

Thursday 6 March 2008

09:00 09:50 Registration, hand out of the programme, get together of participants, coffee, tea, viennoiseries

Session 1: Introduction

Chair: Daniele Carati

09:50 10:00 *"Welcome address"*
Marc Henneaux (Brussels, Belgium)

10:00 10:15 *"Title to be announced"*
Representative of the Romanian Embassy

10:15 10:30 *"1958 - 2005: Reminiscences of a friend"*
Paul Vandenplas (ERM/KMS, Belgium)

10:30 10:45 *"Title to be announced"*
Yvan Capouet (European Commission, Brussels Belgium)

10:45 11:15 *Coffee break*

Session 2: Kinetic theory and stochastic processes - Part I

Chair: Marc Baus

11:15 11:40 *"Brownian motion: Early work of Radu Balescu in kinetic theory"*
Alkis Grecos (University of Thessaly, Greece)

11:40 12:05 *"Generalized Balescu Kinetic Equations"*
Slava Belyi (IZMIRAN, Russia)

12:05 12:30 *"Kinetic effects in small scale range of solar wind turbulence"*
Pierluigi Veltri (University of Calabria, Italy)

12:30 14:00 *Lunch*

Session 3: Instability and transport

Chair: Florin Spineanu

14:00 14:25 *"Diffusion regimes in Brownian motion induced by the Basset history force"*
Francesco Mainardi (University of Bologna, Italy)

14:25 14:50 *"Ablative Rayleigh-Taylor instability in Inertial Confinement Fusion"*
Paul Clavin (Université de Provence, France)

14:50 15:15 *"Recent Developments on the Theory of Instabilities in Differentially Rotating Magnetized Plasmas"*
Ricardo Galvão (CBPF, Brasil)

15:15 17:10 *Coffee break & Poster session*

Session 4: Kinetic theory and stochastic processes - Part II

Chair: Yves Pomeau

17:10 17:35 *"About a relation between the Brownian bridge stochastic process and the quantum unitary evolution"*
Léon Brenig (ULB, Belgium)

17:35 18:00 *"Quantum Kinetic Theory for artificial atoms"*
Michael Bonitz (University of Kiel, Germany)

20:00 *Banquet*

Friday 7 March 2008

Session 5: Fusion & tokamak physics

Chair: Boris Weysow

- 09:00 09:15 *"The Association EURATOM Belgian State and Radu Balescu: A tale of synergism"*
Roger Weynants (ERM/KMS, Belgium)
- 09:15 09:40 *"Prospects of fusion power"*
Hardo Bruhns (Universität Heidelberg, Germany)
- 09:40 10:05 *"Scale Invariance, Dimensional analysis and Tokamak Scaling Laws"*
Jack Connor (UKAEA, UK)
- 10:05 10:30 *"Contribution of reversed shear in reducing the anomalous transport in tokamak"*
Dennoun Saifaoui (Université Hassan II, Casablanca, Morocco)
- 10:30 11:00 *Coffee break*

Session 6: Transport phenomena

Chair: Gyorgy Steinbrecher

- 11:00 11:25 *"Understanding non-diffusive transport in fluid and gyro-kinetic simulations of magnetically confined, turbulent plasmas"*
Raul Sanchez (Oak Ridge National Laboratory, USA)
- 11:25 11:50 *"Stable and unstable invariant manifolds in a partially chaotic magnetic configuration generated by nonlinear reconnection"*
Theo Schep (Eindhoven University of Technology, The Netherlands)
- 11:50 12:15 *"Test modes on turbulent plasmas"*
Madalina Vlad (National Institute of Laser Plasmas and Radiation Physics, Romania)
- 12:15 14:00 *Lunch*

Session 7: Test particle transport & maps

Chair: Jacques Misguich

- 14:00 14:25 *"The interaction of two charges in a magnetic field"*
Robert MacKay (University of Warwick, UK)
- 14:25 14:50 *"Mappings for stochastic particle acceleration by a wave-field in a magnetic field"*
Sadrilla Abdullaev (Forschungszentrum Jülich GmbH, Germany)
- 14:50 15:15 *"The contribution of Radu Balescu to the study of perturbed magnetic fields in tokamaks using Hamiltonian description and mapping techniques"*
Dana Constantinescu (University of Craiova, Romania)
- 15:15 15:40 *"Stochastic Processes in Gyrotrons"*
Olgierd Dumbrajs (CSC, Finland)
- 15:40 16:10 *Coffee break*

Session 8: Fractional Kinetics and non-classical diffusion descriptions

Chair: Robert MacKay

- 16:10 16:35 *"Applications of Fractional Calculus to Equilibrium and Nonequilibrium Statistical Mechanics"*
Rudolf Hilfer (Universität Stuttgart, Germany)
- 16:35 17:00 *"Fractional diffusion models of non-diffusive transport in plasmas"*
Diego del-Castillo-Negrete (Oak Ridge National Laboratory, USA)
- 17:00 17:25 *"Anomalous diffusion in stochastic fields"*
Iulian Petrisor (University of Craiova, Romania)
- 17:25 17:50 *"Single-sweep methods for free energy calculations"*
Eric Vanden Eijnden (New York University, USA)

Saturday 8 March 2008

Session 9: Beyond Radu Balescu's legacy - Part I

Chair: Eric Vanden Eijnden

- 09:00 09:15 *"Radu Balescu and the history of the International Institutes for Physics and Chemistry, founded by Ernest Solvay"*
Franklin Lambert
- 09:15 09:40 *"Statistical mechanics with gravitational interaction"*
Yves Pomeau (CNLS, Los Alamos National Lab, USA)
- 09:40 10:05 *"Ion Density Perturbation in Turbulent Plasma with ICRH"*
Nicolae Pometescu (University of Craiova, Romania)
- 10:05 10:30 *"In line with Radu Balescu's legacy : A glimpse into the physics of negative index materials"*
Irina Veretennicoff (VUB, Belgium)
- 10:30 11:00 *Coffee break*

Session 10: Beyond Radu Balescu's legacy - Part II

Chair: Massimo Ottaviani

- 11:00 11:25 *"Boltzmann kinetic approach to turbulence modeling"*
Sauro Succi (University of Roma, Italy)
- 11:25 11:50 *"Quasilinear limit for particle motion in electrostatic wavefield: A stochastic differential equation approach"*
Yves Elskens (Université de Provence, France)
- 11:50 12:15 *"Extragalactic jets with helical magnetic fields: relativistic MHD simulations"*
Rony Keppens (KUL, Belgium)
- 12:15 12:40 *"Equilibrium properties of the Smoothed Particle Hydrodynamic (SPH) description of Euler fluids"*
Boris Weysow (ULB, Belgium)
- 12:40 13:00 *Closing remarks and words of gratitude*
Chair