John Fricks

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School of Mathematical & Statistical Sciences
Arizona State University jfricks@asu.edu
Tempe, AZ 85281 http://johnfricks.org

Education

PhD (2004), MS (2003), Statistics. University of North Carolina, Chapel Hill.
Thesis Advisor: Amarjit Budhiraja.

MS(1999), Mathematics. Western Kentucky University.
Thesis Advisor: Randall Swift.

BM(1994), Music Performance. Western Kentucky University.

Professional Employment

Associate Professor (with tenure). August 2016-present
School of Mathematical and Statistical Sciences.
Arizona State University, Tempe.

Associate Professor (with tenure). July 2011-July 2016
Dept of Statistics.
Pennsylvania State University, University Park.

Assistant Professor. July 2005-June 2011
Dept of Statistics.
Pennsylvania State University, University Park.

Research Assistant Professor. August 2004-June 2005
Dept of Mathematics.
University of North Carolina, Chapel Hill.
Postdoctoral Mentor: Timothy Elston

Other Affiliations

Associated Faculty. January 2022-present
Simon A. Levin Mathematical, Computational,
and Modeling Sciences Center.
Arizona State University, Tempe.

Editorial Board. April 2023-present
Journal of Biological Dynamics.

Visiting Positions

Professeur Invité. September 2023-June 2024
Bordeaux Population Health/ISPED/SISTM team.
Université de Bordeaux.
Bordeaux, France.

Faculty Fellow. January 2010-May 2010
Statistical and Applied
Mathematical Sciences Institute.
Durham, NC.

Submitted for Publication

Quentin Clairon, John Fricks, and Mélanie Prague. Curve Registration For Non-Linear Mixed Effects Ordinary Differential Equations Models.

John Stockton and John Fricks. State-Space Modeling and Estimation for Motility Assay Experiments.

Manuscripts in Preparations

Huaishen Liu, Lauren Crow, and John Fricks. Estimation for Time Series Traces of Motor-Cargo Complexes.

Henrique Cheng and John Fricks. A Bayesian Approach to Estimation of ODE Models with Registration.

In Revision

Wilmer Martinez-Rivera and John Fricks (2024). Bayesian estimation of parameters from whole country annual measles cases using particle MCMC.

Jarrett Eshima, Taylor R. Pennington, Raiyan Choudhury, Jordan M. Garcia, John Fricks, and Barbara S. Smith (2024). Elevated expression of B4GALT6, GABRA1, GAD2, GLRA3, HTR2A, PCSK1, and SLC17A6 are postmortem markers for the ALS-Ox subtype.

Publications in Journals

Gene Hunt, Wilmer Martinez-Rivera, Melanie Hopkins, John Fricks, and Becket Sterner (2025). Using state space models to understand trait evolution in fossil lineages. *Paleobiology.*

Lifeng Han and John Fricks (2024). A Semi-Markov Approach to Study a Group of Kinesin Motors. *Bulletin of Mathematical Biology.* **86**, No. 15.

Lifeng Han, Changhan He, Huy Dinh, John Fricks, and Yang Kuang (2022). Learning Biological Dynamics From Spatio-Temporal Data by Gaussian Processes. *Bulletin of Mathematical Biology.* **85**, No. 7, 1-20.

Fatih Olmez, Peter R. Kramer, John Fricks, Deena Schmidt, and Janet Best (2021). Penalized Kolmogorov-Smirnov method to fit data sets with power law distribution over a bounded subinterval. *Journal of Statistical Computing and Simulation.* **91**, No. 8, 1524-1563.

Taylor Mae Zaniewski, Allison Marie Gicking, John Fricks, and William O Hancock (2020). The fast and superprocessive KIF1A predominately resides in a vulnerable one-head-bound state during its chemomechanical cycle. *Journal of Biological Chemistry.* **295**, No. 52, 17889-17903.

Joseph J. Klobusicky, John Fricks, and Peter R. Kramer (2020). Effective behavior of cooperative and nonidentical molecular motors. *Research in the Mathematical Sciences.* **7**, No. 4, 1-49.

Maria-Veronica Ciocanel, John Fricks, Peter R. Kramer, and Scott A. McKinley (2020). Renewal reward perspective on linear switching diffusion systems. *Bulletin of Mathematical Biology*. **82**, No. 10, 1-36.

Jarrett Eshima, Trenton J. Davis, Heather D. Bean, John Fricks, and Barbara S. Smith (2020). A Metabolomic Approach for Predicting Diurnal Changes in Cortisol. *Metabolites.* **10**, No. 5, Article no. 194.

Keith Mickolajczyk, Annan Cooke, Janak Jethva, John Fricks, and William Hancock (2019). Insights into kinesin-1 stepping from Brownian dynamics simulations and gold-nanoparticle tracking. *Biophysical Journal.* **117**, No. 2, 331-345.

Kirsten Eilertson, John Fricks, and Matthew Ferrari (2019). Estimation and prediction for a mechanistic model of measles transmission using particle filtering and maximum likelihood estimation. *Statistics in Medicine.* **38**, No. 21, 4146-4158.

Jarrett Eshima, Devika Krishnamurthy, John Stufken, Heather Bean, John Fricks, Christopher Plaisier, Stephanie Ong, Abigael Nachtsheim, Christopher Miranda, Trenton Davis, and Barbara Smith (2019). Monitoring changes in the healthy female metabolome across the menstrual cycle using GCxGC-TOFMS. *Journal of Chromatography B.* **1121**, 48-57.

Kazuka G. Ohashi, Lifeng Han, Brandon Mentley, Jiaxuan Wang, John Fricks, and William O. Hancock (2019). Load-dependent detachment kinetics play a key role in bidirectional cargo transport by kinesin and dynein. *Traffic.* **20**, No. 2, 284-294.

Jason Bernstein and John Fricks (2016). Analysis of Single Particle Diffusion with Transient Binding using Particle Filtering. *Journal of Theoretical Biology.* **401**, 109-121.

Joshua Goldstein, Murali Haran, Ivan Simeonov, John Fricks, and Francesca Chiaromonte (2015). An attraction-repulsion point process model for respiratory syncytial virus infections. *Biometrics.* **71**, No. 2, 376-385.

Gustavo Didier and John Fricks (2014). On Wavelet-based Simulation of Anomalous Diffusion. *Journal of Statistical Computation and Simulation.* **84**, No. 4, 697-723.

John Hughes, Shankar Sastry, William O. Hancock, and John Fricks (2013). Estimating Velocity for Processive Motor Proteins with Random Detachment. *Journal of Agricultural, Biological, and Environmental Statistics.* **18**, No. 2, 204-217.

Gustavo Didier, Scott A. McKinley, David B. Hill, and John Fricks (2012). Statistical Challenges in Microrheology. *Journal of Time Series Analysis.* **33**, No. 5, 724-743.

Emily Simons, Matthew Ferrari, John Fricks, Kathleen Wannemuehler, Abhijeet Anand, Tony Burton, and Peter Strebel (2012). Assessment of the 2010 global measles mortality reduction goal: results from a model of surveillance data. *The Lancet.* **379**, Issue 9832, 2173-2178.

Scott A. McKinley, Avanti Athreya, John Fricks, and Peter R. Kramer (2012). Asymptotic Analysis of Microtubule-based Transport by Multiple Identical Molecular Motors. *Journal of Theoretical Biology.* **305**, 54-69.

John Hughes, William O. Hancock, and John Fricks (2012). Kinesins with Extended Neck Linkers: A Chemomechanical Model for Variable-Length Stepping. *Bulletin of Mathematical Biology.* **74**, No. 5, 1066-1097.

Shi Chen, John Fricks, and Matthew Ferrari (2012). Tracking Measles Infection through Non-linear State Space Models. *Journal of the Royal Statistical Society, Series C.* **61**, No. 1, 117-134.

John Hughes and John Fricks (2011). A Mixture Model for Quantum Dot Images of Kinesin Motor Assays. *Biometrics*. **67**, No. 2, 588-595.

John Hughes, William O. Hancock, and John Fricks (2011). A Matrix Computational Approach to Kinesin Neck Linker Extension. *Journal of Theoretical Biology.* **269**, No. 1, 181-194.

Ivan Simeonov, Xiaoyan Gong, Oekyung Kim, Mary Poss, Francesca Chiaromonte, and John Fricks (2010). Exploratory Spatial Analysis of *in vitro* Respiratory Syncytial Virus Co-infections. *Viruses.* **2**, No. 12, 2782-2802.

Matthew L. Kutys, John Fricks, and William O. Hancock (2010). Monte Carlo Analysis of Neck Linker Extension in Kinesin Molecular Motors. *PLoS Computational Biology.* **6**, No. 11.

John Hughes, John Fricks, and William O. Hancock (2010). Likelihood Inference for Particle Location in Fluorescence Microscopy. *Annals of Applied Statistics.* **4**, No. 2, 830-848.

John Fricks, Lingxing Yao, Timothy Elston, and Gregory Forest (2009). Time-Domain Methods For Diffusive Transport In Soft Matter. *SIAM Journal on Applied Mathematics.* **69**, No. 5, pp. 1277-1308.

John Fricks, Hongyun Wang, and Timothy Elston (2006). A Numerical Algorithm for Investigating the Role of the Motor-cargo Linkage in Molecular Motor Driven Transport. *Journal of Theoretical Biology.* **239**, 33-48.

Amarjit Budhiraja and John Fricks (2006). Molecular Motors, Brownian Ratchets, and Reflected Diffusions. *Discrete and Continuous Dynamical Systems-B.* **6**, No. 4, 711-734.

John Fricks and Randall Swift (2001). A Stochastic Richardson's Arms Race Model. *The American Journal of Mathematical and Management Sciences.* **21**, 313-323.

Chapters in Refereed Volumes

John Fricks and Ephraim Hanks (2018). Chapter 11: Stochastic Population Models. *Integrated Population Biology And Modeling*. Handbook of Statistics, Vol 39, 405-442.

Other Publications

Emily Nguyen and Amanda Reeder (2017). A Comparison of Measles Vaccination Regimes in a Stochastic, Spatial SIR Model. *SIAM Undergraduate Research Online*, **10**, 137-158. (Served as sponsor/mentor for this work.)

Le Bao, John Fricks, and Murali Haran (2012). Comment on the Mechanistic Modeling and Inference for Cell Motility by Manolopoulou et al. *Journal of the American Statistical Association.* **107**, Issue 499, 869-871.

John Fricks (2007). Stochastic Processes and Models by David Stirzaker. *Journal of the American Statistical Association*, **101**, March 2007.

John Fricks (2004). Biomolecular Motors and Diffusion Ratchets. Doctoral Thesis. University of North Carolina, Chapel Hill.

John Fricks (1999). A Stochastic Analog to the Richardson's Arms Race Model. Master's Thesis. Western Kentucky University.

External Grants as Principal Investigator

Principal Investigator in a multi-PI team:
Fricks (ASU) William Hancock (PSU)
Peter Kramer (RPI) Scott McKinley (Tulane)
Bridging Understanding of Motor-Cargo Transport from Artificial to Cellular Systems. (R01GM122082)
DMS/NIGMS Initiative at the Interface of Bio. and Math. Sciences.
National Institutes of Health. September 2016-June 2021.
Total award amount: $1,597,000

Principal Investigator (with co-Investigator Gustavo Didier, Tulane)
Forward and Inverse Methods for Stochastic Models of Diffusing Particles in Complex Biofluids.
Army Research Office. August 2014-July 2017.
Total award amount: $355,000.

Principal Investigator (with co-Investigator Gustavo Didier, Tulane)
Statistical Inference and Stochastic Simulation for Microrheology.
Army Research Office. September 2012-June 2013.
Total award amount: $50,000.

Principal Investigator (with co-PI William Hancock, PSU)
Diffusion and Kinetics in Processive Molecular Motor. (DMS-0714939).
DMS/NIGMS Initiative at the Interface of Bio. and Math. Sciences.
National Science Foundation. September 2007-August 2013.
Total award amount: $567,000.

Principal Investigator.
Mathematical Sciences Postdoctoral Fellowship. (DMS-0403040).
National Science Foundation. August 2004-August 2007.
Total award amount: $108,000.

External Grants as co-Investigator

co-Investigator (with PI Barbara Smith, co-I Patrick Pirrotte, co-I Robert Browser)
Robust Subtype Markers for ALS Patient Stratification.
Army Research Office. July 2025-Present.
Total award amount: $962,713.

co-Investigator (with PI Beckett Sterner)
Dynamic Linear Modeling to Unlock New Tests of Directionality in Fossil Lineages.
John Templeton Foundation. December 2021 - August 2024.
Total award amount: $250,000.

co-Investigator (with PI Tony Huang, co-I Stephen Benkovic)
Validation of acoustic tweezers for single-cell analyses of purine metabolism. (R33EB019785)
National Institutes of Health. September 2014 - June 2017.
Total award amount: $359,000.

co-Investigator (with PI Matthew Ferrari, co-I Kirsten Eilertson)
Retrospective Impact Modeling for Measles Vaccination.
Global Alliance for Vaccines and Immunizations.
September 2014-December 2015.
Total award amount: $76,000.

Other Funding and Fellowships

Visiting Professorship 2023-2024.
Université de Bordeaux.
(A university-wide competition for awards.)
Total award amount: €46,800.

Faculty Fellowship 2012.
Penn State Institute for CyberScience.
Total award amount: $25,000.

Research Fellowship.
National Science Foundation
via Statistical and Applied Mathematical Sciences Institute.
January 2010-May 2010.
Total award amount: $14,746.

Invited Presentations

SIAM Annual Meeting.	Montréal. July 2025.
Tulane University.	New Orleans. November 2024.
ECMTB.	Toledo, Spain. July 2024.
Mathematical modelling of epi. dynamics workshop	Le Havre. June 2024.
SIAM-Life Science Meeting.	Portland, OR. June 2024.
Journées de Statistique, Bordeaux.	Bordeaux. May 2024.
Université de Bordeaux, Biostatistics.	Bordeaux. March 2024.
Lab. de Mathématiques et Modélisation dÉvry	Évry. March 2024.
INRIA.	Bordeaux. March 2024.
AMS Fall Southeastern Section.	Virtual. November 2021.
SMB 2021.	Virtual. June 2021.
University of Arizona.	Virtual. March 2020.
CLAPEM.	Mérida, Mexico. December 2019.
CMSA. Harvard University.	Cambridge, MA. November 2019.
SMB 2019.	Montréal, QC. July 2019.
Tulane University.	New Orleans, LA. February 2019.
COBIOVI. UNMSM.	Lima, Peru. December 2018.
Banff International Research Station.	Banff, Canada. November 2018.
Rensselaer Polytechnic Institute.	Troy, NY. September 2018.
Banff International Research Station-CMO	Oaxaca, Mexico. September 2017.
Universidad Nacional Mayor de San Marcos	Lima, Peru. August 2017.
SOLABIMA X	Cusco, Peru. August 2017.
IMACS Conference.	Athens, GA. April 2017.
University of Arizona.	Tucson, AZ. January 2017.
University of Arizona.	Tucson, AZ. October 2016.
Tulane University.	New Orleans, LA. October 2016.
SIAM-Life Sciences Meeting.	Boston, MA. July 2016.
Isaac Newton Institute.	Cambridge, UK. May 2016.
Oregon State University.	Corvallis, OR. March 2016.
Mathematical Biosciences Institute.	Columbus, OH. February 2016.
Arizona State University	Tempe, AZ. January 2016.
AMS 2015 Fall Eastern Section.	New Brunswick, NJ. November 2015.
University of Tennessee.	Knoxville, TN. October 2015.
IMACS Conference.	Athens, GA. April 2015.
ENAR.	Miami, FL. March 2015.
Old Dominion University.	Norfolk, VA. February 2015.
University of Virginia.	Charlottesville, VA. February 2015.
University of Rochester.	Rochester, NY. November 2014.

SIAM-Life Sciences Meeting.	Charlotte, NC. August 2014.
IMS Asian Pacific Rim Meeting.	Taipei, Taiwan. July 2014.
ENAR.	Baltimore, MD. March 2014.
George Mason University.	Fairfax, VA. January 2014.
University of Maryland, BC.	Baltimore, MD. November 2013.
University of Minnesota.	Minneapolis, MN. September 2013.
NOLTA.	Santa Fe, NM. September 2013.
European Meeting of Statisticians.	Budapest, Hungary. July 2013.
ENAR.	Orlando, FL March 2013.
SIAM Conference on CS&E.	Boston, MA. February 2013.
UMass, Boston.	Boston, MA. February 2013.
Tulane University.	New Orleans, LA. December 2012.
AMS Fall Southeastern Section.	New Orleans, LA. October 2012.
SIAM-Life Science Meeting.	San Diego, CA. August 2012.
SMB Annual Meetings.	Knoxville, TN. July 2012.
Iowa State University.	Ames, IA. May 2012.
Mathematical Biosciences Institute.	Columbus, OH. October 2011.
Sandia National Laboratory.	Albuquerque, NM. October, 2011.
Georg-August-Universität	Göttingen, Germany. September, 2011.
ICIAM.	Vancouver, BC. July 2011.
Rice University.	Houston, TX. May 2011.
University of Wisconsin.	Madison, WI. April 2011.
University of Florida.	Gainesville, FL. March 2011.
SAMSI.	Durham, NC. November 2010.
AMS 2010 Fall Western Section.	Los Angeles, CA. October 2010.
BEER.	Bloomington, Il. September 2010.
SIAM Life Science Conference.	Pittsburgh, PA. July 2010.
North Carolina State University.	Raleigh, NC. February 2010.
University of Virginia.	Charlottesville, VA. February 2010.
Banff International Research Station.	Banff, AB. January 2010.
AMS 2009 Fall Western Section.	Riverside, CA. November 2009.
SMB Annual Meeting.	Vancouver, BC. July 2009.
New College of Florida.	Sarasota, FL. November 2008.
SIAM Annual Meeting.	San Diego. July 2008.
University of Pittsburgh.	Pittsburgh, PA. November 2007.
Tulane University.	New Orleans, LA. November 2007.
SAMSI.	Durham, NC. September 2007.
Spring Research Conference.	Ames, IA. May 2007.
SAMSI.	Durham, NC. March 2007.
SMB/SIAM Life Sciences.	Raleigh, NC. August 2006.
SIAM Annual Meeting.	Boston. July 2006.
SIAM Annual Meeting.	New Orleans. July 2005.
SPA.	Santa Barbara, CA June 2005.
Pennsylvania State University.	University Park, PA. February 2004.
Iowa State University.	Ames, IA. February 2004.
Boston University.	Boston, MA. February 2004.
College of William and Mary.	Williamsburg, VA. January 2004.
Clemson University.	Clemson, SC. January 2004.

Expository Presentations & Outreach

Graduate School Forum.
REU Capstone Conference.
Mathematical Biosciences Institute.
Ohio State University. Columbus, OH. August 2015.

Stochastic Cell Biology: Molecular Motors I & II.
Escuela de Modelación y Métodos Numéricos 2012.
Summer School on Mathematical Modeling of Biological Systems:
From Molecules to Populations.
CIMAT. Guanajuato, México. June 2012.

Time Series and Stochastic Processes.
Astrostatistics Summer School.
Pennsylvania State University. University Park, PA. June 2008, June 2007

Graduate Mentoring

Thesis Advisor:

Huaishen Liu	PhD, Statistics Program, ASU. Current.
Antonio Campbell	PhD, Statistics Program, ASU. Current.
Diana Gonzalez	PhD, Statistics Program, ASU. Current.
John Stockton	PhD, Statistics Program, ASU. December 2025.
Henrique Cheng	PhD, Statistics Program, ASU. April 2024.
Wilmer Martinez Rivera	PhD, Statistics Program, ASU. August 2022.
Lauren Crow	PhD, Statistics Program, ASU. May 2021.
Lifeng Han	PhD, Applied Math Program, ASU. May 2020. (jointly with Yang Kuang)
Jason Bernstein	PhD, Dept of Statistics, PSU. August 2016. Initial Employment: Lawrence Livermore National Lab. MS, Dept of Statistics, PSU. May 2014.
Ivan Simeonov	PhD, Dept of Statistics, PSU. August 2012. (jointly w. Francesca Chiaromonte) Initial Employment: Travelers Insurance. MS, Dept of Statistics, PSU. December 2010.
John Hughes	PhD, Dept of Statistics, PSU. August 2011. (jointly w. Murali Haran) Initial Employment: Asst Prof (tenure-track) University of Minnesota. MS, Dept of Statistics, PSU. May 2009.

Doctoral Thesis Committee Member:

Samantha Brozak	PhD, Applied Math Program, ASU. April 2025.
En-ya Kuo	PhD, Applied Math Program, ASU. Current.
Jarrett Eshima	PhD, Biomedical Engineering, ASU. April 2024.
Camille Moyer	PhD, Applied Math Program, ASU. April 2024.
Bechir Amdouni	PhD, Applied Math Program, ASU. April 2024.
Atta Ullah	PhD, Applied Math Program, ASU. May 2024.
Esther Boyle	PhD, Statistics Program, ASU. Fall 2023.
Shuang Gu	PhD, Statistics Program, ASU. Summer 2023.
Queen Tollet	PhD, Applied Math Program, ASU. Summer 2023.
Salman Safdar	PhD, Applied Math Program, ASU. Spring 2023.
Shuman Luo	PhD, Electrical Engineering, ASU. Spring 2022.
Fei Cao	PhD, Applied Math Program, ASU. Spring 2022.
Kathryn Wifvat	PhD, Applied Math Program, ASU. Spring 2022.
Dylan Weber	PhD, Applied Math Program, ASU. Spring 2021.
Abigail Nachtsheim	PhD, Statistics Program, ASU. Summer 2020.
Danielle Brager	PhD, Applied Math Program, ASU. Summer 2020.
Sina Jazani	PhD, Physics, ASU. Summer 2020.
Reem Alghamadi	PhD, Statistics Program, ASU. Summer 2019.
Mario Giacomazzo	PhD, Statistics Program, ASU. Spring 2018.
Keith Mickolajczyk	PhD, Dept of Bioengineering, PSU.
Qingzhou Feng	PhD, Dept of Bioengineering, PSU.
Xiao Gan	PhD, Dept of Physics, PSU.
Geng-Yuan (Scott) Chen	PhD, Dept of Bioengineering, PSU.
James Russell	PhD, Dept of Statistics, PSU. Summer 2016.
Joshua Goldstein	PhD, Dept of Statistics, PSU. Fall 2015.
Saena Park	PhD, Dept of Statistics, PSU. Summer 2015.
Zhan Huang	PhD, Dept of Mathematics, PSU. Summer 2015.
Zhongyao Sun	PhD, Dept of Physics, PSU. Spring 2015.
Jessica Trail	PhD, Dept of Statistics, PSU. Fall 2014.
Lucia Tabacu	PhD, Dept of Statistics, PSU. Summer 2014.
Assieh Saadatpour-Moghaddam	PhD, Dept of Mathematics, PSU. Summer 2012.
Yanping Ma	PhD, Dept of Mathematics, PSU. Fall 2011.
Chen Shi	PhD, Dept of Entomology, PSU. Summer 2011.
Maral Amini	PhD, Civil & Environmental Engineering, PSU. Spring 2011.
Manlin Li	PhD, Dept of Mathematics, PSU. Spring 2010.
Angela Luis	PhD, Ecology Program, PSU. Spring 2010.
Van Cyr	PhD, Dept of Mathematics, PSU. Spring 2010.
Zhe “Bob” Zhang	PhD, Dept of Statistics, PSU. Spring 2007

Master Thesis Committee Member:

Michael Cullan	MS, Statistics, ASU. Fall 2018.
Tanya Myers	MS, Civil & Environmental Engineering, PSU. Spring 2009.

Undergraduate Mentoring

Independent Studies (ASU)

Simeon Berkley	Spring 2020
Wina Kurniawan	Spring 2019

Mentoring as part of MBI REU program:

Amanda Reeder	Norfolk State University. Summer 2015.
Emily Nguyen	Muhlenberg College. Summer 2015.

Honors Thesis Advisor:

Matthew Kutys	Dept of Bioengineering, PSU. May 2009. (mentored jointly w. William Hancock)

Honors Thesis Reader:

Mu-Chen Eric Li	Dept of Statistics, PSU. Spring 2013.

Independent Studies (Stat 496):

Han Wen	Spring 2015
Kelly Coughlin	Fall 2008 (mentored jointly w. Nicola Constanzino)
Theodore Villacorta	Spring 2008

Professional Activities & Service

Served as Referee:

- Journal of Theoretical Biology.
- The Astrophysical Journal.
- Journal of Mathematical Physics.
- Journal of Multivariate Analysis.
- SIAM Journal for Applied Mathematics.
- Biophysical Journal.
- Fluctuation and Noise Letters.
- Journal of Mathematical Biology.
- Statistics & Probability Letters.
- Journal of Computational Physics.
- PLOS Computational Biology.
- Journal of Chemical Information and Modeling.
- Nature Scientific Reports.
- Proceedings of Royal Society A.
- Journal of Statistical Software.
- Physical Review E.
- Applied Mathematics Letters.
- Nano Letters.
- JASA: Case Studies.
- Biostatistics.
- Nature Communications.
- Annals of Applied Statistics.
- Bulletin of Mathematical Biology.
- Journal of Molecular Modeling.
- Asian-European Journal of Mathematics.
- Ecology.
- Integrative Biology.
- Journal of Mathematical Biosciences and Engineering.

Grant Review:

National Institute of Health
National Science Foundation ($\times$ 4)
National Science and Engineering Research Council (Canada)
National Security Agency-American Mathematical Society

Membership in Professional Societies:

Institute of Mathematical Statistics	2003-present
Society for Industrial and Applied Mathematics	2003-present
Society for Mathematical Biology	2003-present

Service to the Profession:

Minisymposium Organizer.
Gaussian Processes and Inference for Dynamical Systems.
European Conference of Theoretical and Mathematical Biology, 2024.
Toledo, Spain.

Minisymposium co-Organizer.
Linking Single Particle Tracking Experiments to Stochastic Diffusion Models.
SIAM-Life Sciences/SIAM Annual Meeting 2016.
Boston, MA.

Co-Organizer.
CTW: Modeling and Inference from Single Molecule to Cells.
Mathematical Biosciences Institute.
Ohio State University. Columbus, OH. February 2016.

Session Organizer.
Statistics of Single Molecule Experiments.
European Meeting of Statisticians 2013.
Budapest, Hungary.

Minisymposium Organizer.
Minisymposium on Molecular Motors-I & II.
SIAM-Life Sciences/SIAM Annual Meeting 2010.
Pittsburgh, PA.

Member.
Student Paper Award Committee 2010.
ASA Section on Bayesian Statistical Science.

Organizing Committee.
Workshop on Molecular Motors, Neuron Models, and Epidemics on Network.
SAMSI. Durham, NC. April 2010.

Minisymposium Organizer.
Stochastic Dynamical Systems and Statistical Inference in Math. Biology.
SIAM-Life Sciences/SMB joint meeting 2006. Raleigh, NC.

Departmental Service (Arizona State):

Colloquium Chair	2024-current
SoMSS Executive Committee	2020-2022, 2024-current
University/College Senator	2021-2023
SoMSS Graduate Committee representing STP	2019-2021
Statistics Graduate Exam Committee	2018-2023
Statistics Hiring Committee	2017-2018
	2018-2019
	2019-2020 ($\times$ 2)
Applied Mathematics Hiring Committee	2024, 2025.
SoMSS Undergraduate Committee	2017-2019
Statistics Seminar Coordinator	2016-2018
Statistics Program Graduate Admissions	2016-2017, 2019-2021
Actuarial Science Hiring Committee	2016-2017

Departmental Service (Penn State):

Hiring Committee	2014-2015
Faculty liaison to Schreyer Honors College	2012-2016
Faculty liaison for departmental webpage	2012-2016
Promotion & Tenure Committee	2011-2016
Undergraduate Program Committee	2007-2012
(Assistant Chair, 2010-2012	
Acting Assistant Chair, 2007-2008)	
Undergraduate Statistics Club	2007-2012
(Faculty Sponsor)	
PhD Exam Committee	2007-2009
(Chair, 2008-2009)	
Graduate Admissions Committee	2006-2008, 2012-2016
Colloquium Committee	2006-2010
(Chair, 2006-2007)	
Social Committee	2005-2008
Library Committee	2005-2007
Master's Exam Committee	2005-2006, 2011-2013

Interdepartmental Service (Penn State):

Quantitative Infectious Disease Dynamics Hiring Committee	2009-2010
Joint Committee for Probability	2008-2009
(Mathematics and Statistics Depts)	
Ad Hoc Initiative for IBIOS Systems Biology Option	2005-2006

Teaching

Arizona State University:

STP 421	Probability Spring 2025, Fall 2025
STP 425	Stochastic Processes Fall 2016 , Spring 2021, Fall 2021, Fall 2024, Fall 2025
STP 427	Mathematical Statistics Fall 2017
STP 501	Theory of Statistics II: Distribution Theory Fall 2020, Fall 2021, Fall 2022
STP 502	Theory of Statistics II: Inference Spring 2017, Spring 2018, Spring 2019, Spring 2020, Spring 2026
STP 527	Statistical Large Sample Theory Spring 2018, Spring 2019
STP 598	Time Series Spring 2020
STP 598	Statistical Inference for Functional Data Fall 2020, Spring 2023, Spring 2025
APM 598	Survey of Statistics for Applied Mathematicians Fall 2022

Pennsylvania State University:

Stat 200H	Elementary Statistics (Honors section) Fall 2014
Stat/Math 414	Introduction to Probability Theory Spring 2015, Fall 2013, Spring 2011 (2 sections), Fall 2005
Stat/Math 415	Introduction to Mathematical Statistics Spring 2006
Stat/Math 416	Introduction to Stochastic Models Fall 2015, Spring 2014, Fall 2012, Spring 2012, Spring 2008, Fall 2007
Stat 440	Computational Statistics Spring 2015
Stat 463	Applied Time Series Analysis Fall 2007, Fall 2006
Stat 464	Applied Non-parametric Statistics Fall 2008
Stat 501	Regression Methods Fall 2015
Stat 510	Applied Time Series Analysis Fall 2010, Fall 2009, Fall 2009 (online), Spring 2009, Spring 2007
Stat 513	Statistical Theory I Fall 2013, Fall 2012, Fall 2011
Stat 514	Statistical Theory II Spring 2012, Spring 2013
Stat 596	Individual Studies Spring 2012, Fall 2011 w. Lucia Tabacu
Stat 597	Inference for Stochastic Processes Spring 2016
Stat 597	Stochastic Dynamics of the Living Cell Spring 2009

University of North Carolina:

Math 10	Algebra	
	Summer 2001, Summer 2000	
Math 30	Trigonometry and Analytic Geometry	
	Summer 2002	
Stat 31	Introduction to Statistics	
	Summer 2004, Spring 2001	

Western Kentucky University:

Math 55	Basic Algebra	
	Spring 1997, Fall 1996	
Math 100	Intermediate Algebra	
	Spring 1999, Fall 1998, Spring 1998, Fall 1997	

Other Employment & Awards (Pre-PhD)

Kenan Fellowship. January 2010-May 2010
The Graduate School.
University of North Carolina.
Total award amount: $42,000 plus tuition. Three years of full support.

Graduate Research Assistant. August 2003-May 2004
Virtual Lung Project.
Dept of Mathematics.
University of North Carolina.

Graduate Teaching Assistant. August 2000-May 2001, Summer 2004
Dept of Statistics.
University of North Carolina.

Instructor. Summers of 2000, 2001 and 2002
Summer Bridge Program.
Dept of Mathematics.
University of North Carolina.

Graduate Teaching Assistant. August 1997-May 1999
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Community College.
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Landahl Travel Scholarship.
Society of Mathematical Biology. 2003.

Outstanding Graduate Student.
Ogden College of Science. Western Kentucky University. 1999.

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