Meng Xu

CONTACT INFORMATION

Laboratory of Populations
Rockefeller University
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POSITION

Postdoctoral Associate, August 2011-Present

Laboratory of Populations, Rockefeller University, New York, NY

EDUCATION

Doctor of Philosophy, Mathematics, 2011

Department of Mathematics, University of Wyoming, Laramie, WY

- Dissertation: Stochastic Analysis and Nonlinear Filtering of Point Vortex Dynamics Subjected to Jump Noise.

Bachelor of Science, Mathematics, 2006

College of Mathematical Science, Shandong Normal University, Jinan, China

TEACHING EXPERIENCE

Lecturer, January 2007-May 2011

Department of Mathematics, University of Wyoming

- Calculus-I: Spring 2011
- Pre-Calculus: Fall 2009, Fall 2008
- College Algebra: Spring 2010, Spring 2008, Fall 2007, Summer 2007, Spring 2007

RESEARCH INTERESTS

Quantitative Ecology and Stochastic Processes

PUBLICATIONS

Xu, M., Schuster, W. S. F. and Cohen, J. E. (2013) Biological groupings and Taylor's law for tree species in a deciduous forest: Is Taylor's law a biological law or a statistical law? Submitted.

Cohen, J. E., Xu, M. and Brunborg, H. (2013) Taylor's law applies to spatial variation in a human population. *Genus*. **69**(1), 25-60.

Cohen, J. E., Xu, M. and Schuster, W. S. F. (2013) Stochastic multiplicative population growth predicts and interprets Taylor's power law of fluctuation scaling. *Proceedings of the Royal Society B: Biological Sciences*. **280**(1757), 20122955.

Cohen, J. E., Xu, M. and Schuster, W. S. F. (2012) Allometric scaling of population variance with mean body size is predicted from Taylor's law and density-mass allometry. *Proceedings of the National Academy of Sciences, U.S.A.* **109**(39), 15829-15834.

Sritharan, S. S. and Xu, M. (2012) Malliavin calculus and stochastic Lagrangian equation for two dimensional Navier-Stokes flows. To appear in the *Proceedings of the Seventh Seminar on Stochastic Analysis, Random Fields and Applications*, Ascona 2011.

Sritharan, S. S. and Xu, M. (2011) A stochastic Lagrangian particle model and nonlinear filtering for three dimensional Euler flow with jumps. *Communications on Stochastic Analysis* **5**(3), 565-583.

Sritharan, S. S. and Xu, M. (2010) Convergence of particle filtering method for nonlinear estimation of vortex dynamics. *Communications on Stochastic Analysis* **4**(3), 443-465.

Fernando, B. P. W., Sritharan, S. S. and Xu, M. (2010) A simple proof of global solvability of 2-d Navier-Stokes equations in unbounded domains. *Differential and Integral Equations* **23**(3-4), 223-235.

Invited Talks

Black Rock Forest Research Symposium. Black Rock Forest. Cornwall, NY. June 17, 2013.

AMS Fall Southeastern Section Meeting. Tulane University, New Orleans, LA. October 14, 2012.

AMS Spring Southeastern Section Meeting. University of South Florida, Tampa, FL. March 11, 2012.

SIAM Conference on Control and Its Applications. Baltimore, MD. July 27, 2011.

Joint Mathematics Meetings: AMS Special Session on Stochastic Analysis and Random Phenomena. New Orleans, LA. January 07, 2011.

Activities

Peer Reviewer
International Journal of Analysis, *Stochastic Models*, *Communications on Stochastic Analysis*, AMS *Mathematical Reviews*.

Mini-Symposium Organizer
Recent Advances in Computational and Stochastic Methods in Fluid Dynamics with Control and Estimations, 36th Annual SIAM Southeastern Atlantic Section Conference. University of Alabama in Huntsville, Huntsville, AL. March 24-25, 2012.

Undergraduate Research Mentor
Students: Nick Anderson (Math) and Stephen Bagley (Mechanical Engineering).
Project: Stability Analysis of Isentropic Gas Dynamics. University of Wyoming. Summer 2010.

Team Judge
UWYO Calculus Bowl Competition. National Mathematics Awareness Month. University of Wyoming. Spring 2007.

Teaching Workshop Participant
Ellbogen Center for Teaching and Learning, University of Wyoming
Operation of Classroom Technology, Spring 2010
Introduction to Online Course Platforms, Spring 2010
Effective Classroom Presentations, Fall 2009
Using Supplemental Online Courses to Enhance Teaching, Summer 2007

Skills

Computer Software: Microsoft Word, Excel, PowerPoint, Latex
Statistical Programming: MATLAB, JMP, Maple, R, SAS
Instructional Tools: WeBWorK, WebCT, Applet, Graphing Calculators

Honors and Awards

Outstanding Graduate Student in Research, Department of Mathematics, University of Wyoming, 2008

Best Oral Presentation in the 5th Graduate Student Symposium, Graduate School, University of Wyoming, 2007
Outstanding Graduation Thesis, College of Mathematical Science, Shandong Normal University, 2006

PROFESSIONAL MEMBERSHIP

American Mathematical Society
Institute of Mathematical Statistics
Society for Industrial and Applied Mathematics