Random Dynamical Systems

IMA Annual Thematic Program Workshop
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Organizers:
Kening Lu (Department of Mathematics, Brigham Young University)
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Description:
Theoretical development in nonlinear analysis, dynamics, and stochastic differential equations has been at the forefront of science progress in a vast number of areas. Environmental fluid dynamics, geophysical flows, climate dynamics, electronic and telecommunication systems, networks of neurons, genetics, physiology, and finance are just a few of the important fields being influenced. On the other hand, these areas of science and engineering are sources of interesting mathematical problems. This workshop will focus on nonlinear and random dynamics with applications to models in fluid flow, nonlinear waves, nonlinear optics, telecommunication, and related fields. Much of the analysis employed is based on the dynamical systems approach to stochastic differential equations, which is currently a very fruitful area of research and this will be a significant aspect of the purely mathematical part of the program.

Speakers:
Yuri Bakhtin (Georgia Institute of Technology)
Hakima Bessaih (University of Wyoming)
Peter Baxendale (University of Southern California)
Dirk Blömker (Universität Augsburg)
Lee DeVille (University of Illinois at Urbana-Champaign)
Charles Doering (University of Michigan)
Maria Garrido (University of Sevilla)
Wen Huang (University of Science and Technology of China)
Peter Imkeller (Humboldt-Universität)
Zeng Lian (University of Massachusetts)
Sergey Lototsky (University of Southern California)
John Mallet-Paret (Brown University)
Ilya Pavlyukevich (Friedrich-Schiller-Universität)
Shige Peng (Shandong University)
Michael Röckner (Universität Bielefeld)
Michael Scheutzow (TU Berlin)
Wenxian Shen (Auburn University)
Wilhelm Stannat (TU Berlin)
Eric Vanden-Eijnden (New York University)
Bixiang Wang (New Mexico Institute of Mining and Technology)
Tatiana Yarmola (University of Toronto)
Huaizhong Zhao (Loughborough University)