

**First Workshop, June 1- June 6**  
**Tentative Program, as of May 30, 2006**

There will be two types of lectures: A two hour morning overview lecture. First lecture 9:30-10:30, break for discussion and coffee 10:30 -11:15, Second lecture 11:15-12:15.

Juerg Fröhlich, Benjamin Schlein, Herbert Spohn and Clement Mouhot have agreed to give the two hour lectures. Jean Dolbeault is still tentative.

There will be three 45 minutes lectures in the afternoon, the first from 2-2:45, the second from 3-3:45 and the third from 4-4:45.

**JUNE 1:**

Morning: Clement Mouhot (CEREMADE), “An overview of recent advances and perspectives for the mathematical theory of granular media”.

Afternoon:

Laurent Desvillettes (Cachan): “Large time asymptotics of the spatially inhomogeneous Aizenmann-Bak model”

Christof Sparber (Wien): “Adiabatic description of piezoelectricity”

Mathieu Levin (Cergy-Pontoise): “Existence of atoms and molecules in the mean-field approximation of no-photon QED”

**JUNE 2:**

Morning: Herbert Spohn (München) “Kinetic theory of weakly nonlinear wave equations”.

Afternoon:

Jani Lukkarinen (München): “Kinetic limit for wave propagation in a harmonic crystal with small random mass perturbations”

Geoffrey Sewell (London): “Construction of Quantum Models that provide a Hydrodynamic Picture of Nonequilibrium Steady States”

Shi Jin (Wisconsin): “On Hamiltonian Systems and Liouville Equations with Discontinuous Hamiltonians”

**JUNE 3:**

Morning: Benjamin Schlein (Harvard), “Derivation of macroscopic evolution equations from many body quantum dynamics: an overview of recent results”

Afternoon:

Jan Dereziński (Warszawa): Homogeneous interacting Bose gas and its excitation spectrum

Anton Arnold (Wien): “Quantum-kinetik Fokker-Planck equations: global-in-time solutions and dispersive effects”

Robert Seiringer (Princeton): “Derivation of the Gross-Pitaevskii Equation for Rotating Bose Gases”

#### **JUNE 4:**

**9:30-10:15** Riccardo Adami (Rome): “A simple many-body system for the study of the quantum decoherence”

**10:30-11:15** Sergei Morozov (München): “On the Many-Particle Brown-Ravenhall Operator”

**11:30-12:15** Stephane de Bievre (Lille): “The Unruh effect revisited”

#### **JUNE 5:**

**9:30-10:15** Irene Gamba (Texas): “Self-similar Asymptotics for generalized non-linear models of Boltzmann-Maxwell type”

**10:30-11:15** Christian Jaekel (Talca): “The  $P(\Phi)_2$  model on the de Sitter space”

**11:30-12:15** Thomas Chen (Princeton): Coherent infrared representations and mass renormalization in non-relativistic QED

**2:00 - 3:00, 3:45- 4:45** Jean Dolbeault (CEREMADE) “Entropies in kinetic and nonlinear diffusion equations”

#### **JUNE 6:**

Morning:

**9:30-10:30, 11:15-12:15** Juerg Fröhlich (Zürich) “Status of the Fundamental Laws of Thermodynamics” and “Atomism and Quantization”

Afternoon:

**2:00 - 2:45** Alessandro Pizzo (Zürich): “Infrared-Finite algorithms in QED”