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BIO

Dr. Lauren Meyers is a Professor of Integrative Biology and the Director of the Division of Statistics and Scientific Computation at The University of Texas at Austin (UT). Dr. Meyers received her B.A. degree in Mathematics and Philosophy from Harvard University in 1996 and Ph.D. in Biological Sciences at Stanford University in 2000. In 2004, the MIT Technology Review named Lauren as one of the top 100 global innovators under age 35 for her pioneering work in network-based modeling of infectious disease dynamics. She now leads a large interdisciplinary research team focused on the optimization of infectious disease surveillance systems and control policies, and the development of decision-support software for pandemic preparedness and response. Her research on the dynamics and control of diseases including influenza, SARS, HIV, walking pneumonia, and meningitis has been published in over 60 peer-reviewed publications and supported by NIH (MIDAS), NSF, CDC, Association of Public Health Labs, James S. McDonnell Foundation, and Texas Department of State Health Services. The Wall Street Journal, Newsweek, the BBC, and other news sources have highlighted her work, and a number of government agencies have sought Dr. Meyers's expertise, including the CDC, Biomedical Advanced Research and Development Authority (BARDA), and US National Intelligence Council.

EDUCATION

1991-1996 *Harvard University*: B.A., Magna cum laude, Mathematics & Philosophy
1996-2000 *Stanford University*: Ph.D. in Biological Sciences, Advisor: Marcus W. Feldman

ACADEMIC POSITIONS

2011- Full Professor, Integrative Biology, University of Texas at Austin (UT)
2011-2014 Director, Division of Statistics and Scientific Computation, UT
2007-2011 Associate Professor, Integrative Biology, UT
2008-2010 Associate Director, Division of Statistics and Scientific Computation, UT
2003-2007 Assistant Professor, Integrative Biology, UT
2003- External Faculty, Santa Fe Institute, Santa Fe, New Mexico
2000-2002 NSF Postdoctoral Fellow at *Emory University* (Advisor: Bruce Levin) and *Santa Fe Institute*

AWARDS & FELLOWSHIPS

- 2011-2013 William H. and Gladys G. Reeder Faculty Fellow, UT
- 2010-2011 Donald D. Harrington Faculty Fellowship, UT
- 2006-2010 Fellow, University of Texas Institute for Molecular and Cellular Biology
- 2005 College of Natural Sciences Teaching Excellence Award, UT
- 2004 MIT Technology Review TR100: One of 100 Top Global Innovators Under 35
- 2004 Austin Business Success Center Award for Technological Innovation
- 2000-2002 National Science Foundation Postdoctoral Fellowship in Biological Informatics
- 2000-2002 Santa Fe Institute Postdoctoral Fellowship
- 2000 Samuel Karlin Prize for Ph.D Thesis in Mathematical Biology
- 1999 Steinmetz Fellowship, Santa Fe Institute
- 1996-1999 National Defense Science & Engineering Graduate Fellowship
- 1991-1996 U.S. Congressional National Science Scholar

PUBLICATIONS

2014

- Scarpino, S.V., D.A. Levin and L.A. Meyers (in press) Polyploid formation shapes flowering plant diversity. *The American Naturalist*.
- Fitzpatrick M.C., K. Hampson, S. Cleaveland, I. Mzimhiri, F. Lankester, T. Lembo, L.A. Meyers, A.D. Paltiel and A.P. Galvani (2014) Cost-effectiveness of canine vaccination to prevent human rabies in rural Tanzania. *Ann Intern Med.* 160 (2) :91-100. PMID: 24592494
- Rushmore, J., D. Caillaud, R. Hall, R. Stumpf, L.A. Meyers, and S. Altizer (2014) Network-based vaccination improves prospects for disease control in wild chimpanzees. *Journal of the Royal Society Interface* 11: 20140349.
- Gilbert, J.A., L.A. Meyers, A.P. Galvani and J.P. Townsend (2014) Probabilistic uncertainty analysis of epidemiological modeling to guide public health intervention policy. *Epidemics* 6:37-45. Epub 2013 Nov 19. PMID: 24593920.

2013

- Caillaud, D., M.E. Craft and L.A. Meyers (2013) Epidemiological effects of group size variation in social species. *Journal of the Royal Society Interface* 10: 20130206.
- Ndeffo Mbah, M.L., J. Medlock, L.A. Meyers, A.P. Galvani, A.P., J.P. Townsend (2013) Optimal targeting of seasonal influenza vaccination toward younger ages is robust to parameter uncertainty. *Vaccine* 30: 3079-89. PMID: 23684837
- Ndeffo Mbah, M.L., E.F. Kjetland, K.E. Atkins, E.M. Poolman, E.W. Orenstein, L.A. Meyers, J.P. Townsend, A.P. Galvani (2013) Cost-effectiveness of a community-based intervention for reducing the transmission of *Schistosoma haematobium* and HIV in Africa. *Proc Natl Acad Sci U S A.* 19: 7952-7. PMID: 23589884.

Ndeffo Mbah ML, Poolman EM, Atkins KE, Orenstein EW, Meyers LA, Townsend JP and Galvani AP (2013) Potential Cost-Effectiveness of Schistosomiasis Treatment for Reducing HIV Transmission in Africa - The Case of Zimbabwean Women. *PLoS Negl Trop Dis*. 8:e2346. PMID: 23936578

Durham, D.P., M.L. Ndeffo Mbah, J. Medlock, P.M. Luz, L.A. Meyers, A.D. Paltiel, A.P. Galvani, A.P. (2013) Dengue dynamics and vaccine cost-effectiveness in Brazil. *Vaccine* 37: 3957-61. PMID: 23791696.

2012

Scarpino, S.V., N.B. Dimitrov, L.A. Meyers (2012) Optimizing Provider Recruitment for Influenza Surveillance Networks. *PLoS Computational Biology* 8: e1002472.

Bansal, S. and L.A. Meyers (2012) The impact of past epidemics on future disease dynamics. *Journal of Theoretical Biology* 309: 176-184.

Hladish, T.J., E. Melamud, L.A. Barrera, A. Galvani, L.A. Meyers (2012) EpiFire: An open source C++ library and application for contact network epidemiology. *BMC Bioinformatics* 13: 76.

Fitzpatrick M.C., K. Hampson, S. Cleaveland, L.A. Meyers, J.P. Townsend, A.P. Galvani (2012) Potential for Rabies Control through Dog Vaccination in Wildlife-Abundant Communities of Tanzania. *PLoS Neglected Tropical Diseases* 6(8): e1796.

Araz, O.M., P. Damien, D.A. Paltiel, S. Burke, B. van de Geijn, A. Galvani, L.A. Meyers (2012) Simulating school closure policies for cost effective pandemic decision making. *BMC Public Health* 12: 449.

Davoudi, B. J.C. Miller, R. Meza, L.A. Meyers, D.J.D. Earn, B. Pourbohloul (2012) Early Real-Time Estimation of the Basic Reproduction Number of Emerging Infectious Diseases. *Physical Review X* 2: 031005.

Azar, O.M., A. Galvani, L.A. Meyers (2012) Geographic prioritization of distributing pandemic influenza vaccines. *Health Care Management Science* DOI 10.1007/s10729-012-9199-6.

Benavides, J. P.D., Walsh, L.A. Meyers, M. Raymond, D. Caillaud (2012) Transmission of Infectious Diseases En Route to Habitat Hotspots. *PLoS ONE* 7(2): e31290.

Tekle, Y.I., K.M. Nielsen, J. Liu, M.M. Pettigrew, L.A. Meyers, A.P. Galvani and J.P. Townsend (2012) Controlling Antimicrobial Resistance through Targeted, Vaccine-Induced Replacement of Strains. *PLoS ONE* 7: e50688.

Mbah, M.L.N., J. Liu, C.T. Bauch, Y.I. Tekel, J. Medlock, L.A. Meyers, A.P. Galvani (2012) The impact of imitation versus rationality on vaccination behavior in social contact networks. *PLoS Computational Biology* 8(4): e1002469.

2011

Volz, E.M., J.C. Miller, A.P. Galvani, L.A. Meyers (2011) Effects of Heterogeneous and Clustered Contact Patterns on Infectious Disease Dynamics. *PLoS Computational Biology* 7: e1002042.

- Cornforth, D., T. Reluga, A. Galvani, C. Bauch, E. Shim, L.A. Meyers (2011) Erratic flu vaccination emerges from short-sighted behaviour in contact networks. *PLoS Computational Biology* 7: e1001062.
- Dimitrov, N., S. Goll, N. Hupert, B. Pourbohloul, L.A. Meyers (2011) Optimizing Tactics for use of the U.S. Antiviral Strategic National Stockpile for Pandemic Influenza. *PLoS ONE* 6: e16094.
- Conway et al. (L.A. Meyers 11th of 21 authors) (2011) Vaccination against 2009 pandemic H1N1 in a population dynamical model of Vancouver, Canada: timing is everything. *BMC Public Health* 11: 932.
- Li, M., G.B. Chapman, Y. Ibuka, L.A. Meyers, A.P. Galvani (2011) Who got vaccinated against H1N1 pandemic flu? A longitudinal study. *Psychology and Health*. DOI:10.1080/08870446.2011.554833.
- Wells, C., J.M. Tchenche, L.A. Meyers, A.P. Galvani, C.T. Bauch (2011) Impact of Imitation Processes on the Effectiveness of Ring Vaccination. *Bulletin of Mathematical Biology*. DOI 10.1007/s11538-011-9646-4.
- E. Shim, L.A. Meyers, A.P. Galvani. (2011) Optimal H1N1 vaccination strategies based on self-interest versus group interest. *BMC Public Health* 11(Suppl 1): S4.

2010

- Craft, M.E., E. Volz, C. Packer, L.A. Meyers (2010) Disease transmission in territorial populations: The small-world network of Serengeti lions. *Journal of the Royal Society Interface* 8: 776-786.
- Volz, E., S.D.W. Frost, R. Rothenberg, L.A. Meyers (2010) Epidemiological bridging by injection drug use drives an early HIV epidemic. *Epidemics* 2: 155-164.
- Bansal, S., J. Read, B. Pourbohloul, L.A. Meyers (2010) The dynamic nature of contact networks in infectious disease epidemiology. *Journal of Biological Dynamics* 4: 478-489.
- Dimitrov, N.B. and L.A. Meyers (2010) Mathematical Approaches to Infectious Disease Prediction and Control. J. J. Hasenbein, ed. *INFORMS TutORials in Operations Research* 7: 1-25.
- Ibuka, Y., G.B. Chapman, L.A. Meyers, M. Li, A.P. Galvani (2010) The dynamics of risk perceptions and precautionary behavior in response to 2009 (H1N1) pandemic influenza. *BMC Infectious Diseases* 10: 296.
- Bansal, S., B. Pourbohloul, N. Hupert, B. Grenfell, L.A. Meyers (2010) The Shifting Demographic Landscape of Pandemic Influenza. *PLoS ONE* 5: e9360. (Earlier version published on *PLoS Currents Influenza* (2009))

2009

- Medlock, J., L.A. Meyers, A. Galvani (2009) Optimizing allocation for a delayed influenza vaccination campaign. *PLoS Currents: Influenza*: RRN1134.
- Bansal, S., S. Khandelwal, L.A. Meyers (2009) Exploring Biological Network Structure with Clustered Random Networks. *BMC Bioinformatics* 10: 405.

Pourbohloul, B., A. Ahued, B. Davoudi, R. Meza, L.A. Meyers, et al. (2009) Initial human transmission dynamics of the pandemic (H1N1) 2009 virus in North America. *Influenza and other Respiratory Viruses* **3**: 215-222.

Craft, M.E., E. Volz, C. Packer, L.A. Meyers (2009) Distinguishing epidemic waves from disease spillover in a wildlife population. *Proceedings of the Royal Society B: Biological Sciences* **276**: 1777-1785.

2008

L.A. Meyers (2008) *Statistics Primer*. To accompany *Life: The Science of Biology*, Eighth Edition. Sinauer Associates.

Cowperthwaite, M.C., E.P. Economo, W.R. Harcombe, E.L. Miller, L.A. Meyers (2008) A Simple Rule Shapes Phenotype Evolution. *PLoS Computational Biology* **4**: e1000110.

Volz, E., L.A. Meyers (2008) Static network approximations and epidemic thresholds for a simple SIR model in dynamic contact networks. *Journal of the Royal Society Interface* **6**: 233-241.

2007

Volz, E., L.A. Meyers (2007) Susceptible–infected–recovered epidemics in dynamic contact networks. *Proceedings of the Royal Society B: Biological Sciences* **274**: 2925-2933.

Bansal, S., B.T. Grenfell, L.A. Meyers (2007) When individual behavior matters: homogeneous and network models in epidemiology. *Journal of the Royal Society Interface* **4**: 879-891.

Meyers, L.A. (2007) Contact network epidemiology: Bond percolation applied to infectious disease prediction and control. *Bulletin of the American Mathematical Society* **44**: 63-86.

Cowperthwaite, M., L.A. Meyers (2007) How mutational networks shape evolution: Lessons from RNA models. *Annual Review of Ecology, Evolution, and Systematics* **38**: 203-230.

2006

Bansal, S., B. Pourbohloul, L.A. Meyers (2006) A comparative analysis of influenza vaccination programs. *PLoS Medicine* **3**: e387.

Ferrari, M.J., S. Bansal, L.A. Meyers, O.N. Bjørnstad (2006) Network frailty and the geometry of herd immunity. *Proceedings of the Royal Society B: Biological Sciences* **273**: 2743-2748.

Meyers, L.A., M.E.J. Newman, B. Pourbohloul (2006) Predicting epidemics on directed contact networks. *Journal of Theoretical Biology* **240**: 400-418

Cowperthwaite, M., J.J. Bull, L.A. Meyers (2006) From bad to good: Fitness reversals and the ascent of deleterious mutations. *PLoS Computational Biology* **2**: e141.

Meyers, L.A., D.A. Levin (2006) On the abundance of polyploids in flowering plants. *Evolution* **60**: 1198-1206.

2005

Cowperthwaite, M., J.J. Bull, L.A. Meyers (2005) Distributions of beneficial fitness effects in RNA. *Genetics* **170**: 1449-1457.

Meyers, L.A., F. Ancel, M. Lachmann (2005) Evolution of genetic potential. *PLoS Computational Biology* **1**: 236-243.

Meyers, L.A., B. Pourbohloul¹, M.E.J. Newman, D.M. Skowronski, R.C. Brunham (2005) Network theory and SARS: Predicting outbreak diversity. *Journal of Theoretical Biology* **232**: 71-81.

Pourbohloul, B., L.A. Meyers¹, Kraiden, M., Patrick, D.M., Brunham, R.C. (2005) A quantitative comparison of control strategies for respiratory-borne pathogens. *Emerging Infectious Diseases* **11**: 1249-1256.

Bull, J.J., L.A. Meyers, M. Lachmann (2005) Quasispecies made simple. *PLoS Computational Biology* **1**: 450-460.

Meyers, L.A. (2005) Constraints on variation from genotype through phenotype to fitness, in “Variation: A Hierarchical Examination of a Central Concept in Biology” (B. Hallgrímsson and B. Hall, Eds.), Academic Press.

Meyers, L.A. and W. Fontana (2005) Evolutionary lock-in and the origin of modularity in RNA structure, in “Modularity – Understanding the Development and Evolution of Complex Natural Systems” (W. Callebaut and D. Rasskin-Gutman, Eds.), MIT Press.

2004

Meyers, L.A. (2004) Book review of Gerhard Schlosser and Günter Wagner (Eds.), “Modularity in Development and Evolution” *Science* **306**: 814-815.

Meyers, L.A. (2004) Book review of Bruce H. Weber and David J. Depew (Eds.), “Evolution and Learning: The Baldwin Effect Reconsidered” *American Journal of Human Biology* **16**: 495-496.

Meyers, L.A., J.F. Lee, M. Cowperthwaite, A.D. Ellington (2004) The robustness of naturally and artificially selected nucleic acid secondary structures. *Journal of Molecular Evolution* **58**: 681-691.

Lee, J.F., J.R. Hesselberth, L.A. Meyers, and A.D. Ellington (2004) Aptamer database. *Nucleic Acids Research*, **32**: D95-D100.

2003

Meyers, L.A., B.R. Levin, A.R. Richardson and I. Stojilkovic (2003) Epidemiology, hypermutation, within-host evolution and the virulence of *Neisseria meningitidis*. *Proceedings of the Royal Society B: Biological Sciences* **270**: 1667-1677.

¹ First two authors contributed equally.

Meyers, L.A., M.E.J. Newman, M. Martin and S. Schrag (2003) Applying network theory to epidemics: Control measures for *Mycoplasma pneumoniae* outbreaks. *Emerging Infectious Diseases* **9**: 204-210.

De Visser, J.A.G.M., J. Hermisson, G.P. Wagner, L.A. Meyers, et al. (2003) Perspective: Evolution and Detection of Genetic Robustness. *Evolution* **57**: 1959-1972.

2002

Meyers, L.A. and J.J. Bull (2002) Fighting change with change: adaptive variation in an uncertain world. *Trends in Ecology and Evolution* **17**: 551-557.

Prior to 2002 (Published under maiden name L.W. Ance)

Ance, L.W. and W. Fontana (2000) Plasticity, evolvability and modularity in RNA. *Journal of Experimental Zoology (Molecular and Developmental Evolution)* **288**: 242-283.

Ance, L.W. (2000) Undermining the Baldwin expediting effect: How phenotypic plasticity influences the rate of evolution. *Theoretical Population Biology*, **58**: 307-319.

Ance, L.W. (1999) A quantitative model of the Simpson-Baldwin effect. *Journal of Theoretical Biology* **196**: 197-209.

Ance, L.W. and M. W. Hero (1998) One-way intervals of circle maps. *Proceedings of the American Mathematical Society* **126**: 1191-1197.

Ance, L.W. (1992,94) National Security Agency Cryptologic Mathematics Papers: Three classified internal publications.

RESEARCH SUPPORT

CURRENT SUPPORT

NIH MIDAS, U01GM087719-01, "Impacts of Individual and Social Behavior on Influenza Dynamics and Control." \$2,986,225, 5/09-4/15 (PI, Multi-PI with A. Galvani)

Defense Threat Reduction Agency "Surety BioEvent App: BioEvent Surveillance, Detection and Prediction Leveraging Trusted NextGen Data Sources" \$2,986,225, 5/14-4/15 (Co-PI)

NSF Center Grant: "BEACON: An NSF Science and Technology Center for the Study of Evolution in Action." (BEACON is a consortium of universities led by Michigan State University with partner institutions of North Carolina A&T State University, the University of Idaho, The University of Texas at Austin, and the University of Washington. Meyers is one of five PI's at UT.) Total: \$25,000,000, Meyers share: \$95,744, 8/10-10/15

PRIOR SUPPORT:

Center for Disease Control and Prevention (CDC) and Association of Public Health Labs (APHL) "Evaluating and Optimizing the National Laboratory-Based Surveillance" \$150,000, 10/13-6/14 (PI)

Texas Department of State Health Services (DSHS) “Decision-support tool for Pandemic Influenza Allocation of Antiviral Stockpile” \$218,490, 11/13-6/14 (PI)

Center for Disease Control and Prevention (CDC) and Association of Public Health Labs (APHL) “Evaluating and Optimizing the National Laboratory-Based Surveillance” \$106,878, 10/12-9/13 (PI)

NSF, DEB-0749097, "The Spread and Evolution of Parasites on Host Networks." \$429,999, 9/08-8/13 (PI)

Texas Department of State Health Services (DSHS) “Pandemic Flu Decision-Support Toolkit for the State of Texas” \$546,505, 9/12-8/13 (PI)

NIH, 1R21DA024611-01A, “Combining empirical and theoretical network approaches to HIV transmission” \$345,277, 6/09-5/12 (Co-I)

James S. McDonnell Foundation Research Award, The Evolutionary and Epidemiological Potential of Pathogens. \$210,727 (direct costs), 01/07-1/11 (PI)

Texas Department of State Health Services (DSHS) “Quantitative Tools for Pandemic Flu Forecasting and Control.” \$262,534, 4/11-7/11 (PI)

Texas Department of State Health Services (DSHS) “Assessment of Texas Influenza Surveillance Program.” \$35,000, 8/09-7/10 (PI)

NSF, SES-0940071, “COLLABORATIVE RESEARCH: Dynamic Risk Perceptions about Mexican Swine Flu”, \$17,872, 7/09-6/10 (PI)

Canadian Institutes of Health Research (CIHR), Evaluation of Ontario’s Influenza Immunization Program. CAD\$1,099,808, 01/07-12/09 (Co-I)

Bill and Stephanie Sick Research Award, Quantitative Prediction and Control of Epidemics. \$100,000 (direct costs), 09/07-12/09 (PI)

Canadian Institutes of Health Research (CIHR) Mathematical modeling of pandemic influenza. CAD\$344,645, 09/06-08/09 (Co-I)

NSF, DEB-0445351, "Evolution, Conflict and Cooperation in Mixed-species Bacterial Communities." \$449,903, 3/05-2/09 (PI)

NSF, “ITR Collaborative Research: Building the Tree of Life - A National Resource for Phyloinformatics and Computational Phylogenetics” \$694,680, 9/03-8/08 (Co-PI)

Canadian Institutes of Health Research (CIHR), Public Health Preparedness for the Vancouver 2010 Olympic Games. CAD\$100,000, 4/06-3/07 (Co-I)

Canadian Institutes of Health Research (CIHR), “The spread and evolution of SARS coronaviruses through contact networks” CAD\$250,000, 7/04-12/05 (Co-PI)

NSF, DEB-0303636, “Evolving better biofilms: The dynamics of community-level natural selection in bacteria.” \$50,000, 2/03-1/04 (PI)

Canadian Institutes of Health Research (CIHR), “SARS: A Scientific Collaborative to Support Public Health Response through Vaccination.” CAD \$500,000, 5/03-3/04 (Co-I)

INTERVIEWS AND MEDIA EVENTS

- Interview regarding disease outbreaks in Texas immigrant populations: *KVUE* (2014)
- Interviews regarding Texas Pandemic Flu Toolkit (flu.tacc.utexas.edu): *Fox 7 Good Day Austin*, *KEYE morning news*, *Vaccine News Daily*, *The Alcade*, *UT Banner* (2012)
- Interviews relating to H1N1 (swine) flu pandemic: *Austin American Statesman*, *Dallas Morning News*, *KVUE evening news*, *KEYE evening news*, *KXAN morning news*, *Daily Texan*, *Santa Fe New Mexican* (2009-2010)
- Epidemiology research featured in *Slate.com* (February 2009)
- Radio interview, *She blinded me with science*, *KVRX Austin* (April 2008)
- Interviewed for LA Times article, *To protect us all, vaccinate school kids* (November 2006)
- Epidemiology research featured in Wall Street Journal article, *If We Must Ration Vaccines for a Flu, Who Calls the Shots?* (October 2006)
- Article describing ESI outreach lecture in *The Daily Texan* (April 2006)
- Epidemiology research featured in *Austin American Statesman*, *Professor uses a new math to predict disease spread*, Front page of metro section (April 2006)
- Paper on Genetic Potential (*PLoS Computational Biology*, 2005) receives coverage by *EurekAlert.com* (AAAS), *Iran Daily*, *BrightSurf.com* (August 2005)
- Epidemiology research featured in *MIT Technology Review*, *Technology Review 100* (October 2004)
- Epidemiology research featured in *Austin American Statesman* (September 2004)
- Epidemiology research featured in *National Review of Medicine* (June 2004)
- Epidemiology research featured in *Die Zeit* (February 2004)
- Epidemiology research featured in *Newsweek*, *The Battle Against Bugs Gets Serious* (January 2004)
- Television interview by Dan Robertson on *KXAN 36 News* (November 2003)
- Epidemiology research featured in *UT banner article*, *Predicting the Path of Infectious Diseases* (October 2003)
- Paper on Baldwin Effect (JTB, 1999) featured by Kevin Laland in *Nature* book review as “the best theoretical analysis of the Baldwin Effect” (September 2003)
- Epidemiology research featured by Clark Boyd on *NPR’s The World* (June 2003)
- Radio interview by Anita Anand on *BBC’s Five Live* (June 2003)
- Epidemiology research featured in *WIRED*, *Behind the Six Degrees of SARS*, (May 2003)

INVITED PRESENTATIONS

2014

- Speaker, *TedX Youth Conference*, Austin, Texas (February)
- Keynote, *Santa Fe Institute Workshop: Next Generation Surveillance for the Next Pandemic* (May)

2013

Public Lecture, Wisconsin Institute for Discovery, University of Wisconsin, (December)
<http://vimeo.com/84332584>

Speaker, 2nd International Conference on Digital Disease Detection, San Francisco, CA
(November)

Speaker, Centers for Disease Control and Prevention, Digital Surveillance Meeting, Atlanta,
GA (August)

Televised Lecture, Bill Gates Dedication of Gates Dell Computer Science Hall, The
University of Texas at Austin (March)
http://www.youtube.com/watch?feature=player_embedded&v=UOPWydeC6a0

Speaker and Panelist, Institute of Medicine Modeling Workshop, 2013 Public Health
Preparedness Summit, Atlanta, GA (March)

Morrison Institute Colloquium, Stanford University (February)

2012

Plenary, 2012 Annual meeting of the Society for Mathematical Biology Conference,
Knoxville, Tennessee (July)

Lecture, Texas Exes Alumni College (June)

Centers for Disease Control and Prevention, Influenza Units, Atlanta, Georgia (May)

Speaker, Santa Fe Institute 2012 Science Board and Board of Trustees Symposium (May)

Speaker, Institute of Medicine (IOM) Preparedness Forum, Washington, DC (April)

Ritchey Public Lecture, Weber State University Distinguished annual lecture for College of
Sciences (February)

Seminar, LBJ School, The University of Texas at Austin (February)

Game Changers, The University of Texas at Austin, Public lecture televised on Longhorn
Network (January)

2011

Seminar, Wireless Network & Communications Group, The University of Texas at Austin
(September)

MAA Invited Address, Mathematical Association of America MathFest 2011, Lexington,
Kentucky (August)

Symposium Presentation, Ecological Society of America Annual Meeting, Austin, Texas
(August)

Participant and presenter, Sci Foo Camp hosted by Nature, O'Reilly Media, and Google,
Mountain View, California (August)

Lecture, Texas Regional Collaborative (TRC) 17th Annual Meeting for K-12 STEM Educators (June)

Grand Rounds Presentation, Texas Department of State Health Services (DSHS) (May)

Lecture, Harrington Foundation Symposium, Amarillo, Texas (April)

Keynote Lecture, University of New Mexico Biology Research Day (March)

Seminar, Trinity University (February)

Lecture, City of Austin Pandemic Planning Group (February)

2010

Invited Lecture, INFORMS Annual Meeting, TutORials in Operations Research (November)

Invited Symposium Lecture, I² Integration and Innovation Public Health Preparedness Symposium, Texas Department of State Health Services (July)

Plenary Lecture, International Conference on Drug Development (February)

Seminar, Operations Research and Industrial Engineering Program, The University of Texas at Austin (February)

Public Lecture, Santa Fe Institute 2010 Public Lecture Series at the James A. Little Theater (January)

2009

Panelist, LBJ School of Public Affairs's Center for Health and Social Policy: Managing the H1N1 Virus: Immunizations Development and Distribution Policy, The University of Texas at Austin (December)

Lecture, Santa Fe Institute Annual Business Network and Board of Trustees' Symposium (November)

Public Lecture, Rice University (October)

Dean's Advisory Council, The University of Texas at Austin (October)

Seminar, University of Wisconsin-Milwaukee (August)

Seminar, BARDA: Biomedical Advanced Research and Development Authority, Washington, DC (July)

Conference speaker, MIDAS Network Meeting, Emory University (June)

Seminar, Rice University (February)

2008

Seminar, Cornell University (October)

Seminar, University of Pennsylvania (October)

Conference speaker, National Security Agency (June)

Seminar, University of Houston (April)

Seminar, University of Wisconsin, Milwaukee (April)

Goldschmidt Keynote Lecture, Texas Branch of the American Society for Microbiology Spring Meeting (March)

Seminar, Emory University (March)

Workshop speaker, Working Group on Efficient Wildlife Vaccination, National Center for Ecological Analysis and Synthesis (NCEAS) (March)

2007

Workshop speaker, Santa Fe Institute workshop on Models of Emergent Behavior in Complex Adaptive Systems (December)

Seminar, Yale University (November)

Carnegie Lecture, School of Journalism, University of Texas at Austin (November)

Workshop speaker, NIH Models of Infectious Disease Agent Study (MIDAS) Workshop on Representation of Microbial Evolution in Epidemic Models (November)

Conference lecture, Gordon Research Conference on Microbial Population Biology (July)

Special lecture, University of Texas Chancellor's Salon Series (April)

2006

Plenary speaker, NSF Theoretical Biology Workshop (October)

Invited Public Lecture, Cultural Life Program at Furman University (October)

Symposium lecture, Ecology Society of America Annual Meeting, Symposium on ecological and evolutionary processes in complex networks (August)

Seminar, Los Alamos National Laboratory (June)

Seminar, University of Tokyo, Department of Pure and Applied Sciences (May)

Symposium lecture, Frontiers in Dynamics: Physical and Biological Systems, 9th Tamura Symposium, Tokyo (May)

Seminar, Texas State University, Department of Mathematics (April)

Seminar, Lawrence Livermore National Labs, Los Alamos, New Mexico (April)

Seminar, University of Michigan, Bioinformatics Program (March)

Seminar, University of Maryland, Behavior, Evolution, Ecology and Systematics Department (March)

Intelligence briefing, National Intelligence Council, Science and Technology Expert Partnership, Infectious Disease Modeling Conference (March)

Seminar, Introduction to Mathematical Research Seminar, University of Texas (March)

Workshop lecture, Center for Discrete Mathematics and Theoretical Computer Science (DIMACS), Epidemiology and Evolution of Influenza Workshop (January)

Conference lecture, Special Session on Current Events, 2006 Joint Mathematics Meetings of the American Mathematics Society. This is a highly publicized session at the largest US mathematics meetings. Speakers are invited personally by the President of the American Mathematics Society (AMS) to present recent advances in exciting mathematical fields. (January)

2005

Symposium lecture, Spread of Pathogens of Social Animals with Particular Reference to the Morbilliviruses, Penn State University (November)

Keynote Address, Regional Finals, Siemens-Westinghouse Science and Mathematics Competition (November)

Seminar, Texas State University, Biology Department (November)

Conference lecture, 3rd Annual Ecology & Evolution of Infectious Disease Conference, Colorado State University (May)

Seminar, University of Minnesota, Ecology, Evolution, and Behavior Department (May)

Seminar, University of Texas, Non-linear Dynamics Seminar, Department of Physics (April)

Seminar, Introduction to Mathematical Research Seminar, University of Texas (April)

Seminar, University of Texas, Planets and Life Seminar, Astronomy Department (February)

Symposium lecture, Symposium on Network Science: Implications for Biology and Medicine, Peter Wall Institute for Advanced Studies, Vancouver, Canada (January)

2004

Seminar, University of Michigan, Center for the Study of Complex Systems (November)

Panelist, University of Texas, Freshman Women in Science Seminar (October)

Panelist, MIT Technology Review Emerging Technologies Conference (September)

Seminar, Los Alamos National Labs, Los Alamos, New Mexico (May)

Seminar, Introduction to Mathematical Research Seminar, University of Texas (April)

Special lecture, Mathematical Sciences Research Institutes (MSRI), Annual Meeting of Academic Sponsors (March)

Seminar, Brown University, Department of Ecology and Evolutionary Biology (February)

2003

Seminar, University of Texas Dean's Scholars Seminar (November)

Special lecture, Santa Fe Institute, Business Network and Board of Trustees Annual Meeting (November)

Seminar, Texas Department of Health (October)

Conference lecture, Gordon Research Conference on Evolutionary and Ecological Functional Genomics (August)

2002

Seminar, National Center for Genome Resources (NCGR) Santa Fe, New Mexico (May)

Session chair, *Workshop on the Evolution and Measurement of Robustness in Organisms*, Santa Fe Institute, Organizer: Günter Wagner (April)

Seminar, University of Arizona, Ecology and Evolutionary Biology Department (January)

2000

Conference lecture, *Modularity: Understanding the Development and Evolution of Complex Natural Systems*, Konrad Lorenz Institute for Evolution and Cognition Research, Austria (October)

1999

Seminar, Institute for Advanced Studies, Princeton, New Jersey (October)

EDUCATIONAL OUTREACH

Santa Fe Institute Short Course, Exploring Complex Networks (2013)

MathWorks: Texas State Honors Summer Math Camp, Texas State University: Student research project advisor and guest lecturer (2006, 2007, 2009, 2011, 2012)

AJA Elementary School Science Fair, judge (2010-2012) and keynote speaker (2010)

Blue Knot Austin Tech Initiative, Outreach lecture (2009)

Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), Taught short course on Network Theory in Infectious Diseases (2009)

Complex Systems Summer School, Santa Fe Institute, Lecture series (2002, 2007, 2009)

Saturday Morning Math Group, Interactive outreach lecture for junior high and high school students, University of Texas at Austin (April 2006)

University of Texas Environmental Science Institute, Hot Science – Cool Talks Outreach Lecture (April 2006)

Keynote Lecture, First Bytes computer science summer camp for high school girls, UT (2005)

Advisory Board, Cogito.org: Web Site for Exceptional Young Scientists and Mathematicians (2005-present)

Outreach Lecture, University of Texas LAMP: Learning Activities for Mature People (2004, 2007)

Crazy Science Extravaganza, UT: Developed an epidemiology learning activity for interactive elementary school science fair (2003, 2004)

Research Science Institute, M.I.T., Presented lecture series: “Mathematical Modeling in Evolution, Ecology and Epidemiology” (Summer 2002)

SERVICE

The Science Board, Santa Fe Institute, Santa Fe, New Mexico (2011-2014)

WORKSHOP ORGANIZER

Working groups: Quantitative Prediction and Control of Epidemics, Organized and directed six-person working group, Santa Fe Institute (February 2009)

Epidemics: International Conference on Infectious Disease Dynamics, Steering committee for international meeting (2008, 2009)

Network Models of Biological and Social Contagion, Organized and directed a 25-person working group (with Michelle Girvan), Center for Discrete Mathematics and Theoretical Computer Science (DIMACS), Rutgers, New Jersey (November 2008)

The Evolution of Gene Expression in Tissues, Organized and directed a 5-person working group (with Michael Lachmann), Santa Fe Institute (June 2006)

Network Robustness to Evolving Agents, Organized and directed an 8-person working group (with Tim Keitt), Santa Fe Institute (January 2005)

Evolvability and Robustness in Molecules and Microbes, Organized and directed 25-person international workshop (with Christopher Voigt and Frances Arnold), Santa Fe Institute (February 2002)

EDITORIAL POSITIONS

Faculty Member, Theoretical Ecology Section, *Faculty of 1000* (2009-present)

Associate Editor, *Epidemics* (2009-present)

Associate Editor, *PLoS Computational Biology* (2006-present)

Interdisciplinary Perspectives on Infectious Diseases

Associate Editor (2007-2011)

Lead Editor, Special Issue on *Network Perspectives on Infectious Disease Dynamics* (2010)

Associate Editor, *Statistical Communications in Infectious Diseases* (2009-2012)

Associate Editor, *Evolution* (2008-2010)

Associate Editor, *Journal of Molecular Evolution* (2004-2008)

Guest Editor, *PLoS Medicine* (2006)

UNIVERSITY SERVICE

Director (2011-2014), Associate Director (2008-2010), Division of Statistics and Scientific Computation (SSC): Building new research, teaching and service unit in statistics at UT. Since its inception in 2007, SSC has hired five new faculty and enlisted over 75 faculty members representing all colleges at UT; and we have developed over 40 new courses, a new Ph.D. program in statistics, two interdisciplinary undergraduate certificate programs and two graduate portfolio programs in statistics and scientific computation, a Graduate Student Fellows Program, a Distinguished Lecture Series, an Early Career Grant Development Program for junior faculty, a Summer Statistics Institute (annually since 2008), and full-time statistical consulting services.

Faculty Advisor, Undergraduate degree in Computational Biology (2008-2011)

Developed new degree plan in Computational Biology (2007-2008)

Advisory Committee, Institute for Cellular and Molecular Biology (2008-2011)

Elected Member, UT Faculty Council (2008-2010)

Faculty search committees: Committee chair, Director of Division of Statistics and Scientific Computation (2009-2010), Evolutionary and ecological genomics, Integrative Biology (2005-2006), Computational biology, Integrative Biology (2003-2004), Molecular evolution, Integrative Biology (2003-2004)

REFEREE & GRANT REVIEWER ACTIVITIES

Review panel, McDonnell Foundation Postdoctoral Fellowships (2011, 2012, 2013, 2014)

NSF review panel for Evolutionary Genetics (October 2006)

NIH review panel for Biomedical Information Science and Technology Initiative (BISTI) (March 2004)

Ad Hoc Grant Reviewer for NIH, NSF, Mardsen Fund, MITACS (2002-present)

Referee for numerous journals including American Journal of Epidemiology, American Naturalist, Biology Letters, Biological Reviews, Biosystems, Ecology Letters, Evolution, Genetics, Journal Theoretical Biology, Mathematical Biosciences, Nature, Nature Physics, OIKOS, Physics Letters A, PLoS Biology, PLoS Computational Biology, PLoS Medicine, Proceedings B, Science (1999-present)

TEACHING AND ADVISING

GRADUATE STUDENTS/POSTDOCS SUPERVISED

Masters students: Sherri Jones, Math (2004-05), Ashley Brown, Math (2006-08), Ruben Kubiak, Physics (2007-08), Sebastian Goll, Physics (2008-2010), Anurekha Ramakrishnan, Statistics (2011-2012), Courtney Chancellor, Computational Sciences Mathematics and Engineering (2011-2012)

Ph.D. students: Matthew Cowperthwaite, ICMB (2003-08), Shweta Bansal, CAM (2004-08), Eric Miller, EEB (2003-2010), Tom Hladish, EEB (2006-2012), Sam Scarpino, EEB (2007-2013), Eamon O’Dean, EEB (2008-2013), Kelly Pierce, EEB (2008-), Raj Balasubramanian, ECE (2009-), Amanda Perofsky, EEB (2011-), Spencer Fox, EEB (2013-)

Postdoctoral Associates: Sam Brown (2003-07), Robert Goldman (2006-08), Erik Volz (2006-07), Meggan Craft (2008-09), Ozgur Araz (2010-2011), Damien Caillaud (2009-2012), Alexander Gutfraind (2011-2012), Rosalind Eggo (2011-), Steve Bellan (2012-), Ravi Srinivasan (2013-)

COURSES TAUGHT (UNIVERSITY OF TEXAS AT AUSTIN)

<i>Semester</i>	<i>Course</i>	<i>Number of Students</i>	<i>Instructor Rating (out of 5)</i>	<i>Course Rating (out of 5)</i>
Fall 2003	BIO 318M, Biostatistics	62	4.8	4.2
Spring 2004	BIO384K, Evolutionary Model Systems	8	4.6	4.6

Fall 2004	BIO 384K, Evolution in Complex Biological Systems	6	4.8	4.6
Spring 2005	BIO 318M, Biostatistics	61	4.4	3.7
Fall 2005	BIO 318M, Biostatistics	31	4.8	4.4
Spring 2006	BIO 384K, Evolution and Selection of Communities	10	-	-
Fall 2006	BIO 318M, Biostatistics	55	4.6	4.2
Spring 2009	BIO 337, Introduction to Computational Biology	18	4.9	4.5
Spring 2010	BIO 384K, Modeling Infectious Disease Dynamics	8	4.0	4.0
Fall 2011	BIO 384K, Network Modeling in Biology	12	4.9	4.6
Spring 2013	UGS 302, Social Networks and Infectious Disease	18	4.6	3.9
Fall 2013	SSC 328M, Biostatistics	95	3.9	3.6