"Nonlinear PDEs: Homogenization and Kinetic Equations", Vienna 26-30 June 2006

Conference Location: Kreiskyforum, Armbrustergasse 15, 1190 Vienna

Conference Programme

Monday, 26.6.2006

9.00 a.m.   Registration

9.30   Opening

9.45.10.15   Pierre DEGOND (CNRS/Université Paul Sabatier, Toulouse)
                 "Asymptotically stable methods for plasmas in the quasineutral limit"

10.15-10.45 Yoshio SONE (University Kyoto,Japan)
                 "Asymptotic Analysis of the Boltzmann System for Small Knudsen
                 Numbers and Ghost Effects in a gas in the continuum limit"

Coffeebreak 30 Minutes

11.15-11.45 Martin BURGER (Industrial Mathematics Institute/RICAM, Linz, Austria)
                 "Computational Metric Gradient Flows"

11.45.12.15 Piotr BILER (University Wroclaw, Poland)
                 "Radially symmetric solutions of a chemotaxis model in the critical case"

Lunchbreak 12.30-2.30 p.m.

Pauli-Kolloquium

2.25.2.30   Christian Schmeiser (WPI and University Vienna)

                 "Welcome – Mathematical Biology at the WPI"

2.30-3.30   Benoit PERTHAME (ENS, Paris, France)

                 "Population balance laws: the method of generalized entropy"

 3.30-4.00   Vic Small (IMBA, Vienna)
                 "The toolbox of moving cells: a feast for mathematical analysis?"

Coffee

Tuesday, 27.6.2006

9.30-10.00   Juan Luis VAZQUEZ (Universidad Autónoma de Madrid, Spain)
             "Measure-valued solutions in logarithmic diffusion equations"

10.00-10.30 Nader MASMOUDI (Courant Institute, NYC; USA)
             "Micro-macro models for polymeric flow"

Coffeebreak 30 Minutes

11.0.11.30   Anne-Laure Dallibard (CEREMADE, Université Paris Dauphine, France)
             "Homogenization of a quasilinear parabolic equation with vanishing
             viscosity"

11.30-12.00 Kazuo AOKI (Kyoto University, Japan)
             "Diffusion Models for Knudsen-type pumps"

12.0.12.30   Armando MAJORANA (Università di Catania, Italy)
             "A deterministic method for solving the Boltzmann equation"

Lunchbreak 12.30-2.00

2.0.2.30   Ester GABETTA (Università di Pavia, Italy)
             "Convergence in distribution of the velocity of a Kac molecule:
             A Central limit theorem approach"

2.30-3.00   Eugenio REGAZZINI (Università di Pavia, Italy)
             "Convergence in distribution of the velocity of a Kac molecule: rates and
             stability"

Coffeebreak 3.00-3.30

3.30-4.00   Marco DI FRANCESCO (Università L`Aquila, Italy)
             "Large Time Behaviour of Nonlocal Aggregation Models with Nonlinear
             Diffusion"

4.00-4.30   Seok-Bae YUN (Seoul National University, Korea)
             "Uniform L 1 Stability of the Boltzmann Equation Near a Local
             Maxwellian"

Wednesday, 28.6.2006

10.0.10.30   Giuseppe TOSCANI (Universitá di Pavia, Italy)
               "Self-Similarity and Power-like Tails in Nonconservative Kinetic Models"

10.30-11.00   Gregoire ALLAIRE (Ecole Polytechniques, Palaiseaux, France)
               "Localization for the Schrödinger equation in a locally periodic
               medium"

Coffeebreak 30 Minutes

11.30-12.00   Enrique ZUAZUA (Universidad Autonoma, Madrid, Spain)
               "Finite difference approximation of homogenization problems for elliptic
               equations"

12.0.12.30   Antoine MELLET (University of Texas at Austin, USA)
               "Homogenization of some free boundary problems"

Lunchbreak 12.30-2.30

2.30-3.00   Raffaele ESPOSITO (Università L`Aquila; Italy)
               "On the derivation of kinetic equations from quantum mechanics"

3.00-3.30   Christian RINGHOFER (Arizona State University, USA)
               "Quantum Monte Carlo methods based on a multi-scale approach"

Coffeebreak 30 minutes

4.0.4.30   Michael RASCLE (Université de Nice Sophia-Antipolis, Nice, France)
               "Macroscopic and Hybrid Modeling of junctions for second Order
               Models of the Traffic Flow"

4.30-5.00   Jorge ZUBELLI (IMPA; Rio de Janeiro, Brazil)
               "On the Asymptotics of Fast Mean-Reversion Stochastic Volatility
               Models in Finances"

Coffeebreak 30 minutes

5.30-6.00   Shu WANG (Bejing University of Technology, China)
               "Quasineutral limit of drift-diffusion models for
               semiconductors"

6.0.6.30   Christof SPARBER (University of Vienna)
               "Effective mass theorems for nonlinear Schrödinger equations"

7.30 RECEPTION

Thursday, 29.6.2006

10.00-10.30 David C. LEVERMORE **(**University of Maryland, College Park,USA)
            "Entropy-Based Closures of Nonlinear Stochastic Dynamics"

10.30.-11.00 Hailiang LIU (Iowa State University, USA)
            "Computing Multi-valued Solutions for Euler-Poisson Equations"

Coffeebreak 30 Minutes

11.30-12.00 Florian MEHATS (IRMAR, Univ. Rennes 1, France)
            "Time averaging for the strongly confined nonlinear Schrödinger
            equation"

12.0.12.30   Viktor GERASIMENKO (Kiev, Ukraine)
            "Mathematical problems of the derivation on nonlinear kinetic equations"

Lunchbreak 12.30-2.30

2.30-3.00   Weizhu BAO (National University of Singapure)
            "Dynamics of rotating Bose-Einstein condensates and their efficient and
            accurate numerical computation"

3.00-3.30   Fernando QUIROS (U. Autónoma de Madrid, Spain)
            "Asymptotic behaviour of the porous media equation in domains with
            holes"

3.30-4.00   Alexis F.VASSEUR (University of Texas at Austin, USA)
            "L^p estimates for quantities advected by a compressible flow"

Coffeebreak 30 Minutes

4.30-5.00   Christian KLEIN (MPG, Leipzig, Germany)
            "Numerical treatment of the small dispersion limit of Kortweg de Vries
            and Whitham equations"

5.0.5.30   Gulliaume BAL (Columbia University NYC; USA)
            "Kinetic models for waves in random media"

5.30-6.00   Massimo Fornasier (RICAM, Linz)
            "Variational methods, inpainting, and art restoration"

Friday, 30.6.2006

10.0.10.30   Eric CARLEN (Georgia Institute of Technology, Atlanta, USA)

"Entropy and Chaos in the KAC model"

10.30-11.00 Shigeru TAKATA (Kyoto University, Japan)
"Half-space problem of the nonlinear Boltzmann equation for weak evaporation and condensation of a binary mixture of vapore"

Coffeebreak 30 Minutes

11.30-12.00 Ansgar JÜNGEL (University Mainz, Germany)
„An algorithmic method for the derivation of a priori estimates for Nonlinear higher-order PDEs"

3.0.3.30 Maria C. CARVALHO (Universidade de Lisboa, Portugal)
"Droplet minimizers for free energy functionals with a liquid-vapor transition at the droplet formation threshold"

Lunchbreak 12.30-2.00

2.0.2.30 Antonio LEITAO (Federal University of St. Caterina, Florianopolis, Brazil)
"On inverse doping profile problems for the stationary VC map"

2.30-3.00 Fabio A.C.C. Chalub (Universidade Nova de Lisboa, Portugal)
"The continous Moran Process"

Coffeebreak 30 minutes

3.30-4.00 Rafael ORIVE (Universidad Autónoma de Madrid, Spain)
"Weakly non-linear long-time behaviour of solutions to a hyperbolic relaxation"