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Fakultät f. Mathematik, Universität Wien
Wolfgang Pauli Institut & Inst. CNRS Pauli
Oskar Morgensternplatz 1 A-1090 Wien

18. PAULI KOLLOQUIUM,   jointly with

KOLLOQUIUM der Fakultät für MATHEMATIK

The **Fakultät für Mathematik** and the **Wolfgang Pauli Institut / Institut CNRS Pauli,** and the FWF Doktoratskolleg „Dissipation and Dispersion in Nonlinear PDEs" and the FWF SpezialforschungsBereich "Taming Complexity in PDE Systems" kindly invite you to the talk of **Laure SAINT-RAYMOND**

Time: **Wednesday, 21. June 2017, 16:15 – 17:15**

Place: **„Sky Lounge", Oskar-Morgenstern-Platz 1, 1090 Wien**

1)   *15.45 – 16.15 Uhr*
   Coffee & Cake

2)   *16.15 – 17.15 Uhr*

Laure Saint Raymond (ENS Lyon)

"Propagation of chaos and irreversibility in gas dynamics"

Abstract: I will review various contributions on the fundamental work of Lanford deriving the Boltzmann equation from hard-sphere dynamics in the low density limit. I will focus especially on the assumptions made on the initial data and on how they encode irreversibility. We will see that the impossibility to reverse time in the Boltzmann equation (expressed for instance by Boltzmann's H-theorem) is related to the lack of convergence of higher order marginals on some singular sets.

Radu Bot   **Norbert J Mauser**
(Vice-Dean of research, Fak. Math)   (director WPI & ICP)

Laure St. Raymond (ENS Lyon)

http://www.umpa.ens-lyon.fr/umpa/annuaire/saint-raymond-laure

Short Biography:

Laure Saint-Raymond received her doctorate from the Université Paris 6 "Pierre and Marie Curie" in 1990, directed by F. Golse. Her large field of research interests in analysis and nonlinear partial differential equations focuses on fluid mechanics, plasma and gaz dynamics e.g. described by the Boltzmann equation. Her work on the derivation of "macroscopic" Navier-Stokes equations from "microscopic" kinetic equations yielded breakthrough results on this "6th problem of Hilbert".

Laure Saint-Raymond, mother of 6, has been 2 years "chargée de recherche" of the CNRS and then became professor at the age of 27 at the University "Pierre et Marie Curie" and at the DMA (Département de Mathématiques et Applications) of the ENS rue d'Ulm, before recently moving to ENS Lyon. As a brilliant analyst she received numerous awards, e.g. the prize of the EMS (European Mathematical Society) the Prix Irène Joliot-Curie, the Prix Fermat. Also, at the age of 39 in 2013 she became the "benjamine" of the French Académie des Sciences.