Biographical Sketch
Michelle Girvan

Professional Preparation

Massachusetts Institute of Technology	B.S.	1999	Math and Physics
Cornell University	Ph.D.	2004	Physics
Santa Fe Institute	Postdoc	2004-2007	Complex Systems

Appointments

2018-present	Professor, Department of Physics and Institute for Physical Science and Technology, University of Maryland, College Park
2017-2018	External Fellow, London Mathematical Laboratory
2016-present	Director, COMBINE (Computation and Mathematics for Biological Networks) NRT (NSF Research Traineeship) Program
2013-2018	Associate Professor, Department of Physics and Institute for Physical Science and Technology, University of Maryland, College Park
2012-present	External Faculty, Santa Fe Institute, Santa Fe, NM
2007-2013	Assistant Professor, Department of Physics and Institute for Physical Science and Technology, University of Maryland, College Park
2008-2009	Member, Institute for Advanced Study, Princeton, New Jersey

Related products

1. S. Krishnagopal, **M. Girvan**, E. Ott, and B. Hunt, "Separation of Chaotic Signals by Reservoir Computing." *Chaos*, in press (2020).

2. *J. Pathak, A. Wikner, R. Fussell, S. Chandra*, B.R. Hunt, **M. Girvan**, and E. Ott, "Hybrid forecasting of chaotic processes: using machine learning in conjunction with a knowledge-based model." *Chaos,* 28, 041101 (2018).

3. *J. Pathak,* B. Hunt, **M. Girvan**, *Z. Lu*, and E. Ott. "Model-free prediction of large spatiotemporally chaotic systems from data: a reservoir computing approach." *Phys. Rev. Lett.,* 120, 024102 (2018).

4. S. Krishnagopal, Y. Aloimonos, and **M. Girvan**. "Similarity Learning and Generalization with Limited Data: A Reservoir Computing Approach." *Complexity* 2018 (2018).

5. J. Pathak, Z. Lu, B.R. Hunt, **M. Girvan**, and E. Ott. "Using machine learning to replicate chaotic attractors and calculate Lyapunov exponents from data." *Chaos: An Interdisciplinary Journal of Nonlinear Science* (2017): 121102.

Other significant products

1. *S. Squires*, E. Ott, and **M. Girvan**, "Dynamical Instability in Boolean Networks as a Percolation Problem," *Phys. Rev. Lett.* 109, 085701 (2012).

2. O. Peters and **M. Girvan**, "Universality under conditions of self-tuning," *J. Stat. Phys*. 141, 1:53-59 (2010).

3. D. Wiley, S. H. Strogatz, and **M. Girvan**, "The size of the sync basin," *Chaos* 16, 015103 (2006).

4. M. E. J. Newman and **M. Girvan**, "Finding and evaluating community structure in networks," *Phys. Rev. E* **69**, 026113 (2004).

5. **M. Girvan** and M.E. J. Newman, "Community structure in social and biological networks," *Proc. Natl. Acad. Sci. USA* **99**, 8271-8276 (2002).

Most Significant Synergistic Activities

1. Vice President and Treasurer, Network Science Society, an interdisciplinary research community connecting researchers in network science: from physics to computer science, biology, social sciences, economics, etc. (2016—present)

2. Executive committee, American Physical Society's Group on Statistical and Nonlinear Physics. (2013—2016)

3. Editorial board service: *Scientific Reports*, *Chaos: An Interdisciplinary Journal of Nonlinear Science, Network Neuroscience*

4. Advisory Board, Traumatic Injury Research Program, Uniformed Services University. (2015—present)

5. Organizer of several interdisciplinary conferences and meetings, including: Conference: Dynamics Days (co-organizer, 2017 & 2012); SIAM Workshop on Network Science (co-organizer, 2017); Conference: NetSci (organizing committee, 2014); Workshop: Nonlinear Dynamics of Networks (co-organizer, 2012); Workshop: Is There a Physics of Society? (co-organizer, 2008); Workshop: The Structure and Organization of Robust Systems (co-organizer, 2007)