APPLICATIONS OF STOCHASTIC PARTIAL DIFFERENTIAL EQUATIONS

WORKSHOP AT THE MITTAG-LEFFLER INSTITUTE
November, 19-23, 2007

Titles of the talks

Robert Adler, Technion-Israel Institute of Technology, Israel
On quantifying shape, with two applications to stochastic processes

Rainer Buckdahn, Université de Bretagne Occidentale. France
Stochastic viscosity solution for SPDEs driven by a Brownian motion

Igor Chueshov, Kharkov University, Ukraine
Synchronization of a stochastic reaction-diffusion system on a thin two-layer domain

Ana Bela Cruzeiro, Instituto Superior Tecnico, Lisbon, Portugal
Non ergodicity of the Euler flow on the torus

Robert Dalang, Ecole Polytechnique Fédérale, Lausanne, Switzerland
Stopping an alpha-stable Lévy process as close as possible to its ultimate maximum in the unit interval

Giulia di Nunno, University of Oslo, Norway
Lévy random fields: stochastic differentiation

Boualem Djehiche, KTH, Sweden
A relaxed optimal control problem for nonlinear diffusions with application to bond portfolio choice

Fred Espen Benth, University of Oslo, Norway
Spatial risk in the financial markets for temperature

Eric Gautier, ENSAE, France
Persistence of solitons for the stochastic Korteweg-de Vries equation

Yaozhong Hu, University of Kansas, USA
Stochastic heat equation driven by fractional Brownian motion and intersection local time

Peter Imkeller, Humboldt Universität Berlin, Germany
Martingale optimality, BSDE and cross hedging of insurance derivatives.
Second lecture of a series of three on Simple SDE, SPDE, and BSDE models dealing with problems of climate dynamics and related risk

Torbjörn Kolsrud, KTH, Stockholm, Sweden
Noether's theorem for linear and nonlinear diffusion

Stig Larsson, Chalmers University, Sweden
Finite element approximation of parabolic stochastic PDEs

Antoine Lejay, Université Henry Poincaré, Nancy, France
Young integrals and SPDEs

Jorge León, Cinvestav-IPN, Mexico
Linear fractional differential equations

Christian Litterer, University College, Oxford, UK
Towards a high order method for non-linear filtering

Sergey Lototsky, University of Southern California, USA
Parameter estimation in diagonalizable bilinear stochastic parabolic equations

Salah Mohammed, Southern Illinois University, USA
A delayed option-pricing formula

Lluís Quer-Sardanyons, Universitat Autònoma de Barcelona, Spain
Existence and smoothness of the density for spatially homogeneous SPDEs

Carles Rovira, Universitat de Barcelona, Spain
On Itô's formula for elliptic diffusion processes

Francesco Russo, Université Paris 13, Villetaneuse, France
Infinite dimensional calculus via regularization and one application to mathematical finance

Mikael Signahl, University of Oslo, Norway
A stochastic NLSE with harmonic potential

Josef Teichmann, TU Wien, Austria
Natural OU-processes on Lie groups with applications to simulated annealing

Roger Tribe, Warwick University, UK
2-parameter phase diagram for a stochastic reaction diffusion system

Johan Tysk, Uppsala University, Sweden
The Black-Scholes equation and stochastic volatility

Esko Valkeila, Institute of Mathematics, Helsinki University of Technology, Finland

Approximation of geometric fractional Brownian motion

Lorenzo Zambotti, Université Paris 6, France
Quasi-invariance properties of gamma processes

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