doi:10.1093/comnet/cnv028 (arXiv:1507.03490)
- 14. M. Bazzi, MAP, S. Williams, M. McDonald, D. J. Fenn, & S. D. Howison [2016], "Community Detection in Temporal Multilayer Networks, with an Application to Correlation Networks", *Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal*, Vol. 14, No. 1: 1–41
- 15. M. Sarzynska, E. A. Leicht, G. Chowell, & MAP [2015], "Null Models for Community Detection in Spatially-Embedded, Temporal Networks", *Journal of Complex Networks*, advanced access, doi:10.1093/comnet/cnv027 (arXiv:1407.6297)
- 16. E. Cozzo, M. Kivelä, M. De Domenico, A. Solé, A. Arenas, S. Gómez, MAP, & Y. Moreno [2015], "Structure of Triadic Relations in Multiplex Networks", *New Journal of Physics*, Vol. 17, No. 7: 073029
- 17. D. Taylor, F. Klimm, H. A. Harrington, M. Kramár, K. Mischaikow, MAP, & P. J. Mucha [2015], "Topological Data Analysis of Contagion Maps for Examining Spreading Processes on Networks", *Nature Communications*, Vol. 6: 7723.
- 18. D. S. Bassett, E. T. Owens, MAP, M. L. Manning, & K. E. Daniels [2015], "Extraction of Force-Chain Network Architecture in Granular Materials Using Community Detection", *Soft Matter*, Vol. 11, No. 14: 2731–2744
- 19. L. G. S. Jeub, P. Balachandran, MAP, P. J. Mucha, & M. W. Mahoney [2015], "Think Locally, Act Locally: Detection of Small, Medium-Sized, and Large Communities in Large Networks", *Physical Review E*, Vol. 91, No. 1: 012821 [software available at http://github.com/LJeub/LocalCommunities and http://github.com/LJeub/SpringVisCom]
- 20. S. H. Lee, R. Ffrancon, D. M. Abrams, B. J. Kim, & MAP [2014], "Matchmaker, Matchmaker, Make Me a Match: Migration of Populations Via Marriages in the Past", *Physical Review X*, Vol. 4, No. 4: 041009
- 21. M. De Domenico, MAP, & A. Arenas [2015], "MuxViz: A Tool for Multilayer Analysis and Visualization of Networks", *Journal of Complex Networks*, Vol. 3, No. 2: 159–176 [software available at http://muxviz.net]
- 22. J. P. Gleeson, D. Cellai, J.-P. Onnela, MAP, & F. Reed-Tsochas [2014], "A Simple Generative Model of Collective Online

Behavior", *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 111, No. 29: 10411–10415

- 23. M. Kivelä, A. Arenas, M. Barthelemy, J. P. Gleeson, Y. Moreno, & MAP [2014], "Multilayer Networks", *Journal of Complex Networks*, Vol. 2, No. 3: 203–271
- 24. S. Melnik, MAP, P. J. Mucha, & J. P. Gleeson [2014], "Dynamics on Modular Networks with Heterogeneous Correlations", *Chaos*, Vol. 24, No. 2: 023106
- 25. J. San Martín & MAP [2014], "Convergence Time towards Periodic Orbits in Discrete Dynamical Systems", *PLoS ONE,* Vol. 9, No. 4: e92652
- 26. S. H. Piltz, MAP, & P. K. Maini [2014], "Prey Switching with a Linear Preference Trade-Off", *SIAM Journal on Applied Dynamical Systems*, Vol. 13, No. 2: 658–682
- 27. S. H. Lee, M. Cucuringu, & MAP [2014], "Density-Based and Transport-Based Core-Periphery Structure in Networks", *Physical Review E*, Vol. 89, No. 3: 032810
- 28. D. S. Bassett, N. F. Wymbs, MAP, P. J. Mucha, & S. T. Grafton [2014], "Cross-Linked Structure of Network Evolution", *Chaos*, Vol. 24, No. 1: 013112
- 29. M. P. Rombach, MAP, P. J. Mucha, & J. H. Fowler [2014], "Core-Periphery Structure in Networks", *SIAM Journal on Applied Mathematics*, Vol. 74, No. 1:167–190
- 30. M. De Domenico, A. Solé-Ribalta, E. Cozzo, M. Kivelä, Y. Moreno, MAP, S. Gómez, & A. Arenas [2013], "Mathematical Formulation of Multilayer Networks", *Physical Review X*, Vol. 3, No. 4: 041022
- 31. H. Hu, T. Laurent, MAP, & A. L. Bertozzi [2013], "A Method Based on Total Variation for Network Modularity Optimization Using the MBO Scheme", *SIAM Journal on Applied Mathematics*, Vol. 73, No. 6: 2224–2246
- 32. T. Hoffmann, R. Lambiotte, & MAP [2013], "Decentralized Routing on Spatial Networks With Stochastic Edge Weights", *Physical Review E*, Vol. 88, No. 2: 022815
- 33. S. Holmes, MAP, P. Krüger, & P. G. Kevrekidis [2013], "Solitary Matter Waves in Combined Linear and Nonlinear Potentials: Detection, Stability, and Dynamics", *Physical Review A*, Vol. 88, No. 3: 033627
- 34. D. S. Bassett, N. F. Wymbs, M. P. Rombach, MAP, P. J. Mucha, & S. T. Grafton [2013], "Task-Based Core-Periphery Organization of Human Brain Dynamics", *PLoS Computational Biology*, Vol. 9, No. 9: e1003171
- 35. Y. M. Lai & MAP [2013], "Noise-Induced Synchronization and Desynchronization of Globally Coupled Nonidentical Oscillators with Correlated and Uncorrelated Noise", *Physical Review E*, Vol. 88, No. 1: 012905
- 36. S. Melnik, J. A. Ward, J. P. Gleeson, & MAP [2013], "Multi-Stage Complex Contagions", *Chaos*, Vol. 23, No. 1: 013124
- 37. C. Wang, K. J. H. Law, P. G. Kevrekidis, & MAP [2013], "Dark Solitary Waves in a Class of Collisionally Inhomogeneous Bose-Einstein Condensates", *Physical Review A*, Vol. 87, No. 2: 023621
- 38. D. S. Bassett, MAP, N. F. Wymbs, S. T. Grafton, J. M. Carlson, & P. J. Mucha [2013], "Robust Detection of Dynamic Community Structure in Networks", *Chaos*, Vol. 23, No. 1: 013142
- 39. S. Rankovic & MAP [2013], "Two-Particle Circular Billiards Versus Randomly Perturbed One-Particle Circular Billiards", *Chaos*, Vol. 23, No. 1: 013123
- 40. A. V. Mantzaris, D. S. Bassett, N. F. Wymbs, E. Estrada, MAP, P. J. Mucha, S. T. Grafton, & D. J. Higham [2013], "Dynamics Network Centrality Summarizes Learning in the Human Brain", *Journal of Complex Networks*, Vol. 1, No. 1: 83–92
- 41. M. D. Gould, MAP, S. Williams, M. McDonald, D. J. Fenn, & S. D. Howison [2013], "Limit Order Books", *Quantitative Finance*, Vol. 13, No. 11: 1709–1742
- 42. T. Hoffmann, MAP, & R. Lambiotte [2012], "Generalized Master Equations for Non-Poisson Dynamics on Complex Networks", *Physical Review E*, Vol. 86, No. 4: 046102 [software available at https://github.com/tillahoffmann/nonpoisson-dynamics]
- 43. D. S. Bassett, E. T. Owens, K. E. Daniels, & MAP [2012], "Influence of Network Topology on Sound Propagation in Granular Materials", *Physical Review E*, Vol. 86, No. 4: 041306
- 44. S. Stoye, MAP, & M. S. Dawkins [2012], "Synchronized Lying in Cattle in Relation to Time of Day", *Livestock Science*, Vol. 149, No. 1–2: 70–73
- 45. A. C. F. Lewis, N. S. Jones, MAP, & C. M. Deane [2012], "What Evidence is There for the Homology of Protein-Protein Interactions?", *PLoS Computational Biology*, Vol. 8, No. 9: e1002645
- 46. J.-P. Onnela, D. J. Fenn, S. Reid, MAP, P. J. Mucha, M. D. Fricker, & N. S. Jones [2012], "Taxonomies of Networks from Community Structure", *Physical Review E*, Vol. 86, No. 3: 036104 [software available at http://www.jponnela.com/web_documents/mrf_code.zip]
- 47. N. F. Wymbs, D. S. Bassett, P. J. Mucha, MAP, & S. T. Grafton [2012], "Differential Recruitment of the Sensorimotor Putamen and Frontoparietal Cortex During Motor Chunking in Humans", *Neuron*, Vol. 74, No. 5: 936–946
- 48. D. J. Fenn, MAP, P. J. Mucha, M. McDonald, S. Williams, N. F. Johnson, & N. S. Jones [2012], "Dynamical Clustering of Exchange Rates", *Quantitative Finance*, Vol. 12, No. 10: 1493–1520
- 49. C. D. Martin & MAP [2012], "The Extraordinary SVD", *American Mathematical Monthly*, Vol. 119, No. 10: 838–851
- 50. J. P. Gleeson, S. Melnik, J. A. Ward, MAP, & P. J. Mucha [2012], "Accuracy of Mean-Field Theory for Dynamics on Real-World Networks", *Physical Review E*, Vol. 85, No. 2: 026106
- 51. A. L. Traud, P. J. Mucha, & MAP [2012], "Social Structure of Facebook Networks", *Physica A*, Vol. 391, No. 16: 4165–

4180

- 52. K. T. Macon, P. J. Mucha, & MAP [2012], "Community Structure in the United Nations General Assembly", *Physica A*, Vol. 391, No. 1-2: 343–361
- 53. J. Sun, E. M. Bollt, MAP, & M. S. Dawkins [2011], "A Mathematical Model for the Dynamics and Synchronization of Cows", *Physica D*, Vol. 240, No. 19: 1497–1509
- 54. D. J. Fenn, MAP, S. Williams, M. McDonald, N. F. Johnson, and N. S. Jones [2011], "Temporal Evolution of Financial Market Correlations", *Physical Review E*, Vol. 84, No. 2: 026109
- 55. A. L. Traud, E. D. Kelsic, P. J. Mucha, & MAP [2011], "Comparing Community Structure to Characteristics in Online Collegiate Social Networks", *SIAM Review*, Vol. 53, No. 3: 526–543
- 56. D. S. Bassett, N. F. Wymbs, MAP, P. J. Mucha, J. M. Carlson, & S. T. Grafton [2011], "Dynamic Reconfiguration of Human Brain Networks During Learning", *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 108, No. 18: 7641–7646
- 57. S. Melnik, A. Hackett, MAP, P. J. Mucha, & J. P. Gleeson [2011], "The Unreasonable Effectiveness of Tree-Based Theory for Networks with Clustering", *Physical Review E*, Vol. 83, No. 3: 036112
- 58. G. Theocharis, N. Boechler, P. G. Kevrekidis, S. Job, MAP, & C. Daraio [2010], "Intrinsic Energy Localization Through Discrete Gap Breathers in One-Dimensional Diatomic Granular Crystals", *Physical Review E*, Vol. 82, No. 5: 056604
- 59. M. Beguerisse Díaz, MAP, & J.-P. Onnela [2010], "Competition for Popularity in Bipartite Networks", *Chaos*, Vol. 20, No. 4: 043101
- 60. L. Ponson, N. Boechler, Y. M. Lai, MAP, P. G. Kevrekidis, & C. Daraio [2010], "Nonlinear Waves in Disordered Diatomic Granular Chains", *Physical Review E*, Vol. 82, No. 2: 021301
- 61. A. C. F. Lewis, N. S. Jones, MAP, & C. M. Deane [2010], "The Function of Communities in Protein Interaction Networks at Multiple Scales", *BMC Systems* Biology, Vol. 4: 100
- 62. N. Boechler, G. Theocharis, S. Job, P, G. Kevrekidis, MAP, & C. Daraio [2010], "Discrete Breathers in One-Dimensional Diatomic Granular Crystals", *Physical Review Letters*, Vol. 104, No. 24: 244302
- 63. S. Agarwal, C. M Deane, MAP, & N. S. Jones [2010], "Revisiting Date and Party Hubs: Novel Approaches to Role Assignment in Protein Interaction Networks", *PLoS Computational Biology*, Vol. 6, No. 6: e1000817
- 64. P. J. Mucha, T. Richardson, K. Macon, MAP, & J.-P. Onnela [2010], "Community Structure in Time-Dependent, Multiscale, and Multiplex Networks", *Science*, Vol. 328, No. 5980: 876–878; GenLouvain 2.0 software (by I. S. Jutla, L. G. S. Jeub, & P. J. Mucha) available at http://netwiki.amath.unc.edu/GenLouvain/GenLouvain
- 65. S. Saavedra, S. Powers, T. McCotter, MAP, and P. J. Mucha [2010], "Mutually-Antagonistic Interactions in Baseball Networks", *Physica A*, Vol. 389, No. 5: 1131–1141
- 66. G. Theocharis, M. Kavousanakis, P. G. Kevrekidis, C. Daraio, MAP, & I. G. Kevrekidis [2009], "Localized Breathing Modes in Granular Crystals with Defects", *Physical Review E*, Vol. 80, No. 6: 066601
- 67. T. Richardson, P. J. Mucha, & MAP [2009], "Spectral Tripartitioning of Networks", *Physical Review E*, Vol. 80, No. 3: 036111
- 68. D. J. Fenn, MAP, M. McDonald, S. Williams, N. F. Johnson, & N. S. Jones [2009], "Dynamic Communities in Multichannel Data: An Application to the Foreign Exchange Market During the 2007–2008 Credit Crisis", *Chaos*, Vol. 19, No. 3: 033119
- 69. MAP, C. Daraio, I. Szelengowicz, E. B. Herbold , & P. G. Kevrekidis [2009], "Highly Nonlinear Solitary Waves in Heterogeneous Periodic Granular Media", *Physica D*, Vol. 238, No. 6: 666–676
- 70. R. Carretero-González, D. Khatri, MAP, P. G. Kevrekidis, & C. Darario [2009], "Dissipative Solitary Waves in Granular Crystals", *Physical Review Letters*, Vol. 102, No. 2: 024102
- 71. F. Fraternali, MAP, & C. Daraio [2010], "Optimal Design of Composite Granular Protectors", *Mechanics of Advanced Materials and Structures*, Vol. 17, No. 1: 1–19
- 72. D. Daugherty, T. Roque-Urrea, J. Urrea-Roque, J. Troyer, S. Wirkus, & MAP [2009], "Mathematical Models of Bipolar Disorder", *Communications in Nonlinear Science and Numerical Simulations*, Vol. 14, No. 7: 2897–2908
- 73. S. Beheshti, K. J. H. Law, P. G. Kevrekidis, & MAP [2008], "Averaging of Nonlinearity Management with Dissipation", *Physical Review A*, Vol. 78, No. 2: 025805
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- 3. C. Cramer, MAP, H. Sayama, L. Sheetz, & S. Uzzo, Eds. [2015], *Network Literacy: Essential Concepts and Core Ideas*, available at http://tinyurl.com/networkliteracy
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- 2. Second Montreal Industrial Problem Solving Workshop [2008], "Optimal Retrofit of a Heat Recovery Network at a Pulp and Paper Mill for Minimizing Energy and Water Consumption", problem proposed by Canmet Energy Technology Centre, Varennes, Natural Resources Canada
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- 1. MAP [2011], Letter proposing creation of the journal *SIAM Letters*, in "Letters to the Editor", *SIAM News*, Vol. 44, No. 6 (7–8/11)
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- 1. S. Lansel & MAP [2004], "A GUI Billiard Simulator for MATLAB" (with 2006 updates by K. Kazlowski); Documentation available at arXiv: nlin.CD/0405003; software available at http://www.mathworks.com/matlabcentral/fileexchange/10692-billiard-simulator [the current version is version 2.0, created in 2016, by M. Devers, C. Keady, & S. King, at https://www.mathworks.com/matlabcentral/fileexchange/58354-billiard-simulator]

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- MAP [2002], "Quantum Chaos in Vibrating Billiard Systems", Center for Applied Mathematics, Cornell University

PREPRINTS

- 1. A. S. Waugh, L. Pei, J. H. Fowler, P. J. Mucha, & MAP [2012], "Party Polarization in Congress: A Network Science Approach", arXiv:0907.3509 [this paper includes processed data available at http://figshare.com/articles/Roll_Call_Votes_United_States_House_and_Senate/1590036]
- 2. M. A. Porter [2011], "An Introduction to Quantum Chaos", arXiv:nlin/0107039

BOOK (non-scientific)

- A. H. Looijen & MAP, Eds. [2007], *Legends of Caltech III: Techer in the Dark*, published by the Caltech Alumni Association (author order is alphabetical). Additional online content is available at *www.legendsofcaltech.com*
  - The script for the in-progress movie *Techers* is inspired by the above book and its predecessors. I am consulting for this movie both scientifically and with respect to Caltech life and culture.

COVER ARTICLES, PRESS COVERAGE, AND TRANSLATIONS

[see http://people.maths.ox.ac.uk/porterm/press.html for a more comprehensive list of the press coverage]

- Cover articles
  - "Extraction of Force-Chain Network Architecture in Granular Materials Using Community Detection", *Soft Matter* [front inside cover; 4/21/15]
  - "Comparing Community Structure to Characteristics in Online Collegiate Social Networks", *SIAM Review* [front cover; 53:3, 2011]
  - "Mushroom Billiards", *Notices of the American Mathematical Society* [front cover; 3/06]
  - "Chaos on the Quantum Scale", *American Scientist* [front cover; 11-12/01]
  - "Vibrating Quantum Billiards on Riemannian Manifolds" and "Quantum Chaos for the Vibrating Rectangular Billiard", *International Journal of Bifurcation and Chaos* [front cover; 9/01]
- Paper on information measures and cognitive limits in transportation networks featured in a University of Oxford press release [2/19/16], *The Guardian* [2/19/16], *Sputnik International* [2/21/16], *Pacific Standard* [2/22/16], *Medical Daily* [2/23/16], *CityLab* (from *The Atlantic*) [2/25/16], *Business Insider* [2/27/16], *Mental Floss* [2/26/16], *Le Monde* (in French) [3/01/16], *The Washington Post* [3/03/16], and several other venues. I was also interviewed for BBC radio [aired 2/21/16] and Radio Sputnik World Service, Moscow [live interview, 2/21/16]
- Paper that describes our efforts to create a network literacy booklet covered by a press release from Binghamton University [11/12/15]
- Research on topological data analysis of spreading processes on networks covered in a University of Oxford Press release [7/21/15] and in *Nature Physics* [8/15]
- Paper on "Robust Detection of Dynamic Community Structure in Networks" selected by the Editor-in-Chief as the 2013 article for the "25 Articles for 25 Years" retrospective of the journal *Chaos* [2015]
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- Research on a simple generative model of collective online behavior featured in a University of Oxford press release [7/07/14], *The Telegraph* [7/07/14], *SINC* [Spanish, 7/07/14], University of Limerick Press release [7/08/14], *Da Telegraaf* [Dutch, 7/08/14], *La Nación* [Spanish, 7/08/14], *The Times of India* [7/15/14], *Science.ie* [7/30/14]
- Research on mathematical modeling of bipolar individuals featured in *The Guardian* [4/29/14]
- Outreach on network science for school students featured in a University of Oxford press release [11/23/12] and a University of Oxford promotional video (http://t.co/k2WEkHjsp1) [7/14/13]
- Interviewed by Princeton University Press blog for Mathematics Awareness Month 2010 (on "Mathematics and Sports") [4/23/10]
- Images from my papers on network taxonomies [9/12] and granular force networks [10/12] have been featured in *Physical Review E*'s "Kaleidoscope Images"
- Research on motor chunking featured in *Neuroscience News* [6/12/12], a UC Santa Barbara press release [6/12/12], and Science Daily [6/12/12]
- Opinion piece on power laws featured in *Physicsworld.com* [2/10/12], *BBC News* [2/13/12], and *BBC Mundo* [in Spanish, 2/18/12]
- Research on correlations in financial markets featured in *The Wall Street Journal* [8/20/10, 2/8/12], *The New York Times* [4/2/11, 1/28/12], *Institution Asset Manager* [2/7/12], *Financial Review* [2/15/12], the *Financial Times* Alphaville blog [4/19/12, 8/31/12, 11/9/12, and other dates; this place now has a tag to mark articles related to this topic], and in several other venues, such as *Risk Magazine*. [I believe that only the *NYT* articles explicitly mention University of Oxford's involvement in the research.] HSBC's "risk-on/risk-off" (RORO) index, which is based on the research in our paper, has entries in Wikipedia and Investopedia.
- Research on dynamic reconfiguration of human brain networks during learning featured in a UC Santa Barbara press release [4/18/11], a University of Oxford press release [4/19/11], and Science Daily [4/19/11]
- Research on community structure in protein interaction networks featured on the back cover of *Biomedical Computation Review* [Spring 2011]
- Research on community structure in multislice networks featured in a University of North Carolina at Chapel Hill press release [5/13/10], a University of Oxford press release [5/13/10], National Science Foundation [5/13/10], *Communications of the Association for Computing Machinery* [5/17/10], Science Daily [5/21/10], American Mathematical Society's "Math in the News" [6/10], and National Affairs blog [7/01/10]
- Research on cow synchronization featured in *Technology Review*'s blog [5/12/10], Boing Boing [5/12/10], Marginal Revolution [5/13/10], *The Guardian* [12/12/11], and The Loh Down on Science [7/05/12]
- Research on baseball networks featured in *Wired* online [8/04/09], *Freakonomics Blog* [8/06/09], several baseball blogs, and the Math Digest section of American Mathematical Society's "Math in the Media" [8/09]
- Research on Facebook networks featured in an American Physical Society press conference and press release [3/16/09], a North Carolina State University press release [4/30/12], a National Science Foundation 'News from the Field' blurb [4/30/12], *The Times of India* [5/01/12], and *The Atlantic* [5/03/12]. A figure from my Facebook research is also featured in media, publications, and communications (such as their book catalog and SIAM Connect) from the Society for Industrial and Applied

Mathematics [starting 7/12]

- Research on nonlinearity management in optics featured in *Physical Review Focus* [7/10/06], a Caltech press release [8/04/06], *Photonics Spectra* [10/06], and *Engineering & Science* [a Caltech publication; Vol. LXIX, No. 3, 2006]
- Research on Congressional networks featured in a Georgia Tech press release [5/16/05], *ScienceNow* [5/16/05], *New Scientist* [5/17/05], *The Associated Press* [6/10/05], *Bulletin of the Atomic Scientists* [9-10/05], a "Mathematical Moment" (MM/54, in 2 different languages) published by the American Mathematical Society, and *io9* [11/02/10]
- Research on random walker rankings for college football featured in *ESPN: The Magazine* [11/10/03], *Nature Science Update* [11/14/03], a Georgia Tech press release [11/18/03], *The Chronicle of Higher Education* [11/28/03], the Math Digest section of the American Mathematical Society's "Math in the Media" [11/03, 12/05], CNN Headline News [12/30/03], *The Atlanta Journal-Constitution* [4/24/04], an American Mathematical Society press release [8/4/04], the MathTrek section of *Science News Online* [9/4/04, Vol.166, No. 10], *The Washington Post* [12/10/05, 3/21/16], The Mathematical Tourist section of *MAA Online* [11/15/07], and *The News & Observer* [9/13/09]
- Expository article on the Fermi-Pasta-Ulam problem translated into Italian for *Le Scienze* (Italian version of *Scientific American*) [6/25/09], translated into Spanish for *Investigacion y Ciencia* (Spanish version of *Scientific American*) [8/09], translated into French for *Pour la Science* (French version of *Scientific American*) [10/09], and translated into German for *Spektrum der Wissenschaft* (German version of *Scientific American*) [10/22/10]. Also featured in the Math Digest section of American Mathematical Society's "Math in the Media" [5/09]
- Expository article on transition states in atomic and celestial physics featured in an American Mathematical Society press release [8/31/05], the MathTrek section of *Science News* online [9/9/05, Vol. 168, No. 11], a Georgia Tech press release [9/28/05], a National Science Foundation press release [9/29/05], and *Science* [11/18/05]. The American Mathematical Society has also published a "Mathematical Moment" (in 9 different languages) based on this article (MM/49)
- Expository article on quantum chaos translated into German for *Spektrum der Wissenschaft* (German version of *Scientific American*) [3/03], translated into Spanish for *Investigacion y Ciencia* (Spanish version of *Scientific American*) [4/03], and reprinted in *PowerWeb: Conceptual Physics* [The McGraw-Hill Companies, 2003]

CONSULTING

- Advisory Board: Omnity, Inc. [6/24/15–present]
- Consultant: Market Sentinel [2008–2011]
- Consultant: *Meet Dave* [movie], 20th Century Fox [released 7/11/08]

POSTDOCTORAL SCHOLAR AND GRADUATE STUDENT RESEARCH SUPERVISION

- Postdoctoral scholars (University of Oxford)
  - 1. Dr. Marya Bazzi, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Community Structure in Networks", joint with S. D. Howison (Mathematical Institute) [1/16–present]
  - 2. Dr. Lucas Jeub, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Community Structure in Networks", joint with S. D. Howison (Mathematical Institute) [1/16–present]
  - 3. Dr. Mikko Kivelä, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Multilayer Networks" [3/13–10/15]
    - Now a postdoctoral scholar in the Department of Computer Science at Aalto University
  - 4. Dr. Sang Hoon Lee, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Multilayer Networks, Core-Periphery Structure, and Mobility" [6/12–6/14]
    - Placement: Sang Hoon became a postdoctoral fellow in the Integrated Center for Fostering Global Creative Researcher in the Department of Energy Science at Sungkyunwkan University. Since August 2015, he has been a Research Fellow at Korea Institute for Advanced Study
  - 5. Dr. Sergey Melnik, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Cascades on Networks" [12/10–12/11]; Sergey was previously a Visiting Postdoctoral Scholar in my group [1/10–3/10]
    - Placement: Sergey is now a postdoctoral scholar in the Department of Mathematics & Statistics at University of Limerick
- Doctoral students (University of Oxford)
  - 1. Fabian Ying, Industrially Focussed Mathematical Modelling (InFoMM) Centre for Doctoral Training, "Spatio-temporal Patterns Among Shoppers", joint with M. Beguerisse Díaz (Mathematical Institute) and S. D. Howison (Mathematical Institute), industrial partner Tesco [Spring 2016–present]
  - 2. Florian Klimm, Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Multilayer Network Analysis of Temporal Protein-Protein Interaction Networks", joint with C. M. Deane (Statistics) and J. Wray (e-

Therapeutics plc) [Summer 2015–present]

- 3. Alice Schwarze, Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Structural Robustness in Protein Interaction Networks", joint with J. Wray (e-Therapeutics plc) [Summer 2015–present]
- 4. Jake Stroud, Life Sciences Interface (LSI) Doctoral Training Centre, "Adaptive Motor Networks in Neuroscience", joint with T. P. Vogels (Physiology, Anatomy, and Genetics) [Spring 2015–present]
- 5. Roxana Feier, Industrially Focussed Mathematical Modelling (InFoMM) Centre for Doctoral Training, "Community Structure in Product-Purchase Networks", industrial partner dunnhumby [Spring 2015–present]
- 6. Barbara Mahler, Systems Biology Doctoral Training Centre, "Computational Homology and Networks", joint with H. A. Harrington (Mathematical Institute) [Spring 2014–present]
- 7. Jake Taylor-King, Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Cancer, Networks, and the Role of Interactions in Somatic Evolution", joint with D. Basanta (Moffitt Cancer Center, USA) and S. J. Chapman (Mathematical Institute); H. A. Harrington (Mathematical Institute) was a co-supervisor in the initial lab-rotation project [Summer 2014–present]
- 8. Birgit Brüggemeier, Neuroscience, Department of Physiology, Anatomy, and Genetics, "*Drosophila* Courtship Song: Modelling Behavioural Patterns in Terms of Neural and Muscle Dynamics", joint with S. F. Goodwin (Dept. of Physiology, Anatomy, and Genetics) [Fall 2013–present]
- 9. Alejandro Martínez, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Nonlinear Waves in Granular Crystals" [Fall 2013–present]
- 10. Vladimirs Murevics, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Systemic Risk in Financial Systems", joint with S. D. Howison (Mathematical Institute), industrial partner HSBC [Fall 2013–present]
- 11. Dr. Valentin Danchev, International Migration Institute, joint with M. Keith (Centre on Migration, Policy, and Society), "Spatial Network Structures of World Migration: Heterogeneity of Global and Local Connectivity" [Spring 2013–Fall 2015]
  - Placement: Now a postdoctoral scholar in the Knowledge Lab in the Department of Sociology at University of Chicago
- 12. Se Wook Oh, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Homophily and Social Influence in Networks" [Spring 2013–present]
- 13. Paul Brodersen [Systems Biology Doctoral Training Centre] Mathematical Institute, "How Does Learning Affect the Structure of Biological Neural Networks?", joint with C. J. Akerman (Dept. Pharmacology) [Fall 2012–present]
- 14. Dr. Marta Sarzynska [Systems Biology Doctoral Training Centre] Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Spatial Community Structure and Epidemics", joint with E. A. Leicht (Saïd Business School) [Fall 2011–Summer 2015]
  - Placement: Currently working at Bain & Company
- 15. Dr. Marya Bazzi, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Community Structure in Financial Networks", joint with S. D. Howison (Mathematical Institute), industrial partner HSBC [Fall 2011–Winter 2016]
  - Placement: Now doing a brief postdoctoral fellowship in the Mathematical Institute at University of Oxford
- 16. Dr. Lucas Jeub, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Networks, Communities, and Consumer Behaviour", industrial partner Unilever [Fall 2011–Winter 2016]
  - Placement: Now doing a brief postdoctoral fellowship in the Mathematical Institute at University of Oxford
- 17. Dr. Sofia Piltz [Life Sciences Interface Doctoral Training Centre] Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Models for Adaptive Feeding and Population Dynamics in Plankton", joint with P. K. Maini (Mathematical Institute) [Fall 2010–Summer 2015]
  - Placement: Sofia is now a postdoctoral scholar at the National Institute of Aquatic Resources, Centre for Ocean Life (and also in the Department of Mathematics and Computer Science) at Technical University of Denmark (DTU)
- 18. Dr. Michaela Puck Rombach, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Colouring, Centrality and Core-Periphery Structure in Graphs", joint with A. Scott (Mathematical Institute) [Fall 2009–Fall 2013]
  - Placement: Puck is now an Adjunct Assistant Professor (i.e., postdoctoral scholar) in the Department of Mathematics at UCLA
- 19. Dr. Martin Gould, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute, "Limit Order Books", joint with S. D. Howison (Mathematical Institute), industrial partner HSBC [Fall 2009–Summer 2014]
  - Placement: Martin has received a James S. McDonnell Postdoctoral Fellowship in complex systems and is using it at Imperial College, where he is a CFM-Imperial Research Fellow
- 20. Dr. Sumeet Agarwal [Systems Biology Doctoral Training Centre] Department of Physics, "Networks in Nature: Dynamics, Evolution, and Modularity", joint with C. M. Deane (Dept. of Statistics) and N. S. Jones (Dept. of Physics) [Summer 2008–Summer 2012]
  - Placement: Currently an Assistant Professor of Electrical Engineering at Indian Institute of Technology in Dehli
- 21. Dr. Anna Lewis [Systems Biology Doctoral Training Centre] Department of Statistics, "Communities and Homology

in Protein-Protein Interactions", joint with C. M. Deane (Dept. of Statistics) and N. S. Jones (Dept. of Physics) [Spring 2008–Spring 2012]
    - Placement: Currently employed as a computational biologist for Omicia (a genomics startup company)
  - 22. Dr. Daniel Fenn, Mathematical and Computational Finance Group, Mathematical Institute, "Network Communities and the Foreign Exchange Market", joint with S. D. Howison (Mathematical Institute) and N. S. Jones (Dept. of Physics), industrial partner HSBC [Spring 2008–Winter 2011]
    - Placement: Currently employed by HSBC Bank
- Doctoral students (visiting University of Oxford)
  - 1. Yohei Sakamoto, visiting doctoral student from Department of Physics, Kyoto University, "Exploring the Ajdacent Possible with Random Walks on Networks" [Fall 2015]
- Masters students (University of Oxford, including visiting students)
  - 1. Alexandra Darmon, Mathematical Modelling and Scientific Computation (MMSC), "Algorithmic Classification of Writing Styles via Time-Series Analysis of Punctuation", joint with S. D. Howison (Mathematical Institute) [Spring–Summer 2016]
  - 2. Karan Jain, Mathematical Modelling and Scientific Computation (MMSC), "Learning Strategies for an Iterated Game with Unknown Asymmetry", joint with M. S. Dawkins (Zoology) and C. L. Hall (Mathematical Institute) [Spring–Summer 2016]
  - 3. Lena Mangold, Mathematical Modelling and Scientific Computation (MMSC), "Network Analysis of Political Discussions on Twitter" [Spring–Summer 2016]
  - 4. Walid Ahmad, Mathematical Modelling and Scientific Computation (MMSC), "Continuous-Time Analysis of Temporal Networks", joint with M. Beguerisse Díaz (Mathematical Institute) [Spring–Summer 2016]
  - 5. Leo Speidel, Systems Biology Doctoral Training Centre, "Spreading Dynamics in Spatial Networks", joint with H. A. Harrington (Mathematical Institute) and S. J. Chapman (Mathematical Institute) [Spring–Summer 2016]
  - 6. Luc Stultients, Mathematics and the Foundations of Computer Science (MFoCS), TBD in political networks [Spring–Summer 2016]
  - 7. Liam Brown, Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Statistics and Inference in Protein Interaction Networks", joint with C. M. Deane (Statistics) and J. Wray (E-Therapeutics) [Summer 2015]
    - Placement: Now a D.Phil. student in the Mathematical Institute at University of Oxford
  - 8. Erin Price-Wright, Mathematics and the Foundations of Computer Science (MFoCS), "A Topological Approach to Temporal Networks", joint with H. A. Harrington (Mathematical Institute) [Spring–Summer 2015]
    - Placement: Now working for Palantir
  - 9. Daniella Ayala Garcia, Mathematical Modelling and Scientific Computation (MMSC), "Temporal Percolation in the Erdös–Rényi Model and the Effect of Burstiness", joint with M. Kivelä (Mathematical Institute) [Spring–Summer 2015]
  - 10. Thomas Gaudelet, Mathematical Modelling and Scientific Computation (MMSC), "Short-Range Impact of Damage on Object Recognition in a Trained Neuronal Network", joint with M. Kivelä (Mathematical Institute) [Spring–Summer 2015]
  - 11. Jonas Søgaard Juul, visiting student from Niels Bohr Institute, University of Copenhagen, "Social Influence on Networks with Synergy and Hipsters" [Spring 2015–Summer 2015]
  - 12. Bernadette Stolz, Mathematical Modelling and Scientific Computation (MMSC), "Computational Topology in Neuroscience", joint with H. A. Harrington (Mathematical Institute) [Spring–Summer 2014]; Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Analysis of Persistent Homology in Neuronal Networks", joint with H. A. Harrington (Mathematical Institute), F. Sambataro (Roche Innovation), and S. Nahkuri (Roche Innovation) [Summer 2015]
    - Placement: Now a D.Phil. student in the Mathematical Institute at University of Oxford
  - 13. Frederique Akse, Mathematical Modelling and Scientific Computation (MMSC), "Aggregate Waiting Time Reduction on Public Transportation Networks: An Application of Multilayer Networks", joint with M. Kivelä (Mathematical Institute) [Spring–Summer 2014]
    - Placement: Now working for Quintiq
  - 14. Camilo Palazuelos Calderón, visiting student from Universidad de Cantabria, "Time-Dependent Community Structure in Networks" [Fall 2013]
  - 15. Florian Klimm, Physics, visiting student from Humboldt-Universität zu Berlin, "Filtrations and Contagion Dynamics on Networks" [Summer 2013]; Systems Approaches to Biomedical Sciences Centre for Doctoral Training, "Multilayer Network Analysis of Temporal Protein-Protein Interaction Networks", joint with C. M. Deane (Statistics) and J. Wray (E-Therapeutics) [Summer 2015]
    - Placement: Now a D.Phil. student in the Mathematical Institute, through the Systems Approaches to Biomedical Sciences Centre for Doctoral Training, at University of Oxford
  - 16. Melissa Lever, Systems Biology Doctoral Training Centre, "Characterising Patients and Controls with Brain Graphs Constructed from fMRI Data", joint with S. H. Lee (Mathematical Institute) [Summer 2012]
    - Placement: Now a D.Phil. student in the Department of Pathology at University of Oxford

- 17. Marianne McKenzie, Mathematics and the Foundations of Computer Science (MFoCS), "Stability-Optimization Algorithms for the Detection of Community Structure in Networks" [Spring–Summer 2012]
- 18. Jasvir Grewal, Mathematical Modelling and Scientific Computation (MMSC), "Cooperation Versus Dominance Hierarchies in Animal Groups", joint with M. S. Dawkins (Zoology) and C. L. Hall (Mathematical Institute) [Spring–Summer 2012]
- 19. Georgios Kapros-Anastasiadis, Mathematical Modelling and Scientific Computation (MMSC), "Cascades on Temporal Networks" [Spring–Summer 2012]
- 20. Laura Keating, Mathematical Modelling and Scientific Computation (MMSC), "A Test of Time: Time-Aggregated Networks and Time-Ordered Networks in Behavioural Ecology" [Spring–Summer 2012]
  - Placement: In Fall 2012, Laura interned with Save The Elephants (STE) in Kenya. She then worked in environmental planning in Canada. Starting in October 2015, she will be working for Strategic Decisions Group.
- 21. Tom Prescott, Life Sciences Interface (LSI) Doctoral Training Centre, "Examining Dynamic Network Structure in Relation to the Spread of Infectious Diseases", joint with E. A. Leicht (Saïd Business School) [Summer 2011]
  - Placement: Now a D.Phil. student in the Department of Engineering Science at University of Oxford. After he graduates, Tom will be a postdoctoral scholar in the Department of Engineering Science at University of Oxford.
- 22. Priya Narayan, Mathematical Modelling and Scientific Computation (MMSC), "Mathematics Genealogy Networks", joint with E. A. Leicht (Saïd Business School) [Spring–Summer 2011]
- 23. Annika Wipprecht, Mathematical Modelling and Scientific Computation (MMSC), "Structure of Charity Networks" [Spring–Summer 2011]
  - Placement: Now a Ph.D. student in Mathematical Finance at University College London
- 24. Chang Wang, Mathematical Modelling and Scientific Computation (MMSC), "Collisionally Inhomogeneous Bose-Einstein Condensates" [Spring–Summer 2011]
  - Placement: Subsequently earned a D.Phil. in the Mathematical Institute (OCIAM group) at University of Oxford
- 25. Sally Hutchings, Mathematics and the Foundations of Computer Science (MFoCS), "Mathematical and Computational Properties of Modularity Optimization", joint with R. A. Hauser (Mathematical Institute) [Spring–Summer 2011]
  - Placement: Sally now has an actuarial job.
- 26. Patrick Raanes, Mathematical Modelling and Scientific Computation (MMSC), "Crowding: Using Statics to Understand the Dynamics of Densely Packed Hard Particles", joint with R. Erban (Mathematical Institute) and N. S. Jones (Dept. of Physics) [Spring–Summer 2010]
  - Placement: Subsequently earned a D.Phil. in the Mathematical Institute (OCIAM group) at University of Oxford
- 27. Antoine Levitt, Mathematical Modelling and Scientific Computation (MMSC), "Nonlinear Waves in Granular Crystals" [Spring–Summer 2010]
  - Placement: Now a mathematics Ph.D. student in France
- 28. Sofian Otmani, Mathematics and the Foundations of Computer Science (MFoCS), "Random Graph Models with Clustering" [Spring–Summer 2009]
- 29. Benjamin Franz, Mathematical Modelling and Scientific Computation (MMSC), "Synchronisation Properties of an Agent-Based Animal Behaviour Model", joint with M. S. Dawkins (Dept. of Zoology) [Spring–Summer 2009]
  - Placement: Now a D.Phil. student in the Mathematical Institute (OCCAM group) at University of Oxford
- 30. Wojciech Gryc, Mathematical Modelling and Scientific Computation, "Modelling Cabinet Networks in Parliamentary Democracies" [Spring–Summer 2009]
  - Placement: Now the Founder and CEO of Canopy Labs
- 31. Michael Byrne, Mathematical Modelling and Scientific Computation (MMSC), "Nonlinear Waves in Granular Lattices" [Spring–Summer 2009]
  - Placement: Earned a Ph.D. in Earth, Atmospheric, and Planetary Sciences at MIT and is now a postdoctoral scholar in Mechanical and Process Engineering at ETH Zürich
- 32. John Pearson, Mathematical Modelling and Scientific Computation (MMSC), "Computation of Hypergeometric Functions", joint with S. Olver (Computing Laboratory) and Numerical Algorithms Group (NAG) [Spring–Summer 2009]
  - Placement: Earned a D.Phil. in the Mathematical Institute (numerical analysis group) at University of Oxford. He was then a postdoctoral scholar in mathematics at University of Edinburgh and is now a Lecturer (i.e., assistant professor) in the School of Mathematics, Statistics, and Actuarial Science at University of Kent
- 33. Mariano Beguerisse Díaz, Mathematical Modelling and Scientific Computation (MMSC), "Analysis of a Bipartite Network of Movie Ratings and Catalogue Network Growth Models", joint with J.-P. Onnela (Dept. of Physics) [Winter–Summer 2008]
  - Placement: Earned a Ph.D. in the Centre for Integrative Systems Biology at Imperial College London and then became (through a James S. McDonell Postdoctoral Fellowship in Complex Systems) a postdoctoral scholar in the Department of Mathematics and Department of Chemistry at Imperial College. He is now a postdoctoral scholar in the Mathematical Institute at University of Oxford.
- 34. Ben Sparks, Mathematical Modelling and Scientific Computation (MMSC), "Plastic Self-Organizing Maps and Classification of Radar Data", joint with Philip Bond and the Thales Group [Spring–Summer 2008]

- 35. Thomas Mooney, Mathematical Modelling and Scientific Computation (MMSC), "Solitonic and Extended Periodic Solutions of the Quasi-1D Gross-Pitaevskii Equation with a Piecewise-Constant Nonlinearity" [Spring–Summer 2008]

UNDERGRADUATE STUDENT RESEARCH SUPERVISION

- University of Oxford
  - 1. Ta Chu ("Calvin") Kao, Physics & Philosophy, "Multilayer Networks" [Fall 2015–Winter 2016]
  - 2. Joseph Pollard, Mathematics & Computer Science, "Effect of Environment on Delta-Kicked Oscillators" [Fall 2015–Winter 2016]
    - Placement: Starting in Fall 2016, Joe will be a Ph.D. student in the Centre for Complexity Science at University if Warwick
  - 3. Xianglin ("Flora") Meng, Mathematics, "Centrality Measures in Multilayer Networks", joint with Mikko Kivelä (Mathematical Institute) [Fall 2014–Winter 2015]; "Opinion Models on Networks Based on Game Theory", joint with Robert A. Van Gorder (Mathematical Institute) [Fall 2015–Winter 2016]
    - Placement: Starting in Fall 2016, Flora will be a Ph.D. student in Electrical Engineering at MIT
  - 4. Jennifer Kitson, "Robustness in Interdependent Networks" [Fall 2013–Winter 2014]
    - Placement: Now works at Metaswitch Networks
  - 5. Aqil Taiyeb, Physics, "Spatial Networks and Human Mobility: An Application of the Intervening Opportunities Model to the London Cycle Hire Scheme" [Fall 2013–Winter 2014]
    - Placement: Now works in London
  - 6. Jack Setford, Physics, "Models of Granular Networks in Two and Three Dimensions" [Fall 2013–Winter 2014]
    - Placement: Now a Ph.D. student in physics at University of Sussex
  - 7. Alexander Bramham, Mathematics, "Role Similarity in Networks" [Summer 2013]
  - 8. Ryan Flanagan, Mathematics, "Network Analysis of Separated Cognitive States in the Human Brain", joint with S. H. Lee (Mathematical Institute) [Summer 2013–Winter 2014]
    - Placement: Now a Ph.D. student in mathematics at Queen Mary University of London
  - 9. Fabian Ying, Mathematics, "Dynamical Processes on Random Geometric Graphs", joint with S. H. Lee (Mathematical Institute) [Summer 2013]
    - Placement: Now a D.Phil. student in the Industrially Focussed Mathematical Modelling (InFoMM) Centre for Doctoral Training in the Mathematical Institute at University of Oxford
  - 10. Timur Tankayev, Mathematics, "An Analysis of Changes in Mathematical Subfields Via Time-Dependent Coauthorship Network" [Fall 2012–Winter 2013]
    - Placement: Now a Ph.D. student in operations research at Georgia Tech.
  - 11. Robyn Ffrancon, Physics, visiting student from Cardiff University, "Family and Geographic Movement in Korea", joint with S. H. Lee (Mathematical Institute) [Summer 2012]
    - Placement: Now a Ph.D. student in physics at University of Gothenburg
  - 12. Kai Yue ("Theodore") Charm, Mathematics, "Ecological Implications of Compensatory Perturbations" [Summer 2012]
  - 13. Edward Rolls, Mathematics, "Stability of Complex Ecosystems" [Summer 2012] and "Sports Coaching Networks: Using Community Detection to Analyse Coaching Strategies" [Fall 2013–Winter 2014]
    - Placement: Now a D.Phil. student in the Systems Biology Doctoral Training Centre at University of Oxford
  - 14. Till Hoffmann, Physics, "Routing on Spatiotemporal Networks Without Global Knowledge" [Fall 2011–Summer 2012]
    - Placement: Now a Ph.D. student in mathematics at Imperial College London
  - 15. Gwilym Enstone, Physics, "The Dispersion Relation and Time Evolution of a Twisted Planar Ring", joint with A. Goriely (Mathematical Institute) [Winter 2012]
    - Placement: Now a Ph.D. student in Complexity Science Doctoral Training Centre at University of Warwick
  - 16. Scott Holmes, Physics, "On Bose-Einstein Condensates with Spatially Inhomogeneous Scattering Length" [Winter 2012]
    - Placement: Now a Ph.D. student in physics at University of Birmingham
  - 17. Nimish Telang, Mathematics & Statistics, "An Investigation of Federal Election Donation Networks from 1980 to 2010" [Fall 2011–Winter 2012]
  - 18. James Ramsay, Mathematics, "Cascades on Networks", joint with S. Melnik (Mathematical Institute) [Fall 2011]
    - Placement: Earned a Masters degree in Petroleum Engineering at Imperial College London and is now a petroleum engineer at ERC Equipoise
  - 19. Geoff Evans, Physics, "Mathematics Genealogies and the Movement of Academics" [Winter 2011]
    - Placement: Now a software engineer at Softwire
  - 20. Wen Si ("Echo") Gao, Mathematics, "Mathematical Genealogies and the Evolution of Research Groups" [Fall 2010–

Winter 2011]
    - Placement: Currently an Analyst at Merrill Lynch in London
- 21. Yulian Ng, Mathematics, "Community Structure in Epidemics" [Fall 2010–Winter 2011]
    - Placement: Subsequently enrolled as a Ph.D. student in computing at Imperial College London and is now working on becoming an actuary
- 22. Dominic Kerr, Mathematics, "Modelling the Spread of Terrorism" [Fall 2010–Winter 2011]
    - Placement: Now a Ph.D. student in Complexity Science Doctoral Training Centre at University of Warwick
- 23. Eoin Devane, Mathematics, "Quantization of a Mixed Regular-Chaotic System" [Summer 2010]
    - Placement: Earned a Ph.D. in mathematics from the University of Cambridge (in the Cambridge Centre for Analysis, which is a Doctoral Training Centre)
- 24. Sandra Rankovic, Mathematics, "Recurrences in Multiple-Particle Billiard Systems" [Summer 2010, Summer 2011]
    - Placement: Now a Ph.D. student in physics at ETH Zurich
- 25. James Service, Physics, "Discrete Vortices in Bose-Einstein Condensates", joint with D. Jaksch (Dept. of Physics) [Winter 2010]
- 26. Felix Flicker, Physics, "Nonlinear Waves in Granular Crystals" [Winter 2010]
    - Placement: Felix earned a Masters in Physics at Perimeter Institute and a Ph.D. in Physics from University of Bristol. He is now a postdoctoral scholar in physics at UC Berkeley
- 27. Tom Hosking, Physics, "Random Networks with Clustering", joint with N. S. Jones (Dept. of Physics) [Winter 2010]
- 28. Clayton D'Souza, Mathematics & Statistics, "Optimising a Tournament for Use with Ranking Algorithms" [Fall 2009—Winter 2010]
- 29. Anupam Das, Mathematics, "Network Growth Mechanisms for Social Networking Sites" [Summer 2009]
    - Placement: Now a Ph.D. student in Computer Science at University of Bath
- 30. Matt Lowe, Mathematics, "Attachment Mechanisms in Catalog Networks", joint with N. S. Jones (Dept. of Physics) [Summer 2009]
    - Placement: Currently working for Metaswitch Networks
- 31. Steffen Schaper, Physics, "Network Discovery", joint with N. S. Jones (Dept. of Physics) and E. Lopez (Dept. of Physics and Saïd Business School) [Winter 2009]
    - Placement: Currently a D.Phil. student in theoretical physics at University of Oxford
- 32. Jamie Hill, Physics, "The Physics of Crowding, Packing, and Adsorbing", joint with R. Erban (Mathematical Institute) and N. S. Jones (Dept. of Physics) [Winter 2009]
    - Placement: Currently a D.Phil. student in the Systems Biology Doctoral Training Centre at University of Oxford
- 33. Franziska Klingner, Physics, "Opinion Models on Networks with Community Structure", joint with N. S. Jones (Dept. of Physics) and D. M. D. Smith (Mathematical Institute) [Winter 2009]
    - Placement: Subsequently became a student at the Max Planck Institute for Dynamics and Self-Organization, and I believe that she now works for McKinsey & Company
- 34. Robert Sworder, Mathematics, "Matter-Wave Solitons in Accordion Lattices" [Summer 2008]
    - Placement: Currently working as a software developer for Metaswitch Networks
- 35. Yi Ming Lai, Mathematics, "Nonlinear Waves in Randomised Granular Chains" [Summer 2008–Summer 2009]
    - Placement: Earned a D.Phil. from the Mathematical Institute (OCCAM group) at University of Oxford, and then became a postdoctoral scholar in Mathematics & Statistics at University of Strathclyde and subsequently a Research Fellow in Computing (in Engineering) at University of Leeds
- 36. James ("Jimmy") Wall, Mathematics, "Opinion Dynamics and Community Structure in Complex Networks", joint with N. S. Jones (Dept. of Physics) [Summer 2008]
    - Placement: Currently working for a financial firm in London
- 37. Xiangyun ("Ella") Xu, Mathematics & Statistics, "Gerrymandering using Matrices", joint with N. S. Jones (Dept. of Physics) [Summer 2008]
    - Placement: Subsequently earned a Masters in Financial Engineering from Columbia University
- 38. Stephen Reid, Physics, "Legislatures as Spin Glasses", joint with N. S. Jones (Dept. of Physics) and J.-P. Onnela (Dept. of Physics and Saïd Business School) [Winter 2008]
    - Placement: Subsequently earned a Masters degree in complex systems from University of Bristol and is now working at New Economics Foundation

- California Institute of Technology
    - 1. Xi ("Sherry") Chen, Physics, "Synchronization in Antiferromagnetic Oscillators Systems", joint with M. C. Cross (Dept. of Physics) and J. L. Rogers (Applied & Computational Physics, HRL Laboratories) [Summer 2007]
        - Currently a Ph.D. student in electrical engineering at University of Washington
    - 2. Natasha ("Alex") Cayco Gajic, Applied & Computational Mathematics, "Synchronization Basins in Coupled Phase Oscillators", joint with M. C. Cross (Dept. of Physics) and J. L. Rogers (Applied & Computational Physics, HRL Laboratories) [Summer 2007]
        - Placement: Earned a Ph.D. in applied mathematics from University of Washington in 2015 and is now a postdoc in

experimental neuroscience at University College London

- 3. Matt Grau, Physics, Synchronization in Small Numbers of Coupled Nanomechanical Oscillators", joint with M. C. Cross (Dept. of Physics) and J. L. Rogers (Applied & Computational Physics, HRL) [Summer 2007]
  - Placement: Currently a Ph.D. student in physics at University of Colorado at Boulder
- 4. Olga Mandelshtam, "Growth Models of Social Networks" [Summer 2007]
- 5. Liuyi ("Ye") Pei, Physics, "Detecting Community Structure in the U.S. Congress" [Summer 2007]
  - Placement: Earned a Ph.D. in Physics and Astronomy at UC Irvine and will be a postdoctoral scholar in astronomy at UIUC starting in Fall 2016
- 6. Yan Zhang, Mathematics, "Community Structure in Congressional Networks" [Summer 2006]
  - Placement: Earned a Ph.D. in mathematics at University of Chicago and now has a job in quantitative finance at Deutsche Bank
- 7. Thomas Mainiero, Physics, "Quantization of a Free Particle Interacting Linearly with a Harmonic Oscillator" [Summer 2006–Summer 2007]
  - Placement: Currently a Ph.D. student in physics at UT Austin
- 8. William A. ("Austin") Webb, Applied Mathematics, "A Computational Study of the Quantization of Billiards with Mixed Dynamics" [Summer 2006]
  - Placement: Earned a Ph.D. in Computer Science and Engineering at University of Washington and is now the algorithmist at Enigma Technologies
- 9. Kris Kazlowski, Mathematics, "Periodic Orbits in Generalized Mushroom Billiards" [Summer 2006]
  - Placement: Currently a quantitative analyst for Susquehanna International Group
- 10. Tatjana Wiese, Mathematics, "Faraday Patterns in Bose-Einstein Condensates" [Summer 2006]
  - Placement: Completed the one-year post-baccalaureate IRTA program at the National Institutes of Health and is now a Ph.D. student in neural computation at Carnegie Mellon University
- 11. Eric Kelsic, Physics, "Community-Finding Algorithms in Complex Networks" [Summer 2005]
  - Placement: Earned a Ph.D. in systems biology at Harvard University and is now a postdoc in genetics at the Harvard Medical School
- 12. Sean Li, Mathematics, "A Perturbative Analysis of Plankton Population Dynamics" [Summer 2005]
  - Placement: Earned a Ph.D. in mathematics from New York University (Courant Institute) in 2013 and is now a postdoc ("L. E. Dickson Instructor") in the mathematics department at University of Chicago

- Georgia Institute of Technology
  - 1. A. J. Friend, Discrete Mathematics, "Hierarchical Clustering in Complex Networks", joint with P. J. Mucha (Dept. of Mathematics) [Spring 2005—Spring 2006]
    - Placement: Currently a Ph.D. student in applied mathematics at Stanford University
  - 2. Udbhav ("Woody") Sharma, Aerospace Engineering, joint with S. Peles (Dept. of Physics), "Hopf Bifurcations Near the Flutter Speed in Airfoils" [Fall 2004–Spring 2005]
    - Placement: Currently working at the Liquid Propulsion Systems Center of the Indian Space Research Organization
  - 3. Jennifer Rieser, Physics, joint with S. Peles (Dept. of Physics), "Transient Amplification and Contact Line Instabilities in Spreading of Thin Liquid Films" [Fall 2004–Spring 2005]
    - Placement: Obtained a Masters in Physics from Cornell University, and then earned a Ph.D. in Physics at University of Pennsylvania. Now a postdoctoral scholar in Physics at Georgia Tech
  - 4. Stephanie (Chung) Garrison, Applied Mathematics and Caroline Seabrook, Applied Mathematics, "Singular Value Decompositions, Information, and Entropy", joint with S.-N. Chow (Dept. of Mathematics) [Summer 2004–Spring 2005]
    - Placement (Garrison): Currently working as an actuary at Safeco (a part of Liberty Mutual)
    - Placement (Seabrook): Currently a Ph.D. student in statistics at North Carolina State University
  - 5. Julie Bjornstad, Discrete Mathematics and Alexei ("Leo") Dachevski, Electrical & Computer Engineering and Applied Mathematics, "Dynamics of Plankton Food Chains in the Presence of Seasonal Variation and Fluctuations in Resource Availability", joint with C. Klausmeier (Dept. of Biology) and L. A. Bunimovich (Dept. of Mathematics) [Summer 2004–Spring 2005]
    - Placement (Bjornstad): Obtained a Masters degree in City and Regional Planning from University of North Carolina at Chapel Hill
    - Placement (Dachevski): Obtained a M.Sc. degree in Algorithms, Combinatorics, and Optimization at Georgia Tech and now works as a biostatistician at the Fred Hutchinson Cancer Research Center
  - 6. Adrianne Stroup, visiting student from Caltech, "Dynamics of the Triple Pendulum" (through Caltech's Summer Undergraduate Research Fellowship program) [Summer 2004]
    - Placement: Now working as a Systems Engineer at Amonix Inc
  - 7. Vivien Chua, Electrical and Computer Engineering, "Cubic-Quintic Duffing Oscillators" [Fall 2003] and "Spatial Resonances in Bose-Einstein condsenation in superlattices" [Spring 2004–Fall 2004]
    - Placement: Earned a Ph.D. applied mathematics from Stanford University in 2011. Since July 2011, she has been an assistant professor in the Department of Civil and Environmental Engineering at National University of Singapore

- 8. Jeremy Corbett, Applied Mathematics and Behram Mistree, visiting student from MIT, "Pattern Formation in Periodically Forced Granular Media using Continuum Coupled Maps", joint with S.-N. Chow (Dept. of Mathematics) [Summer 2003]
  - Placement (Mistree): Earned a B.S. (2007) and an M.Eng. (2008) in Electrical Engineering and Computer Science from MIT in 2007. Currently a Ph.D. student in Electrical Engineering at Stanford University
  - Placement (Corbett): Now a senior software engineer at Domballa
- 9. Casey Warmbrand, Discrete Mathematics, "Community Structure in Congressional Networks", joint with P. J. Mucha (Dept. of Mathematics) [Summer 2003–Fall 2003]
  - Placement: Subsequently became a Ph.D. student in mathematics at University of Arizona.
- 10. Jessica (Snyder) Troyer, Applied Mathematics, "Liénard Oscillator Models of Bipolar Disorder" [Summer 2003]
  - Placement: Jessica worked at L-3 Communications Corporation in Huntsville, Alabama. She is now working on raising two children.
- 11. Thomas Callaghan, Applied Mathematics, "Ranking Division I-A College Football Teams Using Random Walkers on the BCS Network", joint with P. J. Mucha (Dept of Mathematics) [Summer 2003–Fall 2004]
  - Placement: Earned a Ph.D. in applied mathematics from Stanford University in 2010 and was then a postdoc ("VIGRE Instructor") in the Department of Computational and Applied Mathematics at Rice University. He now works for the hedge fund Quantres
- 12. Steven Lansel, Electrical & Computer Engineering and Applied Mathematics, "A Graphical User Interface for Simulating Classical Billiards" [Summer 2003–Spring 2004] and "Elliptical Mushroom Billiards", joint with L. A. Bunimovich (Dept. of Mathematics) [Fall 2004–Spring 2005]
  - Placement: Earned a Ph.D. in electrical engineering from Stanford University and now works on algorithms for imaging products at Olympus

- Mathematical and Theoretical Biology Institute (MTBI) projects, Cornell University
  - 1. Mathematical Modeling of Bipolar Disorder [Summer 2002]
  - 2. Buckling of Fibers [Summer 2001]

EXAMINATION DUTIES

- D.Phil. Defenses ("Vivas")
  - External Examiner for Alexander Karton-Giles, Department of Electrical and Electronic Engineering, University of Bristol, "Connectivity and Centrality in Dense Random Geometric Graphs" (Doctoral thesis supervisor: C. P. Dettmann, Department of Mathematics, University of Bristol) [2/24/16]
  - Internal Examiner for Ioannis Psorakis, Department of Engineering Science, University of Oxford, "Probabilistic Inference in Ecological Networks; Graph Discovery, Community Detection and Modelling Dynamic Sociality" (Doctoral thesis supervisors: S. J. Roberts, Department of Engineering Science and B. C. Sheldon, Department of Zoology) [8/08/13]
  - Internal Examiner for William Roper, Mathematical Institute, University of Oxford, "Boundary States in Conformal Field Theories on the Annulus" (Doctoral thesis supervisors: J. Wheater, Department of Physics and K. Hannabuss, Mathematical Institute) [7/24/09]
  - Internal Examiner for David M. D. Smith, Mathematical Institute, University of Oxford: "Agents, Games and Networks" (Doctoral thesis supervisors: N. F. Johnson, Department of Physics, University of Miami and S. D. Howison, Mathematical Institute) [12/07]
- Confirmation of Status Examinations
  - Examiner for Malte Luecken, Department of Statistics, University of Oxford, "Application of Multi-Resolution Partitioning of Intreraction Networks to the Study of Complex Disease" (Doctoral thesis supervisors: C. M. Deane, Department of Statistics; G. Reinert, Departmenrt of Statistics) [Fall 2015; date TBD]
  - Examiner for Alhaji Cherif, Mathematical Institute, University of Oxford, "Mathematical Evolutionary Epidemiology: Limited Epitopes, Evolution of Strain Structures and Age-specificity [in Influenza]" (Doctoral thesis supervisors: P. K. Maini, Mathematical Institute; S. Gupta, Dept. of Zoology; and J. Dyson, Mathematical Institute) [7/01/13]
- Transfer Examinations
  - Examiner for Alpha Lee, Mathematical Institute, University of Oxford (Doctoral thesis supervisor: A. Goriely, Mathematical Institute) [9/08/14]
  - Examiner for Zheng ("Vince") Choo, Department of Statistics, University of Oxford, "Probabilistic Analysis of the Prime Factorisation of Walks with Applications to Shortest Paths" (Doctoral thesis supervisor: G. Reinert, Department of Statistics) [12/10/13]
- Other Examination Duties
  - Part B (third year) Examiner in Mathematics [Michaelmas 2014–Trinity 2017]
  - Part C (fourth year) Examiner in Mathematics [Michaelmas 2008–Trinity 2010]
  - Examiner for the M.Sc. course in Mathematical Modelling and Scientific Computing [Spring 2008–Fall 2009, Fall 2010–

Fall 2011]

SEMINARS, PRESENTATIONS, AND OTHER INVITED PARTICIPATION

- Invited Conference Presentations (plenary and equivalent)
  - "Network Modeling, Social Applications, and Consumers", Mathematics for the Modern Economy, Royal Society Meeting [6/27/17]
  - "TBA", Dynamics Days 2017, Silver Springs, MD [1/04/17–1/06/17]
  - "Topological Data Analysis of Contagion Maps for Examining Spreading Processes on Networks", Summer Solstice — 8th International Conference on Discrete Models in Complex Systems, University of Aveiro, Portugal [6/20/16–6/22/16]
  - "Localized Modes in Granular Crystals", Focus Session on "Intrinsic Localized Modes: Recent Developments and Future Perspectives", American Physical Society (APS) March Meeting [3/16]
  - "Multilayer Networks and Applications", NetSciX, Wroclaw, Poland [1/11/16–1/13/16]
  - "A Simple Generative Model of Collective Online Behavior", Imperial College, SIAM Student Chapter Annual Meeting [6/19/15]
  - "Migration of Populations via Marriages in the Past": University of Cambridge, SIAM Student Chapter Conference [4/27/15]
  - "Multilayer Community Structure and Functional Brain Networks", Advances in Discrete Networks, Conference, 2014 Fall Theme Semester on Discrete Networks: Geometry, Dynamics and Applications", Department of Mathematics, University of Pittsburgh [12/12/14–12/14/14]
  - "Mathematical Formulation of Multilayer Networks", MNAM: Multiple Network Modeling, Analysis and Mining, Satellite Symposium for NetSci 2014, Berkeley, CA, USA [6/02/14]
  - "Cascades and Social Influence on Networks", NetSci 2013, Copenhagen, Denmark [6/05/13–6/07/13]
  - "Time-Dependent Community Structure in Brain Networks", Temporal and Dynamic Networks, Satellite Symposium for NetSci 2013, Copenhagen, Denmark [6/03/13–6 /04/13]
  - "Community Structure in Time-Dependent, Multiscale, and Multiplex Networks": Conference on Brain Networks, Yeosu, Korea [11/26/11]
  - "Communities in Networks": Young Investigator Award Lecture, Sigma Xi Annual Meeting [11/22/08]
  - Invited talks at the National Center for Theoretical Sciences (NCTS), Taiwan, International Conference on Chaos and Dynamical Complexity [5/05]
    - "Bose-Einstein Condensates in Lattice and Superlattice Potentials" (regularly scheduled talk)
    - "Congress Can't Hide From Mathematics" (extra talk)
  - "Solitons and Coherent Structures in Bose-Einstein Condensates", Focus Session on "Solitons and Applications in the 50 Years since Fermi-Pasta-Ulam", American Physical Society (APS) March Meeting [3/23/05]
- Named/Distinguished Lecture Series
  - "Multilayer Networks"
    - University of Pennsylvania, Warren Center for Network and Data Sciences, Distinguished Lecture Series [11/05/15]
    - Arizona State University, Brauer-Mickens Distinguished Seminar Series, School of Mathematical & Statistical Sciences [11/24/14]
- Public Lectures
  - "The Beauty of Networks", Cafe Scientifique, Cheltenham [12/01/15]
  - "The Beauty of Networks", Science Exchange Wallingford (in the Cafe Scientifique network) [3/17/15]
  - "The Physics of Social Networks", University of Oxford [5/09/11]
- Invited School and Tutorial Lectureships
  - "Topics in Network Science", European Summer School in Modelling, Analysis and Simulation in Crime and Image Processing, Mathematical Institute, University of Oxford [7/04/16–7/08/16]
  - "Mesoscale Structures in Networks", Lake Como School of Advanced Studies, School on "Complex Networks: Theory, Methods and Applications II", Lake Como, Italy [5/16/16–5/20/16]
  - "Networks and Network Dynamics", Complex Oscillatory Systems: Modeling and Analysis (COSMOS), Florence, Italy [11/16/15–11/25/15]
  - "A Simple Generative Model of Collective Online Behavior", 2nd Mediterranean School of Complex Networks, Salina, Sicily, Italy [9/03/15–9/08/15]
  - "Networks, Dynamics, and the Ongoing Evolution", Minitutorial on Network Dynamics, 2015 SIAM Conference on Applications of Dynamical Systems [5/17/15]
  - "Community Structure in Human Brain Networks", 1st Mediterranean School of Complex Networks, Salina, Sicily, Italy [6/09/14–6/13/14]
  - "Introduction to Multilayer Networks", Tutorial, NetSci International School on Network Science, Berkeley, CA, USA [6/03/14]

- Lecturer, "Networks: Structure and Dynamics" (3 lectures of 1 hour each), Expository Quantum Lecture Series (EQuaLS) 2013, "Complex Systems", Universiti Putra Malaysia [11/22/13–11/24/13]
- Lecturer, "Network Dynamics" (10 lectures of about 2.5 hours each), Applied Mathematics Summer School, Shanghai Jiao Tong University [7/05/10–7/16/10]

- Invited Participation in Study Groups with Industry
  - Fourth Montreal Industrial Problem Solving Workshop (Canada) [8/11]
  - Second Montreal Industrial Problem Solving Workshop (Canada) [8/08]
- Invited Participation in Long-Term Academic Programs
  - Mathematical Biosciences Institute (MBI), Emphasis Semester on Dynamics of Biologically Inspired Networks, Columbus, OH, USA [Spring 2016; 1-month visit]
  - "Research Fellow", Institute for Computational and Experimental Research in Mathematics (ICERM), Semester Program on Network Science and Graph Algorithms [2/03/14–5/09/14; 1-month visit]
  - Kavli Institute for Theoretical Physics (KITP), Miniprogram on Network Architecture of Brain Structures and Functions, Santa Barbara, CA, USA [7/18/11–8/05/11]
  - Statistical and Applied Mathematical Sciences Institute (SAMSI), Program on Complex Networks, North Carolina, USA [2010–2011; 2 months of visiting during the year]
- Invited Workshop Presentations
  - "Dynamics of and on Neuronal Networks"
    - Dynamical Systems and Data Analysis in Neuroscience: Bridging the Gap (Workshop 3, semester emphasis program on Analysis of Complex Data in Biological Systems), Mathematical Biosciences Institute [10/17/16–10/21/16]
  - "Networks, the Social Sciences, and the Humanities"
    - Workshop on Language Concepts, History; Somerville College, Oxford [4/22/16]
  - "A Simple Generative Model of Collective Online Behavior"
    - Computational Social Science (CSS) Initiative London Workshop, Oxford [5/27/16]
  - "Multilayer Networks and Applications"
    - Workshop on Graph Limits and Statistics, Semester Programme on Theoretical Foundations for Statistical Network Analysis, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK [7/11/16–7/15/16]
    - InFoMM CDT Annual Meeting, Mathematical Institute, University of Oxford [4/29/16]
    - Workshop on Synchronization and Oscillators with Generalized Coupling, University of Exeter [4/20/16–4/22/16]
    - Mathematics and Social Sciences Workshop, Imperial College [11/16/15–11/17/15]
  - "Multilayer Networks and Network Pharmacology: Looking Forward", Workshop on Network Pharmacology, Keble Networks Research Cluster, University of Oxford [9/15/15]
  - "Networks in Space: Granular Force Networks and Beyond", Workshop on Network Geometry, Queen Mary University of London [7/16/15]
  - "Community Structure and Multilayer Networks (and a Few Protein Interactions)", Protein Network Workshop, Institute for Mathematical Sciences, National University of Singapore [6/8/15–6/12/15]
  - "Migration of Populations via Marriages in the Past"
    - Population Models in the 21st Century (Workshop 4, semester emphasis program on Analysis of Complex Data in Biological Systems), Mathematical Biosciences Institute [11/14/16–11/18/16]
    - Groups and Interactions in Data, Networks and Biology, KI-Net Workshop, Department of Mathematical Sciences, Carnegie Mellon University [5/27/15–5/29/15]
  - "Topological Data Analysis of Contagion Maps for Examining Spreading Processes on Networks"
    - Computational Algebraic Topology [CAT-School 2015], CMI–LMS Research School 2015, Alan Turing Institute – Scoping Workshop, Mathematical Institute, University of Oxford [9/10/15–9/11/15]
    - Workshop on Dynamics of and on Networks, Santa Fe Institute [12/1/14–12/5/14]
  - "Teach Network Science to Teenagers", NetSciEd3: Satellite Symposium on Network Science in Education, Satellite Symposium for NetSci 2014, Berkeley, CA, USA [6/02/14]
  - "Synchronization of Cows": Workshop on Synchronisation in Complex Systems, Imperial College London [5/11/12]
  - "Cascades on Networks": Dynamics on Networks, SAMSI Program on Complex Networks [3/21/11]
  - "Social Structure of Facebook Networks": Workshop on Evolution of Solution Norms, University of Reading [12/11]
  - "Community Structure in Time-Dependent, Multiscale, and Multiplex Networks"
    - Structure and Dynamics of Networks on Networks (theoretical ecology workshop), Göttingen [9/15/14–9/17/14]
    - Keble Networks Research Cluster Workshop, University of Oxford [6/02/11]
    - Oxford/Harvard Workshop on Networks and Statistics, University of Oxford [5/20/10–5/21/10]
    - Nonlinear Dynamics of Networks, University of Maryland at College Park [4/04/10–4/09/10]
  - "Community Structure in Networks"
    - Joint BioMaPS and Rutgers/Penn/IAS Applied Topology Workshop, Rutgers University [2/06/13]
    - Cambridge Networks Day, University of Cambridge [5/18/12]
    - Oxford Networks Day, University of Oxford [9/28/09]

- "Bose-Einstein Condensates in Nonlinear Lattices"
  - Wolfgang Pauli Institute, Workshop on "The Gross-Pitaevskii equation and its application for BEC in optical lattices" [09/08]
- "Bose-Einstein Condensates in Optical Lattices and Superlattices"
  - Nonlinearities – from Turbulent to Magic, Niels Bohr Institute, Denmark [5/06]

- Minisymposium Conference Presentations (invited)
  - "Introduction to Multilayer Networks"
    - 2015 Sunbelt (XXXV) Social Networks Conference [6/15]
  - "Disordered Granular Chains"
    - 2014 SIAM Conference on Nonlinear Waves and Coherent Structures [8/14]
  - "The Influence of Topology on Sound Propagation in Granular Force Networks"
    - 10th AIMS Conference on Dynamical Systems, Differential Equations, and Applications [7/14]
  - "Multi-Stage Complex Contagions"
    - 9th AIMS Conference on Dynamical Systems, Differential Equations, and Applications [7/12]
  - "Synchronization of Cows"
    - 2011 SIAM Conference on Applications of Dynamical Systems [5/11]
  - "Fermi, Pasta, Ulam, and the Birth of Experimental Mathematics"
    - 2010 SIAM Conference on Nonlinear Waves and Coherent Structures [8/10]
  - "Communities in Networks"
    - 2009 SIAM Conference on Applications of Dynamical Systems [5/09]
  - "Complex Networks: From U.S. College Football to the U.S. Congress"
    - 2008 Conference of the European Consortium for Mathematics in Industry [7/08]
  - "Wave Propagation in Granular Lattices"
    - 2008 Conference of the European Consortium for Mathematics in Industry [7/08]
    - 2008 AMS/MAA Joint Mathematics Meetings [1/08]
  - "Community Structure in the United States House of Representatives"
    - 2007 SIAM Conference on Applications of Dynamical Systems [5/07]
  - "Bose-Einstein Condensates in Optical Lattices and Superlattices"
    - 2006 SIAM Annual Meeting [7/06]
    - 2006 AMS/MAA Joint Mathematics Meetings [1/06]
    - 2004 SIAM Annual Meeting [7/04]
  - "Modulated Amplitude Waves in Bose-Einstein Condensation"
    - 2003 SIAM Annual Meeting [6/03]
    - 2003 SIAM Conference on Applications of Dynamical Systems [5/03]
  - "How Well Can Random Walkers Rank Football Teams?"
    - 2006 AMS/MAA Joint Mathematics Meetings [1/06]
  - "An Introduction to Quantum Chaos"
    - 2001 SIAM Annual Meeting [7/01]
- Contributed Workshop Presentations
  - "Topological Data Analysis of Contagion Maps for Examining Spreading Processes on Networks"
    - Control and Observability of Network Dynamics (Workshop 4, semester emphasis program on Dynamics of Biologically Inspired Networks), Mathematical Biosciences Institute [4/11/16–4/15/16]
  - "When is a Cow Truly Spherical?": Open Mathematical Problems from Industry and Elsewhere, Mathematical Institute, University of Oxford [12/09/10]
  - "Nonlinearity Management in Optics": MSRI Introductory Workshop on Dynamical Systems with Emphasis on Extended Systems [1/22/07–1/26/07]
  - "A Network Analysis of Committee Assignments in the United States House of Representatives": MSRI Workshop on Models of Real-World Random Networks [4/18/05–4/22/05]
- Contributed Conference Presentations
  - "A Simple Generative Model of Collective Online Behavior"
    - 2013 European Conference on Complex Systems (ECCS), Satellite Conference on Collective Contagion [9/19/13]
  - "Core-Periphery Organization of Human Brain Dynamics"
    - 2013 SIAM Conference on Applications of Dynamical Systems [5/13]
  - "Core-Periphery Structure in Networks"
    - XXV IUPAP International Conference on Statistical Physics [7/13]
    - 2012 Sunbelt (XXXII) Social Networks Conference [3/12]
  - "Community Structure in Time-Dependent, Multiscale, and Multiplex Networks"
    - 2010 APS March Meeting [3/10]
  - "Communities in Networks"

        - Dynamics Days Europe XXXII [9/12]
        - Dynamics Days 2010 [1/10]
    - "Community Structure in Online Collegiate Social Networks"
        - NetSci 2009 [6/09]
        - 2009 Sunbelt (XXIX) Social Networks Conference [3/09]
    - "Wave Propagation in Granular Lattices"
        - 2008 SIAM Conference on Nonlinear Waves and Coherent Structures [7/08]
    - "Computational Linear Algebra and Social Networks"
        - 2008 AMS/MAA Joint Mathematics Meetings [1/08]
    - "Nonlinearity Management in Optics"
        - 2007 International Congress on Industrial and Applied Mathematics [7/07]
    - "Bose-Einstein Condensates in Optical Lattices and Superlattices" (and similar topics)
        - 2007 AMS/MAA Joint Mathematics Meetings [1/07]
        - 2006 SIAM Conference on Nonlinear Waves and Coherent Structures [9/06]
        - 2004 SIAM Conference on Nonlinear Waves and Coherent Structures [10/04]
        - 2004 SIAM Annual Meeting [7/04]
        - 91st Statistical Mechanics Conference; Rutgers, NJ [5/04]
        - 2004 AMS/MAA Joint Mathematics Meetings [1/04]
        - Dynamics Days 2003 [1/03]
    - "Billiards with Mixed Regular and Chaotic Dynamics"
        - 2007 AMS/MAA Joint Mathematics Meetings [1/07]
    - "Community Structure in Legislative Networks"
        - NetSci 2008 [6/08]
        - 2007 AMS/MAA Joint Mathematics Meetings [1/07]
    - "A Network Analysis of Committee Assignments in the United States House of Representatives"
        - 2006 SIAM Annual Meeting [7/06]
        - 2006 APS March Meeting [3/06]
        - Dynamics Days 2006 [1/06]
        - 2006 AMS/MAA Joint Mathematics Meetings [1/06]
    - "How Well Can Random Walkers Rank Football Teams?"
        - 2004 SIAM Annual Meeting [7/04]
    - "Quantum Chaos in Vibrating Billiard Systems"
        - 2002 SIAM Annual Meeting [7/02]
        - 6th SIAM Conference on Applications of Dynamical Systems [5/01]
        - Penn State/University of Maryland Dynamical Systems Workshop [3/01]
        - Applied Math Days, Rensselaer Polytechnic Institute [10/00]
        - 3rd AIMS Conference on Differential Equations and Dynamical Systems [5/00]
        - David Blackwell and Richard Tapia Distinguished Lecture Series [5/00]
        - Spring 2000 Midwest Dynamical Systems Conference [3/00]
    - "The Hopf Fibration and its Applications"
        - Caltech SURF (Summer Undergraduate Research Fellowship) Seminar Day [10/96]
- Invited Seminars at Universities (and similar venues)
    - "TBA"
        - University of Calgary, Department of Mathematics (and a second lecture at their local Pacific Institute for Mathematical Sciences [11/24/16–11/25/16]
    - "Dynamical Systems on Networks"
        - Centro de Investigación en Matemática Pura y Aplicada, Universidad de Costa Rica [8/17/16]
            - Along with this seminar, I am presenting series of minitutorials on various topics in networks and dynamical systems, and a seminar at another campus of the university [8/16/16–8/19/16]
    - "Topological Data Analysis of Contagion Maps for Examining Spreading Processes on Networks"
        - University of Cambridge, Applied and Computational Analysis Seminar [6/10/16]
        - University of Nottingham, Algebra & Analysis Seminar [6/1/16]
    - "A Simple Generative Model of Collective Online Behavior"
        - University of Oxford, Mathematical Institute, OCIAM group meeting [5/26/16]
    - "Disordered Granular Chains": University of Warwick, Fluid Dynamics Seminar [1/27/16]
    - "Migration of Populations via Marriages in the Past"
        - University of North Carolina at Chapel Hill, Applied Mathematics Colloquium, Department of Mathematics [11/14/14]
        - Stanford University, M. Feldman group meeting, Department of Biology [11/07/14]

- "Stuff (An Introduction to Me)"
  - Stanford University, M. Feldman group meeting, Department of Biology [10/24/14]
- "Introduction to the Mathematics of Networks"
  - Rensselaer Polytechnic Institute, Department of Mathematical Sciences, Undergraduate Seminar [9/04/13]
- "Multilayer Community Structure and Functional Brain Networks"
  - University of Oxford, Neurotheory Forum [8/19/14]
  - University of Nottingham, Centre for Mathematical Medicine and Biology Seminar Series, Department of Mathematics [2/18/14]
  - Stanford University, J. H. Lee group meeting, Department of Bioengineering [3/13/13]
- "Multilayer Networks"
  - Mathematical Biosciences Institute, Visitors Seminar [3/29/16]
  - University of Warwick, Complexity Symposium [2/10/16]
  - UCLA, Colloquium, Department of Mathematics [10/01/15]
  - University of Southern California, Colloquium, (joint with Center for Applied Mathematical Sciences Colloquium), Department of Mathematics [9/30/15]
  - Workshop on Mathematics and Physics of Multilayer Complex Networks [MAPCOM15] (joint presentation with A. Arenas), Max Planck Institute for the Physics of Complex Systems, Dresden, Germany [7/06/15]
  - E-Therapeutics [4/10/15]
  - University of Manchester, Department of Sociology [2/18/15]
  - University of Pennsylvania, Digital Media, Networks, and Political Communication Seminar, Annenberg School for Communication [12/15/14]
  - Northeastern University, Center for Complex Network Research Seminar [12/08/14]
  - Stanford University, Networks Forum [11/25/14]
  - North Carolina State University, Theoretical Computer Science Seminar, Department of Computer Science [11/17/14]
- "Multilayer Networks and Community Structure"
  - Max Planck Institute for the Physics of Complex Systems (MPIPKS), Program on Causality, Information Transfer, and Dynamical Networks [5/20/14]
  - Stanford University, Networks Forum [4/16/14]
  - University of Oxford, Numerical Analysis Internal Seminar, University of Oxford [2/11/14]
- "Cascades and Social Influence on Networks"
  - University of Michigan, Center for the Study of Complex Systems Colloquium [9/22/15]
  - Northeastern University, Applied and Interdisciplinary Mathematics (AIM) Seminar [12/09/14]
  - Arizona State University, Mathematical Biology Seminar, School of Mathematical & Statistical Sciences [11/21/14]
  - Stanford University, Applied Mathematics Seminar, Department of Mathematics [11/19/14]
  - Universidad Nacional Autónoma de México, Departamento de Ciencias de la Computación [10/28/14]
  - UCLA, Department of Mathematics [10/22/14]
  - UC Santa Barbara, Center for Control, Dynamical-Systems, and Computation (CCDC) Seminar [10/03/14]
  - University of British Columbia, Applied Mathematics Colloquium, Department of Mathematics [3/31/14]
  - Simon Fraser University, Applied Mathematics Seminar, Department of Mathematics [3/28/14]
  - University College London, Networks Seminar [1/22/14]
  - Princeton University, Y. G. Kevrekidis group meeting, Department of Chemical and Biological Engineering [9/6/13]
  - Rensselaer Polytechnic Institute, Mathematical Sciences Colloquium [9/3/13]
  - Georgia Institute of Technology, Mathematical Biology Seminar, School of Mathematics [8/28/13]
  - Korea University, Informal Networks Seminar, Department of Physics [7/30/13]
  - Imperial College London, DynamIC Seminar, Department of Mathematics [5/30/13]
  - UC Davis, Computer Science Colloquium [4/11/13]
  - Facebook [4/04/13]
  - UC San Diego, The Cooperative Association for Internet Data Analysis (CAIDA) Complex Networks Seminar [3/25/13]
  - University of North Carolina at Chapel Hill, Applied Mathematics Colloquium, Department of Mathematics [2/22/13]
  - Cornell University, Center for Applied Mathematics Colloquium [2/01/13]
- "Potentially Useful Ideas and Methods from Networks"
  - University of Oxford, Networks in Biology Workshop, Mathematical Institute [12/05/12]
- "Core–Periphery Structure in Networks"
  - University of Strathclyde, Department of Mathematics and Statistics, Colloquium [10/03/12]
  - University of Oxford, Nuffield College and Oxford Internet Instititute Social Networks Seminar Series [5/07/12]
- "The Influence of Topology on Sound Propagation in Granular Force Networks"
  - University of Bristol, Mathematical Physics Seminar, Department of Mathematics [11/01/13]
  - Boston University, Biophysics/Condensed Matter Seminar, Department of Physics [3/29/12]

- "Dynamical Systems on Networks"
  - University of Bristol, Bristol Centre for Complexity Sciences [5/20/11]
- "Social Structure of Facebook Networks"
  - Universidad Rovira i Virgili, Department of Computer Science and Mathematics [6/7/11]
  - Duke University, Duke Network Analysis Center [4/04/11]
- "Modelling Bipolar Individuals as Nonlinear Oscillators"
  - 2014 Ig Nobel Tour of the UK, Imperial College London [3/14/14]
- "Synchronization of Cows"
  - 2012 Ig Nobel Tour of the UK, Imperial College London [3/09/12]
  - Queen Mary University of London, Dynamical Systems and Statistical Physics Seminar, School of Mathematical Sciences [1/24/12]
  - Technical University of Denmark, Nonlinear Dynamics and Complex Systems Seminar, Department of Mathematics [4/29/11]
  - University of North Carolina at Chapel Hill, Applied Mathematics Colloquium, Department of Mathematics [4/01/11]
  - University of Bristol, "Making it Real" Seminar, Department of Engineering Mathematics [10/29/10]
  - University of Limerick, Mathematics Applications Consortium for Science & Industry Seminar [10/19/10]
  - Georgia Institute of Technology, Mathematical Biology and Ecology seminar, School of Mathematics [9/07/10]
- "Community Structure in Multilayer Networks"
  - Stanford University, J. Leskovec group meeting, InfoLab, Department of Computer Science [1/28/13]
  - University of Bath, Centre for Nonlinear Mechanics Seminar, Bath Institute for Complex Systems [11/29/11]
  - University of Oxford, Complex Agent-Based Dynamic Networks (CABDyN) Seminar [11/30/10]
  - University of Oxford, Nuffield Social Networks Seminar Series [5/03/10]
- "Using Social Network Analysis to Understand Financial Data"
  - Duke University, Social Network Analysis group meeting, Department of Sociology [3/18/09]
- "How Social Networks Can Help Lead to Financial Disaster"
  - Somerville College (Oxford) Alumni City Group [11/27/08]
- "Classical and Quantum Systems with Mixed Regular-Chaotic Dynamics"
  - University of Southampton, Applied Mathematics Colloquium, Department of Mathematics [5/06/08]
- "Nonlinear Waves in One-Dimensional Granular Crystals"
  - UC Davis, Applied Math/PDE Seminar, Department of Mathematics [2/28/13]
  - University of East Anglia, School of Mathematics [12/05/11]
  - University of Illinois at Urbana Champaign, Department of Mechanical Science and Engineering [3/28/11]
  - University of Warwick, Applied Mathematics Seminar, Department of Mathematics [12/08/10]
  - North Carolina State University, Department of Physics [11/15/10]
  - University of Washington, Nonlinear Waves Seminar, Department of Applied Mathematics [11/09/10]
  - University of Manchester, Manchester Centre for Nonlinear Dynamics [10/13/10]
  - Arizona State University, Mathematical Biology Seminar, School of Mathematical & Statistical Sciences [3/26/10]
  - University of Sevilla, Nonlinear Physics Seminar, Department of Physics [3/04/10]
  - California Institute of Technology, Condensed Matter Physics Seminar, Department of Physics [1/08/09]
  - Keele University, Mathematics Seminar, School of Computing and Mathematics [3/04/09]
  - University of Oxford, Partial Differential Equations Seminar, Mathematical Institute [1/22/09]
  - The University of Nottingham, Theoretical Mechanics Seminar, School of Mathematical Sciences [10/01/08]
  - University of Bristol, Centre for Applied Nonlinear Mathematics Seminar, Department of Engineering Mathematics [6/20/08]
  - Loughborough University, Applied Mathematics Seminar, Department of Mathematical Sciences [6/18/08]
  - University of Surrey, Applied Mathematics Seminar, Department of Mathematics [2/13/08]
  - University of Oxford, Differential Equations and Applications Seminar, Oxford Centre for Industrial and Applied Mathematics, Mathematical Institute [10/25/07]
- "Nonlinearity Management in Optics, Granular Lattices, and Bose-Einstein Condensation" (and similar topics)
  - University of Cambridge, Mechanics and Mathematical Biology Seminar, Department of Applied Mathematics and Theoretical Physics [10/22/07]
  - University of Oxford, Mathematical Institute [10/27/06]
- "Community Structure in Online Collegiate Social Networks"
  - University of Oxford, Oxford Internet Institute/Nuffield Social Networks Seminar Series [11/10/08]
- "Community Structure in Networks"
  - University of Southampton, Applied Mathematics Seminar [2/4/14]
  - Université Pierre et Marie Curie, EPIcx Lab Seminar [1/27/14]
  - Queen Mary University of London, School of Mathematical Sciences, Dynamical Systems and Statistical Physics Seminar [11/05/13]

- University of Cambridge, Networks Seminar [10/15/13]
- Stanford University, Special Institute for Computational Mathematics and Engineering (ICME) Seminar [4/16/13]
- Clarkson University, Arts & Sciences Seminar [1/30/13]
- University of Manchester, Complex Systems and Statistical Physics Seminar, Department of Physics [10/17/12]
- California Institute of Technology, Applied Mathematics Colloquium, Department of Computing & Mathematical Sciences [4/16/12]
- Harvard University, Applied Mathematics Seminar, School of Engineering and Applied Science [3/30/12]
- Northwestern University, Engineering Science and Applied Mathematics Colloquium [3/26/12]
- University of Nottingham, Mathematical Physics Seminar, Department of Mathematics [3/07/12]
- University of Warwick, Applied Mathematics and Statistics Seminar, Department of Mathematics [2/17/12]
- UCLA, Applied Mathematics Colloquium, Department of Mathematics [1/11/12]
- University of Leeds, Applied Nonlinear Dynamics Seminar, Department of Applied Mathematics [10/04/11]
- Davidson College, Department of Mathematics [4/05/11]
- Fred Hutchinson Cancer Research Center, Computational Biology and Biostatistics Seminar [11/10/10]
- Arizona State University, Complex Systems General Talk, Mathematical Computational and Modeling Sciences Center [3/25/10]
- Imperial College London, Institute for Mathematical Sciences [2/25/10]
- California Institute of Technology, Applied and Computational Mathematics, Tea Talk [1/08/10]
- Université Catholique de Louvain, Department of Mathematical Engineering Seminar [10/30/09]
- Duke University, joint Adventures in Theory Lecture, Center for Theoretical and Mathematical Sciences and Center for Nonlinear and Complex Systems Seminar [3/17/09]
- Somerville College, University of Oxford, MCS/SCR Symposium [1/29/09]
- University of Limerick, Mathematics Applications Consortium for Science & Industry Seminar [11/07/08]
- Market Sentinel [8/28/08]

- "Complex Networks: From Congress to College Football"
  - Brunel University, Complexity Seminar, Department of Mathematical Sciences [3/13/08]
  - University of Oxford, Systems Biology Doctoral Training Centre [2/28/08]
  - University of Bristol, Centre for Complexity Sciences Seminar [2/26/08]
  - University of Oxford, Oxford-Man Institute of Quantitative Finance Seminar [2/20/08]
  - University of Oxford, Complex Agent-Based Dynamic Networks (CABDyN) Seminar [10/30/07]
  - University of Southern California, Informal Nonlinear Dynamics Seminar, Department of Aerospace & Mechanical Engineering [9/06/07]
  - California Institute of Technology, Condensed Matter Theory Group Meeting [5/14/07]
  - California Institute of Technology, Undergraduate Math Club Seminar [4/04/07]
  - Louisiana Tech University, Mathematics Colloquium [1/09/07]
  - Loyola Marymount University, Mathematics Colloquium [11/13/06]
  - Claremont Colleges, Mathematics Colloquium [11/01/06]
- "A Network Analysis of Committee Assignments in the United States House of Representatives"
  - Georgia Tech, Applied and Computational Mathematics Colloquium, School of Mathematics [4/26/05]
- "Bose-Einstein Condensates in Optical Lattice and Superlattice Potentials" (and similar topics)
  - Arizona State University, Analysis/PDE Seminar, School of Mathematical & Statistical Sciences [3/25/10]
  - University of Durham, Atomic and Molecular Physics Research Seminar, Department of Physics [11/14/07]
  - UCLA, Applied Mathematics Colloquium, Department of Mathematics [10/11/06]
  - Niels Bohr Institute, Atomic Physics Seminar [5/17/06]
  - Caltech, Institute for Quantum Information Seminar [5/02/06]
  - Caltech, Condensed Matter Physics Seminar, Department of Physics [2/24/06]
  - University of Maryland at College Park, Applied Dynamics Seminar [2/09/06]
  - University of North Carolina at Chapel Hill, Applied Mathematics Colloquium, Department of Mathematics [12/02/05]
  - Caltech, SIAM Student Seminar, Department of Applied & Computational Mathematics [11/18/05]
  - University of Massachusetts at Amherst, Applied Analysis & Computation Seminar, Department of Mathematics & Statistics [10/18/05]
  - Georgia Tech, Nonlinear Science Seminar, School of Physics [8/26/05]
  - University of Sydney, School of Mathematics & Statistics [4/08/05]
  - McMaster University, Department of Mathematics [3/29/05]
  - UC Merced, School of Natural Sciences [3/18/05]
  - The Ohio State University, Department of Mathematics [2/18/05]
  - Southern Methodist University, Department of Mathematics [2/03/05]
  - Clemson University, Department of Mathematical Sciences [1/31/05]

        - UC Davis, Department of Mathematics [1/04/05]
        - Caltech, Department of Control and Dynamical Systems [1/29/04]
        - Georgia Tech, Center for Nonlinear Science (CNS) meeting, School of Physics [10/27/03]
        - Georgia Tech, Center for Dynamical Systems and Nonlinear Studies (CDSNS), School of Mathematics [10/20/03]
    - "An Introduction to the Fermi-Pasta-Ulam Problem and Solitary Waves"
        - Georgia Tech, Center for Nonlinear Science (CNS) meeting, School of Physics, [11/29/04 and 12/06/04]
    - "How Well Can Random Walkers Rank Football Teams?"
        - Cal Poly Pomona, Department of Mathematics and Statistics [6/03/04]
    - "Periodic Orbits and Spectral Statistics of Quantum Graphs"
        - Georgia Tech, Combinatorics Seminar, School of Mathematics [11/02]
    - "Mathematical Modelling of Bipolar Disorder"
        - Georgia Tech, CDSNS/ACE Lab Brown Bag Seminar, School of Mathematics [9/24/02]
    - "Modeling Nanostructures with Quantum Billiards"
        - University of Illinois at Urbana Champaign, Department of Mechanical and Industrial Engineering [2/21/02]
    - "Quantum Chaos in Vibrating Billiard Systems"
        - Mathematical Sciences Graduate Student Seminar, Cornell University [4/01]
        - Applied Math Lunch, University of Maryland at College Park [3/01]
        - Cornell Undergraduate Math Club Talk [4/00]
    - "A Historical Approach to Dynamical Systems Through Celestial Mechanics"
        - Mathematical Sciences Graduate Student Seminar, Cornell University [Fall 00]
        - Cornell University Math Club Talk [Fall 99]
    - "The Hopf Fibration and its Applications"
        - Center for Applied Mathematics (CAM) Student Talk, Cornell University [Fall 98]
    - Other
        - Performer, Ig Nobel "This is Improbable" Show, Mathematical Institute, University of Oxford [10/05/12]
- Poster Presentations
    - Several presentations at various universities and conferences [1997–2001]

TEACHING

- Lecturing and Seminar Courses, UCLA
    - 2016–2017 academic year
        - Math 290J ("Seminar in Networks and Complex Systems") [Spring 2017]
        - Math 191 ("Networks") [Spring 2017]
        - Math 285J ("Topics in Networks") [Winter 2017]
- Lecturing, University of Oxford
    - 2015–2016 academic year
        - "Complex Systems" (no number) [Trinity 2016]
        - Maths C5.4 ("Networks") [Hilary 2016]
    - 2014–2015 academic year
        - Maths C5.4 ("Networks") [Hilary 2015]
    - 2013–2014 academic year
        - Maths C6.2b ("Networks") [Hilary 2014]
    - 2012–2013 academic year
        - "Networks" (no number) [Trinity 2013]
        - Maths C6.2a ("Statistical Mechanics") [Michaelmas 2012]
    - 2011–2012 academic year
        - Networks" (no number) [Trinity 2012]
        - Maths B8b ("Nonlinear Systems") [Hilary 2012]
        - Maths C6.2a ("Statistical Mechanics") [Michaelmas 2011]
    - 2010–2011 academic year
        - Maths B8b ("Nonlinear Systems") [Hilary 2011]
    - 2009–2010 academic year
        - Maths B8b ("Nonlinear Systems") [Hilary 2010]
        - Maths C6.3a ("Perturbation Methods") [Michaelmas 2009]
    - 2008–2009 academic year
        - Maths B5b [supp] ("Applied Partial Differential Equations: Supplementary Lectures", half course) [Hilary 2009]
        - Maths C6.3a ("Perturbation Methods") [Michaelmas 2008]

        - Maths B568a ("Introduction to Applied Mathematics", half course) [Michaelmas 2008]
    - 2007–2008 academic year
        - Maths B5b ("Applied Partial Differential Equations: Supplementary Lectures", half course) [Hilary 2008]
        - Maths C6.3a ("Perturbation Methods") [Michaelmas 2007]
- Tutoring, University of Oxford (Somerville College)
    - Applied mathematics subjects for 1st year, 2nd year, and (on occasion) 3rd year students. Subjects include: Applications, Calculus, Calculus of Variations, Classical Mechanics, Constructive Mathematics, Differential Equations I and II, Dynamics, Electromagnetism, Fourier Series, Geometry, Graph Theory, Integral Transforms, Mathematical Ecology and Biology, Nonlinear Systems, Optimization, Partial Differential Equations, Quantum Theory, Special Relativity, Two-Variable and Three-Variable Calculus
    - Personal Tutor for numerous undergraduate students in the mathematical sciences (providing "pastoral guidance")
        - Includes students in Mathematics, Mathematics & Statistics, Mathematics & Philosophy, Computer Science, Mathematics & Computer Science
    - College Advisor for numerous DPhil and Masters students in several different programs
- Design of New Courses
    - University of Oxford: Networks [4th year undergraduate course; first taught in Hilary 2014 in that form; I designed and previously taught a variant of this course for the Masters program in Mathematical Modelling and Scientific Computation in Trinity 2012]
    - University of Oxford: Statistical Mechanics [4th year undergraduate course; first taught in Michaelmas 2011]
    - Georgia Institute of Technology: Introduction to Mathematical Modeling [advanced undergraduate course; taught in Spring 2004]
- Courses Taught, Georgia Institute of Technology
    - Math 2403 ("Introduction to Differential Equations") [Spring 2005]
    - Math 6705 ("Modeling and Dynamics") [Fall 2004]
    - Math 4803POR ("Introduction to Mathematical Modeling") [Spring 2004]
    - Math 4320 ("Complex Analysis") [Fall 2003]
    - Math 2401 ("Calculus III"—vector calculus) [Fall 2002]
- Teacher's Assistant, Cornell University
    - Math 420 (Differential Equations and Dynamical Systems) [Spring 2002]
    - Math 615 (Mathematical Methods in Physics) [Fall 2001]
    - Mathematical Theoretical Biology Institute summer research program for undergraduates [Summers 2000–2002]
- Courses Taught, California Institute of Technology
    - Ma 1d (Probability) [Spring 1997]
- Teacher's Assistant, California Institute of Technology
    - Ma 1c-practical track (Linear Algebra/Multivariable Calculus) [Spring 1998]
    - Ma 1b-practical track (Differential Equations/Linear Algebra) [Winter 1998]
    - Ma 2a-practical track (Matrix Theory/Statistics) [Fall 1997]
    - Ma 1b-practical track (Differential Equations/Linear Algebra) [Winter 1997]
    - Ma 1a (Calculus/Probability) [Fall 1996]

ORGANIZATION OF CONFERENCES, CONFERENCE SESSIONS, AND WORKSHOPS

- Organization of Long-Term Scientific Programs
    - Lead Organizer, Mathematical Research Community (MRC) on "Network Science", American Mathematical Society (with A. Clauset and D. Kempe) [initial workshop: 6/25/14–6/29/14; follow-ups in subsequent years]
    - Member, Organizing Committee, Emphasis Semester on Dynamics of Biologically Inspired Networks, Mathematical Biosciences Institute (MBI), Columbus, OH, USA [Spring 2016]
- Organization of Conferences and Workshops
    - Lead or Co-Lead Organizer
        - NetSciEd5 (with C. Cramer, R. Gera, H. Sayama, L. Sheetz, and S. Uzzo), Satellite Symposium on Network Science in Education, NetSci 2016 [6/16]
        - Ada Lovelace Bicentenary: Celebrating Women in Computer Science, Somerville College, Oxford [10/16/15]
        - Workshop on Generalized Network Structures and Dynamics, Emphasis Semester on Dynamics of Biologically Inspired Networks, Mathematical Biosciences Institute (MBI), Columbus, OH, USA [3/21/16–3/25/16]
        - Workshop on Mathematics and Physics of Multilayer Complex Networks [MAPCOM15] (with A. Arenas), Max Planck Institute for the Physics of Complex Systems, Dresden, Germany [7/06/15–7/08/15]
        - NetSciEd4 (with C. Cramer, H. Sayama, L. Sheetz, and S. Uzzo), Satellite Symposium on Network Science in Education, NetSci 2015 [6/15]

- Workshop on Networks and Criminality, Mathematical Institute, University of Oxford [4/20/15–4/21/15]
- Workshop on Algebraic Topology: Computation, Data Analysis, and Applications (with P. Grindrod, H. A. Harrington, and U. Tillmann), Mathematical Institute, University of Oxford [2/24/15]
- Workshop on Time-Dependent and Multiplex Networks, Mathematical Institute, University of Oxford (with S. H. Lee) [7/08/13–7/09/13]
- Networks in Biology Workshop (with H. Byrne and R. Shipley), Mathematical Institute, University of Oxford [12/05/12]
- Oxford/Harvard Workshop on Networks and Statistics (with E. Airoldi and J. Blitzstein), Mathematical Institute, University of Oxford [5/20/10–5/21/10]

- Organizing Committee Membership
  - Topological Data Analysis, New Developments and Challenges [CAT 2015] (with P. Grindrod, H. A. Harrington, and U. Tillmann), Mathematical Institute, University of Oxford [6/19/15–6/20/15]
  - Complex Networks: Theory, Methods and Applications, Lake Como School of Advanced Studies [5/18/15–5/22/15, 5/16/16–5/20/16, 5/15/17–5/19/17]
  - Ig Nobel "This is Improbable" Show, Mathematical Institute, University of Oxford [10/05/12]
  - Complex Networks: Transitions Workshop, SAMSI, North Carolina, USA [6/06/11–6/08/11]
  - Complex Networks: Workshop on Dynamics of Networks, SAMSI, North Carolina, USA [1/10/11–1/12/11]
  - Oxford Networks Day [9/28/09]
  - 6 Oxford SIAM Student Chapter Conferences [4/25/08, 2/03/09, 2/09/10, 2/09/11, 2/23/12, 2/15/13]
  - 3rd UK SIAM National Student Conference [5/28/14]
- Scientific Committee Membership
  - Program Committee, NetSciX 2016 [1/16]
  - Program Committee, 12th Workshop on Algorithms and Models for the Web Graph (WAW 2015), EURANDOM [12/15]
  - Board of Experts, Complex Networks, Lake Como School on Advanced Studies [5/09/14–present]
  - Program Committee, NetSci 2015 [6/15]
  - Senior Program Committee, 6th International Conference on Social Informatics (SocInfo 2014) [11/14]
  - Program Committee, SocioAware 2011: First International Workshop on Socio-Aware Networked Computing Systems (satellite workshop at 5th IEEE International Conference on Self-Adaptive and Self-Organizing Systems) [10/03/11]
  - Program Committee, NetMob 2010: Analysis of Mobile Phone Networks, Satellite Symposium of NetSci 2010 [5/11/10]

- Sessions Organized at International Conferences
  - Organized Session on "Multilayer Networks", Sunbelt (XXXV) Social Networks Conference (with M. Magnani and L. Rossi) [6/15]
  - Minisymposium on "Cascades on Networks", 2013 SIAM Conference on Applications of Dynamical Systems (with J. P. Gleeson) [5/13]
  - Minisymposium on "Collective Behavior", 2011 SIAM Conference on Applications of Dynamical Systems (with E. M. Bollt) [5/11]
  - Minisymposium on "Nonlinear Waves in Solids and Granular Media", 2010 SIAM Conference on Nonlinear Waves and Coherent Structures (with C. Daraio and P. G. Kevrekidis) [8/10]
  - Minisymposium on "Waves in Nonlinear Lattices", 2009 SIAM Conference on Applications of Dynamical Systems (with P. G. Kevrekidis) [5/09]
  - Minisymposium on "Nonlinear Waves in Periodic Media", 2008 SIAM Conference on Nonlinear Waves and Coherent Structures (with D. J. Frantzeskakis and P. G. Kevrekidis) [7/08]
  - Minisymposium on "Mathematics and Social Networks", 2008 Conference of the European Consortium for Mathematics in Industry [7/08]
  - Project NExT Session on "New Technologies for Faculty: Wikis, Discussion Boards, and Clickers", 2008 AMS/MAA Joint Mathematics Meetings (with H. Zullo) [1/08]
  - Minisymposium on "Complex Networks: Dynamics and Community Detection", 2007 SIAM Conference on Applications of Dynamical Systems (with P. J. Mucha) [5/07]
  - Minisymposium on "Analysis, Computation, and Experiments in Bose-Einstein Condensation", 2006 SIAM Annual Meeting and 2006 SIAM Conference on Analysis of Partial Differential Equations (with P. G. Kevrekidis) [7/06]
  - Minosymposium on "Theoretical Biology and Dynamical Systems", 2005 SIAM Annual Meeting (with C. Castillo-Chavez, C. Kribs Zaleta, B. Song, and A.-A. Yakubu) [7/05]
  - Focus Session on "Solitons and Applications in the 50 Years since Fermi-Pasta-Ulam", 2005 APS March Meeting (with D. Campbell and N. Zabusky) [3/05]
  - Minisymposium on "Nonlinear Waves and Pattern Formation in Biological Systems", 2004 SIAM Conference on Nonlinear Waves and Coherent Structures (with P. G. Kevrekidis) [10/04]

- Minisymposium on "Applications of Discrete and Continuous Dynamical Systems", 2004 SIAM Annual Meeting (with S. Wirkus) [7/04]
- Minisymposium on "Theoretical Biology and Nonlinear Dynamics" and "Applications of Nonlinear Oscillators", 2003 SIAM Annual Meeting (with S. Wirkus) [6/03]
- Minisymposium on "Applications of Forced and Coupled Nonlinear Oscillators", 2003 SIAM Conference on Applications of Dynamical Systems [5/03]
- Minisymposium on "Theoretical Biology and Nonlinear Dynamics", 2002 SIAM Annual Meeting (with S. Wirkus) [7/02]

ADDITIONAL SERVICE, MENTORING, AND OUTREACH

- Scientific Organizations
  - Secretary (and DSWeb Co-Editor-in-Chief, jointly with D. M. Abrams), Society for Industrial and Applied Mathematics (SIAM) Activity Group on Dynamical Systems [1/1/16–12/31/17]
  - Member, Education Committee, Society for Industrial and Applied Mathematics [1/1/13–12/31/18]
  - Member, Subcommittee on Mathematics Across the Disciplines, Committee on the Undergraduate Program in Mathematics, Mathematical Association of America [1/1/09–1/15/15]
- Instructor, 23rd European Consortium for Mathematics in Industry Modelling Week [8/09]
- Faculty Advisor and Senior Member (and founding faculty member): University of Oxford student chapter of SIAM [10/07–12/15]
- Senior Member, Oxford University Role Playing Game Society [11/08–present]
- General Supervisor (before research project chosen) for numerous students in the Masters programs in Mathematical Modelling and Scientific Computation (MMSC), Mathematical Foundations of Computer Science (MFoCS), Mathematical and Theoretical Physics (MTP), and for the Centre for Doctoral Training in Industrially Focussed Mathematical Modelling (INFoMM) [10/08–present]
- Committee Membership (University of Oxford)
  - Extra-Departmental
    - Member, Joint Supervisory Committee, Masters program in Mathematical and Theoretical Physics (MMathPhys, MSc) [10/15–present]
    - Member, Working Group to Establish a Masters program in Mathematical and Theoretical Physics (MMathPhys, MSc) [4/11–9/15]
    - Member, Systems Biology Doctoral Training Centre (DTC) Management Committee [10/11–present]
  - Intra-Departmental
    - Hiring Committee, Departmental Lectureship in Mathematical Modelling [Spring 2014]
    - Mathematical Institute Teaching Committee [10/11–present]
    - Mathematical Institute Projects Committee [5/08–present]
    - Oxford Centre for Industrial and Applied Mathematics (OCIAM) Website Committee [1/08–6/09]
- Interviews for Prospective DPhil Students in the Mathematical Institute as well as the DTCs in Life Sciences Interface (LSI) and Systems Biology
- Interviews for Prospective Masters student in the program on the Mathematics and Foundations of Computer Science (MFoCS)
- Training Courses taken at University of Oxford
  - Recruitment and Selection [2/12]
  - Undergraduate Admissions [Fall 2007]
- Somerville College
  - Representative, Buildings Committee [10/15–9/16]
  - Hiring Committee, Associate Professorship (or Professorship) of Pure Mathematics [in Algebra (broadly defined)] in association with a Tutorial Fellowship in Somerville College [Winter 2014]
  - Representative, Web Working Group [9/11–9/12]
  - Representative, Finance Committee [5/11–9/14]
  - Mathematical, Physical, and Life Sciences (MPLS) Representative, Library Committee [10/08–6/12]
  - Outreach: Mathematics presentations for Study Day [2/11] and Family Day [9/13, 9/15], and Participation in several Open Days
  - Interviewer for Fulford Junior Research Fellowships [Spring 2008] and Mary Ewert Junior Research Fellowships [Spring 2013]
  - Undergraduate Admissions Interviews
- Outreach: University of Oxford
  - Participated in several Open Days for the Mathematical Institute
- Outreach: National and International
  - Helped design brochure on "Network Literacy: Essential Concepts and Core Ideas" that describes basic network concepts

for the general public (with C. Cramer, H. Sayama, L. Sheetz, and S. Uzzo) [posted online 3/12/15]
    - Designed and organized mathematics workshops on Network Science for students in Years 9–11 (ages 13–16), with the primary focus on Year 9 (both in Somerville College in Oxford and in visits to schools throughout the UK) [2012–present]
    - "Networks: The Mathematics of Connectivity", Royal Institution Masterclass, University of Oxford [3/14/15, 1/30/16]
    - Participant (as a case study) in "Being a Professional Mathematician" project (www.beingamathematician.org) [2012]
    - "The Big Questions — 'Relationships' 3: Networks: The Science of Connections", Podcast, Oxford Sparks (http://www.oxfordsparks.ox.ac.uk/content/big-questions-relationships-3-networks-science-connections) [5/02/16]
- Seminar Organization
    - University of Oxford
        - Organizer: Industrial and Applied Mathematics Seminar, Mathematical Institute [07/10–present]
    - Georgia Tech
        - Co-organizer: Center for Dynamical Systems and Nonlinear Studies Colloquium (with S.-N. Chow), School of Mathematics [Fall 2004–Spring 2005]
        - Organizer: Public lecture and book signing (at Georgia Tech) by Steve Strogatz [9/29/04]
        - Organizer: Research Horizons Seminar, School of Mathematics [Fall 2003–Spring 2004]
    - Cornell University
        - Founder: Mathematical Sciences Graduate Student Seminar [8/00]
        - Organizer: Mathematical Sciences Graduate Student Seminar [8/00–12/01]
        - Organizer: Bill Sears Club seminar series [8/99–12/99]
- Mentor, Mathematical and Theoretical Biology Institute (MTBI) summer REU program [2000–2002]
- Refereeing:
    - Refereed papers for the following journals: *Australasian Journal of Combinatorics*, *Bulletin of Mathematical Biology*, *Chaos*, *Communications of the ACM*, *Connections*, *Discrete and Continuous Dynamical Systems*, *European Journal of Applied Mathematics*, *The IMA Journal of Applied Mathematics*, *Information Sciences*, *International Journal of Bifurcation and Chaos*, *Journal of Mathematical Physics*, *Journal of Physics A: Mathematical and General*, *Journal of Physics B: Atomic Molecular and Optical Physics*, *Journal of Quantitative Analysis in Sports*, *Journal of Theoretical Biology*, *Mathematics and Computers in Simulation*, *Mathematical Biosciences and Engineering*, *Methodology and Computing in Applied Probability*, *Nature Physics*, *Network Science*, *Physica A*, *Physica D*, *Physical Review A*, *Physical Review E*, *Physical Review Letters*, *Physical Review X*, *Physics Letters A*, *PLoS One*, *Proceedings of the National Academy of Sciences of the United States of America*, *Science*, *SIAM Journal on Applied Mathematics*, *SIAM Journal on Matrix Analysis and Applications*, *SIAM Review*, *Social Networks*, *Symmetry Integrability and Geometry: Methods and Applications*
    - Refereed books and book proposals for the following publishers: Cambridge University Press, Imperial College Press, Oxford University Press, Princeton University Press, Springer-Verlag
    - Refereed papers for the following conference: The 6th International AAAI Conference on Weblogs and Social Media (ICWSM-12)
    - Refereed grant proposals for the National Science Foundation (USA), the Royal Society of London (UK), the Knut and Alice Wallenberg Foundation via the Royal Swedish Academy of Sciences, the Engineering and Physical Sciences Research Council (UK), and the Leverhulme Trust (UK)
    - Refereed workshop proposals for International Centre for Mathematical Sciences (UK)
- Contributing Editor, Complexity Digest [4/01–12/03]
- Panel Membership
    - Forward Looking Panel Discussion, 2011 SIAM Conference on Applications of Dynamical Systems [5/25/11]
    - Project NExT Session on Designing Courses in Mathematical Modeling, Mathematical Associated of America (MAA) MathFest [8/04]

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Current: Society for Industrial and Applied Mathematics (SIAM), SIAM activity group on Dynamical Systems, SIAM activity group on Nonlinear Waves and Coherent Structures, American Mathematical Society, London Mathematical Society, American Physical Society (APS), APS Topical Group on Statistical & Nonlinear Physics, APS Topical Group on Soft Matter, International Network for Social Network Analysis (INSNA), Complex Systems Society, Tau Beta Pi (engineering honor society)
- Former: Mathematical Association of America (about 1996–2012), Sigma Xi (honor society; about 1997–2011)

ADDITIONAL EDITORIAL, JOURNALISTIC, AND WRITING EXPERIENCE

- Quora Top Writer [2016]
- Writer, *Improbable Research* blog [3/15–present]
- Co-Editor, *The California Tech* (university newspaper), California Institute of Technology [3/95–3/96]
  - Much later (during my postdoc at Caltech), I was an informal assistant advisor for the newspaper [6/05–6/07]
- Writer, *The California Tech*, California Institute of Technology [9/94–6/98]
- Co-Editor, *The Totem* (university literary magazine), California Institute of Technology [9/96–6/98]
- Producer of my blog *Quantum Chaotic Thoughts* (http://masonporter.blogspot.co.uk) [10/05–present]