

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

2013-present	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

Publications (i)

Glass, K. and Girvan, M., "Finding new order in biological functions from the network structure of gene annotations." *PLoS Computational Biology*, **11**, e1004565 (2015).

G. Duggal, S. Navlakah, M. Girvan, and C. Kingsford, "Uncovering Many Views of Biological Networks Using Ensembles of Near-Optimal Partitions," *MultiClust: 1st International Workshop on Discovering, Summarizing and Using Multiple Clusterings at KDD 2010*.

A. Pomerance, E. Ott, M. Girvan and W. Losert, "The Effect of Network Topology on the Stability of Discrete State Models of Genetic Control," *Proc. Natl. Acad. Sci. U.S.A.* (2009).

J.C. Flack, M. Girvan, F.B.M. de Waal, and D.C. Krakauer, "Policing stabilizes construction social niches in primates." *Nature*, **439**, 426-429 (2006).

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

Publications (ii)

D. Darmon, J. Sylvester, M. Girvan and W. Rand, "Predictability of User Behavior in Social Media: Bottom-Up v. Top-Down Modeling" 2013 *ASE/IEEE International Conference on Social Computing*. Washington, DC.

D. Darmon, J. Sylvester, M. Girvan and W. Rand, "Understanding the Predictive Power of Computational Mechanics and Echo State Networks in Social Media", Submitted to *ASE Human Journal*, 2013.

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

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

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

Synergistic Activities

- June 2014 Organizing Committee, Berkely California – Meeting title: NetSci 2014
- Jan 2012 Organizer, Baltimore, MD – Meeting title: Dynamics Days 2012
- Apr 2010 Organizer, University of Maryland – Meeting title: Nonlinear Dynamics of Networks
- Jan 2008 Organizer, Santa Fe Institute – Meeting title: Is There a Physics of Society?
- Jan 2007 Organizer, Santa Fe Institute – Meeting title: The Structure and Organization of Robust Systems

Collaborators in the last 48 months

Thomas Antonsen (UMD), Doug Erwin (Smithsonian Institution), Kimberly Glass (Dana Farber, Havard), Sridhar Hannenhalli (UMD), Carl Kingsford (Carnegie Mellon), Dan Larson (NIH), Wolfgang Losert (UMD), Ed Ott (UMD), Ole Peters (London Mathematical Laboraty), John Platig (Dana Farber, Harvard), A. Pomerance (Applied Signal Technology), Karl Schmitt (Valparaiso U), M. van Hecke (Leiden), Geoffrey West (Santa Fe Institute), J.A. Yorke (UMD), G.C. Yuan (Dana Farber, Harvard), Aleksey Zimin (UMD)

Graduate and Postdoctoral Advisors

Graduate advisor: Steven Strogatz (Cornell University)

Graduate and Postdoctoral Advisees

Mentored Postdoctoral fellows (total 2): Shane McCarthy (Cambridge), Mitch Mailman (FTI, Boston)

Mentored Graduate Students (total 9): Kimberly Glass (Dana Farber), Sanjeev Chauhan (U Tennessee), John Platig (Dana Farber, Harvard), Karl Schmitt (Valparaiso), Shane Squires (Intel), David Darmon (Uniformed Services University), Keith Burghardt (current), Simona Patange (current), Alexandra Pushkar (current)