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## 14. 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“ kindly invite you to the talk of **Pierre-Louis LIONS**

**Time: Wednesday, 26. March 2014, 16:15 – 17:15**

**Place: “Sky Lounge”, Oskar-Morgenstern-Platz 1, 1090 Wien**

1) *15.45 – 16.15 Uhr*  
Coffee & Cake

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2) *16.15 – 17.15 Uhr*

**Pierre-Louis Lions** (Collège de France)

**“Defects, singularities and asymptotic profiles”**

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**Christian Krattenthaler**  
(Vize-Dekan Fak. Math.)

**Norbert J Mauser**  
(Director WPI & ICP)

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**Pierre-Louis Lions** (Collège de France)

<http://www.college-de-france.fr/site/en-pierre-louis-lions/>

**Title** : "Defects, singularities and asymptotic profiles"

**Abstract:**

We present in this talk a systematic approach to the determination of the local properties of solutions for PDE models involving defects or singularities or interfaces.

**Short Biography:** Pierre-Louis Lions received his doctorate from the [Université Paris 6 “Pierre and Marie Curie”](#) in 1979, directed by H. Brezis. His large field of research interests around the theory of nonlinear [partial differential equations](#) ranges from (quantum) physics, fluid mechanics to mathematics of economy and finance. Lions, together with R. DiPerna, was the first to prove global (renormalized) solutions to the [Boltzmann equation](#). In 1994 he received the [Fields Medal](#). Other awards Lions received include the IBM Prize in 1987 and the Philip Morris Prize in 1991. He is a doctor honoris causa of Heriot-Watt University (Edinburgh) and of the City University of Hong-Kong. He is member of the Académie de sciences and Officier de la Légion d'Honneur. Currently, he holds the chair of [Partial differential equations and their applications](#) at the prestigious [Collège de France](#) in Paris as well as a position at the [CEREMADE](#) at Université Paris 9 “Dauphine” and at [Ecole Polytechnique](#). In the paper "viscosity solutions of Hamilton-Jacobi equations", with M. Crandall, he introduced the notion of [viscosity solutions](#). Another key technique developed by Lions is “concentration compactness”; he introduced certain measures to handle the concentrations, including the Wigner measure. Currently he is interested e.g. in “mean field games” in mathematical finance. He is on the editorial board of around 25 international journals. His enormous impact on mathematics is enhanced by the school of his PhD students, starting from M. Esteban and B. Perthame and including C. Villani, his participation in European projects (like the [HYKE network](#)) and his activity in boards both in industry and academic research (including the board of the WPI).

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