DVR 0065528

Workshop on

"Stochastic Partial Differential Equations"

February 12 - 16, 2024

organized by

Sandra Cerrai (U of Maryland), Martin Hairer (Imperial College London), Carlo Marinelli (U College London), Eulalia Nualart (U Barcelona), Luca Scarpa (Politecnico Milano), Ulisse Stefanelli (U of Vienna)

- **Monday, February 12th, 2024**

  09:00 – 09:20 **Registration**

  09:20 – 09:30 **Opening**

  09:30 – 10:10 **Viorel Barbu (U Al.I.Cuza, Iasi)**
  Probabilistic representation of solutions to 2-D Navier-Stokes equations and weak uniqueness for the solutions to corresponding McKean-Vlasov SDEs

  10:15 – 10:45 **Coffee Break**

  10:45 – 11:25 **Mohammud Foondun (U Strathclyde, Glasgow)**
  Recent results on global existence and non existence of stochastic partial differential equations.

  11:30 – 12:10 **Carlo Orrieri (U Pavia)**
  Weak uniqueness by noise for some singular SPDEs

  12:15 – 14:00 **Lunch Break**

  14:00 – 14:40 **Erika Hausenblas (Montanuniversität Leoben)**
  A stochastic Schauder Theorem and biochemical nonlinear systems of SPDEs

  14:45 – 15:25 **Margherita Zanella (Politecnico Milano)**
  Ergodic results for the stochastic nonlinear Schrödinger equation with large damping.

  15:30 – 16:00 **Coffee Break**

  16:00 – 16:40 **Marco Bagnara (SNS Pisa)**
  A suitable nonlinear Stratonovich noise prevents blow-up in the Euler equations and other SPDEs.

- **Tuesday, February 13th, 2024**

  09:00 – 09:40 **István Gyöngy (U Edinburgh)**
  On parabolic SPDEs with singular coefficients

  09:45 – 10:25 **Benedetta Ferrario (U Pavia)**
  Invariant measures for a nonlinear Schrödinger equation

  10:30 – 11:00 **Coffee Break**

  11:00 – 11:40 **Kostantinos Dareiotis (U Leeds)**
  Regularisation of reaction-diffusion equations by multiplicative noise

  11:45 – 12:25 **Federica Masiero (U Milano-Bicocca)**
  Partial smoothing of the stochastic wave equation and regularization by noise phenomena

12:30 – 14:00 **Lunch Break**

14:00 – 14:40 **Giuseppina Guatteri (Politecnico Milano)**
Nonlinear Random Perturbations of PDEs and Quasi-Linear Kolmogorov Equations in Hilbert Spaces

14:45 – 15:25 **Paul Gassiat (Dauphine U, Paris)**
Gradient flow on control space with rough initial condition

15:30 – 16:00 **Coffee Break**

16:00 – 16:40 **Ivan Yaroslavtsev (U Hamburg)**
Weak L^p inequalities for stochastic integrals with respect to random measures

19:00 – 22:00 **Social Dinner**
Heuriger Schübel-Auer, https://www.schuebel-auer.at/

- **Wednesday, February 14th, 2024**

09:00 – 09:40 **Annie Millet (University Paris Sorbonnes)**
Rate of convergence of a time Euler scheme for a stochastic 2D Boussinesq equation

09:45 – 10:25 **Ansgar Jüngel (TU Vienna)**
Martingale solutions to stochastic cross-diffusion systems: A new regularization procedure

10:30 – 11:00 **Coffee Break**

11:00 – 11:40 **Martin Ondreját (Czech Academy of Sciences, Prague)**
Numerical approximation of the stochastic total variation flow

11:45 – 12:25 **Aleksandra Zimmermann (TU Clausthal)**
Well-posedness and Lewy-Stampaccia inequalities for nonlinear stochastic evolution equations

- **Thursday, February 15th, 2024**

09:00 – 09:40 **Sonja Cox (U Amsterdam)**
Infinite-dimensional Wishart processes

09:45 – 10:25 **Tusheng Zhang (U Manchester)**
Irreducibility and accessibility of SPDEs driven by pure jump noise

10:30 – 11:00 **Coffee Break**

11:00 – 11:40 **Hendrik Weber (U Münster)**
A priori bounds for subcritical fractional ϕ^4 on T^3

11:45 – 12:25 **Federico Cornalba (U Bath)**
Multilevel Monte Carlo methods for the Dean–Kawasaki equation from Fluctuating Hydrodynamics

12:30 – 14:00 **Lunch Break**

14:00 – 14:40 **Benjamin Gess (U of Bielefeld)**
Large deviations from porous media and gradient flow structures

14:45 – 15:25 **Antonio Agresti (TU Delft)**
Regularization by noise for systems of reaction-diffusion equations

15:30 – 16:00 **Coffee Break**

16:00 – 16:40 **Sergei Kuksin (U Paris-Diderot)**
Random perturbations of integrable systems: averaging and mixing

- **Friday, February 16th, 2024**

  09:00 – 09:40 **Peter K. Friz (TU Berlin)**
  Analyzing classes of SPDEs via RSDEs

  09:45 – 10:25 **Yuri Bakhtin (NYU, New York)**
  Differentiability of shape functions and effective Lagrangians

  10:30 – 11:00 **Coffee Break**

  11:00 – 11:40 **Ajay Chandra (Imperial College London)**
  A priori bounds for the generalised parabolic Anderson model

  11:45 – 12:25 **Michael Röckner (U of Bielefeld)**
  Nonlinear Fokker-Planck-Kolmogorov equations and nonlinear Markov processes

  12:30 – 12:35 **Closing**

All talks take place at ESI Boltzmann Lecture Hall!