

Modern Topics in Nonlinear Kinetic Equations

to be held at the

University of Cambridge
Department of Applied Mathematics and Theoretical Physics (DAMTP)
Centre for Mathematical Sciences
Wilberforce Road, Cambridge
UK
Tel: +44 (0)1223 765000

In Meeting Room 15

April 20-22, 2009

Organised by:

Peter A Markowich
and the
Research Group 'Applied Partial Differential Equations'

<http://www.damtp.cam.ac.uk/group/apde/>

Sponsored by the ESF and KAUST

Monday 20 April

09.00–09.20	Registration
09.20–09.30	Peter Markowich (DAMTP) - Welcome
09.30-10.00	Shi Jin – (University of Wisconsin-Madison) An Eulerian Gaussian Beam Method for High Frequency Waves
10.00-10.30:	Claude Bardos (Paris 7) Different aspects of control theory for the Schrödinger equation
10.30-11.00:	Barbara Niethammer – (University of Oxford) A Kinetic Model for Grain Growth
11.00-11.30	Coffee Break
11.30-12.00	Adrien Blanchet (University of Toulouse) Critical mass for a Patlak-Keller-Segel model with degenerate Diffusion in higher dimensions In collaboration with Jose A. Carrillo and Philippe Laurençot
12.00-12.30	Juan Soler (University of Granada) Kinetic equations and nonlinear flux limited
12.30-14.00	Lunch Break
14.00-14.30	Jorge Zubelli – (IMPA, Brazil) Some inverse problems for kinetic equations
14.30-15.00	Nicola Bellomo – (Politecnico di Torino) On the Modelling Vehicular Traffic, Crowds, and Swarms -Complexity and Multiscale Issues
15.00-15.30	Francois Golse – (Ecole Polytechnique Paris) Compensated compactness and regularizing effects for hyperbolic conservation laws
15.30-16.00	Coffee Break
16.00-16.30	Christian Klein – (Université de Bourgogne) Semiclassical limit of the focusing NLS equation
16.30-17.00	Jose Carrillo – (Universitat Autònoma de Barcelona) Kinetic models for swarming

Tuesday April 21

- 09.30-10.00 Giuseppe Toscani – (University of Pavia)
Kinetic and Hydrodynamic Models of flocking Phenomena
- 10.00-10.30 Laurent Desvillettes – (ENS Cachan, France)
New estimates for coagulation-fragmentations problems
- 10.30-11.00 Giovanni Russo – (University of Catania)
Semilagrangian methods for the numerical solution of the BGK model of rarefied gas dynamics.
- 11.00-11.30 Coffee Break
- 11.30-12.00 Jean Dolbeault - (Université Paris Dauphine)
Hypo-coercivity for kinetic equations with linear relaxation terms
- 12.00-12.30 Norayr Matevosyan – (University of Cambridge)
Almost monotonicity formulas for elliptic and parabolic operators with variable coefficients
- 12.30-14.00 Lunch Break
- 14.00-14.30 Clement Mouhot – (CNRS & Université Paris-Dauphine)
TBA
- 14.30-15.00 Shigeru Takata – (Kyoto University)
Symmetry of the linearized Boltzmann equation
- 15.00-15.30 Axel Klar – (ITWM, Germany)
Fokker-Planck equations and stochastic models for fiber lay down in non-woven production
- 15.30-16.00 Coffee Break
- 16.00-16.30 Zhongyi Huang – (Tsinghua University)
Dynamics of BECs under Dipolar interaction
- 16.30-17.00 Christian Ringhofer – (Arizona State University)
Transport in narrow geometries under strong confinement

19.00 Emmanuel College, Drinks Reception followed by dinner at 19.30pm

Wednesday April 22

- 09.30-10.00 Ingenuin Gasser – (Universität Hamburg)
On Low Mach Number Flows: From Tunnel Fires to Solar
Updraft Towers
- 10.00-10.30 Bernt Wennberg – (Chalmers, Sweden)
TBA
- 10.30-11.00 Marcello Delitala – (Politecnico di Torino)
Modelling opinion formation
- 11.00-11.30 Coffee Break
- 11.30-12.00 Guillaume Dujardin – (University of Cambridge)
Long-time asymptotics for linear initial boundary value problems with
periodic boundary data on the half-line and on bounded intervals
- 12.00-12.30 Massimo Fornasier – (Johann Radon Institute for Computational and
Applied Mathematics)
Kinetic models for flocking
- 12.30-14.00 Lunch Break
- 14.00-14.30 Renjun Duan – (RICAM, Linz)
Global solutions of the Coupled Chemotaxis-Fluid Equations
- 14.30-15.00 Ester Gabetta – (University of Pavia)
Convergence to equilibrium for solutions of kinetic equations via the
Central Limit Theorem
- 15.00-15.30 Paolo Antonelli – (University of Cambridge)
Nonlinear Schrödinger equations with Dissipation
- 15.30-16.00 Coffee Break
- 16.00-16.30 Lorenzo Pareschi – (University of Ferrara, Italy)
Hydro guided Monte Carlo methods
- 16.30-17.00 Ansgar Juengel – (Technische Universität Wien)
Convex Sobolev inequalities and related Fokker-Planck
equations