

Leverhulme International Network:

Numerical and analytical solution of stochastic delay differential equations

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IWANASP 2011:

Fourth International Workshop on Analysis and Numerical Approximation of Singular Problems

Monday 5th September – Friday 9th September 2011

Best building, room CBB 115

PROGRAMME OF EVENTS

Monday 5th September

- 11:00-12:00 Registration and refreshments
- 12:00-13:30 Lunch
- 13:30-14:00 Welcome
- 14:00-15:00 Invited speaker: Doron Levy - *“Mathematical models of Leukaemia, cancer stem cells, and drug resistance”*
- 15:00-15:30 Break
- 15:30-16:30 Contributed talk: Rudolf Gorenflo - *“On the asymptotic universality of the Mittag-Leffler waiting time distribution”*
- 16:30-17:00 Contributed talk: Jason Roberts - *“Parametric sensitivity analysis of a mathematical model of the human bone remodelling process”*

- End of Monday talks -

Tuesday 6th September

- 09:30-10:30 Invited Speaker: Xuerong Mao - *“Stationary distribution of stochastic population systems and numerical methods”*
- 10:30-11:00 Contributed talk: Yubin Yan - *“A new von Neumann – type stability analysis for fractional partial differential equations”*

- 11:00-11:15 Short break
- 11:15-12:15 Invited Speaker: Chenggui Yuan - *“Harnack inequalities for functional SDEs with multiplicative noise and applications”*
- 12:15-13:30 Lunch
- 13:30-14:30 Invited Speaker: Sotirios Sabanis - *“Numerical approximation results for SDDEs”*
- 14:30-15:30 Invited Speaker: Uwe Küchler - *“Generalisations of the Hobson-Rogers model in mathematical finance”*
- 15:30-16:00 Break
- 16:00-17:00 Invited Speaker: Evelyn Buckwar - *“Interaction between non-normality and stochastic perturbation in linear systems”*
- End of Tuesday talks -
- 17:00-17:30 Early Registration for IWANASP

Wednesday 7th September

- 09:00-09:30 Registration for IWANASP
- 09:30-10:00 Welcome
- 10:00-11:00 Invited speaker: Igor Podlubny - *“Matrix approach: a general framework for numerical solution of differential equations of arbitrary real order”*
- 11:00-11:30 Contributed talk: Luisa Morgado - *“A prototype numerical approach for distributed-order differential equations as boundary value problems”*
- 11:30-12:00 Contributed talk: Pat Lumb - *“Forward-Backward Equations: A few more steps on our journey. Is the map of our route a ‘tree’ or a ‘forest’? Is it ‘simple’?”*
- 12:00-13:30 Lunch
- 13:30-14:00 Contributed talk: Magda Rebelo - *“Numerical methods for fractional boundary value problems”*
- 14:00-14:30 Featured Speaker: Pedro Lima - *“Analysis and numerical approximation of a singular boundary value problem for the degenerate p -laplacian”*
- 14:30-15:00 Contributed talk: Fathalla Rihan - *“Stiff delay differential equations in Biosciences”*
- 15:00-15:30 Break

- 15:30-16:30 Invited Speaker: Jan Sieber - *“Periodic problems in differential equations with state-dependent delay”*
- 16:30-17:00 Contributed talk: Enu Ekaka-a - *“Modelling mutualism: a mathematical model of plant species interactions in a harsh climate”*
- 17:00-17:30 Contributed talk: Kerli Orav-Puurand - *“Spline-collocation method for log-singular integral equations”*

- End of Wednesday talks -

Social event - Helsby Spice Meal

Thursday 8th September

- 09:30-10:30 Invited Speaker: Ewa Weinmüller - *“Numerical treatment of implicit singular BVPs in ODEs”*
- 10:30-11:00 Contributed talk: Jingyu Xiao - *“Product integration method and finite element method for fractional partial differential equations”*
- 11:00-11:15 Short break
- 11:15-12:15 Invited Speaker: Rudolf Gorenflo - *“Two pathways to subordination in time-fractional diffusion”*
- 12:15-13:30 Lunch
- 13:30-14:00 Contributed talk: Arvet Pedas - *“Numerical solution of integral equations with weak singularities”*
- 14:00-14:30 Contributed talk: Viktor Rukavishnikov - *“New approach for solving Maxwell equations with strong singularity”*
- 14:30-15:00 Contributed talk: Abdul Malique - *“Mathematical and numerical modelling of nerve axons”*
- 15:00-15:30 Break

- End of Thursday talks -

Social event - Suggested visit into Chester

Friday 9th September

- 09:30-10:30 Invited Speaker: Vincenzo Vespri - *“Asymptotic profile for solution of a class of singular parabolic equations”*
- 10:30-11:00 Tutorial – Sophy Thomas

- 11:00-11:15 Short break
- 11:15-12:15 Invited Speaker: Christopher Baker - *“Some issues in the stability and qualitative behaviour of solutions of evolutionary delay differential equations”*
- 12:15-13:30 Lunch
- 13:30-14:00 Contributed talk: Ishtiaq Ali - *“Numerical solution of integro-delay differential equations with weakly singular kernels using spectral methods”*
- 14:30-15:00 Contributed talk: Gennadi Vainikko - *“Differential equations with singularities and cordial Volterra integral equations”*
- 15:00-15:30 Break

- End of Friday talks -

Saturday 10th September

Social event – trip to North Wales