

Jasmine Y. Foo

Brown University
Division of Applied Mathematics
Providence, RI 02912

jfoo@dam.brown.edu
401.863.3694 (office)
401.632.2546 (home)
www.dam.brown.edu/people/jfoo

Research interests

Uncertainty quantification, sensitivity analysis, stochastic galerkin/collocation methods, numerical analysis, computational mechanics, systems biology

Education

- **Brown University** Providence, RI
Ph.D candidate, Applied Mathematics
- **Brown University** Providence, RI
M.Sc., Applied Mathematics, 2005
- **Brown University** Providence, RI
B.Sc., Physics/Mathematics, 2002 with Honors

Work Experience

- Research assistant, Brown University Division of Applied Mathematics, under the direction of Professor George Karniadakis (2003-present)
- Research assistant, Lawrence Berkeley National Lab, Center for Computational Science and Engineering (Summer 2005)
- Undergraduate research assistant (senior thesis), Brown University Department of Physics, Experimental Cosmology Lab (2000-2002)
- NSF Research Experience for Undergraduates (REU) Program, University of Chicago Dept. of Physics and Astronomy, Enrico Fermi Institute (Summer 2001)
- NSF Research Experience for Undergraduates (REU) Program, Carnegie Institution of Washington, Department of Terrestrial Magnetism (Summer 2000)

Refereed Publications

- Foo, J., Wan, X., Karniadakis, G. 'A Multi-Element Probabilistic Collocation Method for PDEs with Parametric Uncertainty: Error Analysis and Simulation.' (submitted)
- Foo, J., Yosibash, Z., Karniadakis, G. 'Stochastic Simulation of Riser-Sections with Uncertain Measured Pressure Loads and/or Uncertain Material Properties.' *Computer Methods in Applied Mechanics and Engineering* (2007) Vol 196 : 4250-4271.
- Bell, J., Foo, J., and Garcia, A. 'Algorithm Refinement for the Stochastic Burgers Equation.' *Journal of Computational Physics* (2007) Vol 223:451-468.
- Lucor, D., Foo, J., and Karniadakis, G. 'Vortex mode selection of a rigid cylinder subject to VIV at low mass-damping.' *Journal of Fluids and Structures* (2005) Vol 20: 485-503.

- Lucor, D., Foo, J., and Karniadakis, G. ‘Vortex mode selection of a rigid cylinder subject to VIV at low mass-damping.’ Proceedings Flow Induced Vibrations. Eds. de Langre and Axisa. Ecole Polytechnique, Paris (2004).
- Lucor, D., Foo, J., and Karniadakis, G. ‘Correlation Length and Force Phasing of a Rigid Cylinder Subject to VIV of Fully Coupled Fluid Structure Interactions.’ IUTAM Symposium on Integrated Modeling. Eds. Benaroya, H., Weil, T. Dordrecht: Kluwer Academic Press, (2004) Vol. 75:187-199.

Conferences and Workshops

- Presented a poster entitled “Using the Multi-Element Probabilistic Collocation Method for Sensitivity Analysis in a Model of Cell Apoptosis” at the SIAM conference on Mathematics in Industry in Philadelphia, PA. (2007)
- Work presented on the “ h -convergence rates of MEPCM” at the 9th US National Congress on Computational Mechanics in San Francisco, CA. (2007)
- Participated in the SPDE workshop on advances and challenges in the solution of stochastic partial differential equations at Brown University, Providence, RI. (2006)
- Participated in the Summer School on Probabilistic and Analytical Perspectives, at the Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh, PA. (2006)
- Presented a talk on the “Multi-Element Probabilistic Collocation Method (MEPCM)” at the World Congress on Computational Mechanics in Los Angeles, CA. (2006)
- Participated in the 6th International Conference on Spectral and High Order Methods (ICOSAHOM) at Brown University, Providence, RI. (2004)
- Presented a talk on “Vortex-induced vibrations of flow past a rigid cylinder” at the annual APS Division of Fluid Dynamics meeting in Secaucus, New Jersey. (2003)
- Participated in the Texas Advanced Computing Center (TACC) Parallel Computing Workshop. (2003)
- Presented posters at the Department of Energy Computational Science Graduate Fellowship Annual Conferences. (2004-2007)

Teaching Experience

- Teaching Assistant for MA 20: Multivariable Calculus (Fall 2002)
- Teaching Assistant for AM 33: Methods of Applied Mathematics I (Fall 2006)
- Teaching Assistant for AM 34: Methods of Applied Mathematics II (Spring 2007)

Responsibilities included holding recitation sections (1 hour/wk), office hours (1-3 hrs/wk), guest lecturing and grading homeworks, projects and exams.

Awards/Travel Grants

- Jefferies Scholarship (2007-2008)

- DOE Computational Science Graduate Fellowship (2004-present)
- NSF VIGRE Graduate Fellowship (2003, declined)
- John A. Wilson Scholarship (1997-2001)
- SIAM Travel Award (2007)
- Travel award, Center for Nonlinear Analysis (CNA) Summer School (2006)

Computer Skills

- Languages: C, C++, Matlab, L^AT_EX, Fortran
- Operating Systems: Linux, Solaris, Windows

Professional Memberships

- American Mathematical Society (AMS)
- Society for Industrial and Applied Mathematics (SIAM)

Service

- Organizer and participant, Rose Whelan Society (a group for women in mathematics at Brown)
- Reviewer for the Journal of Computational Physics and the Journal of Fluids and Structures.
- Tutor/Mentor, Providence Youth in Action (a community center for public high school students)

Personal

- Citizenship: USA
- Date of Birth: May 11, 1982

References

Available upon request