

**Des équations aux dérivées partielles au calcul scientifique**  
**Congrès en l'honneur de Luc Tartar**  
**à l'occasion de son soixantième anniversaire**  
**Paris, Ancienne École Polytechnique, 2–6 juillet 2007**

**Programme**

**Lundi 2 juillet / Monday, July 2**

- 09:30 – 10:00 Séance inaugurale / Opening session  
10:00 – 10:30 Pause café / Coffee break  
10:30 – 11:25 Pierre-Louis Lions (Collège de France)  
Mean field games  
11:30 – 12:25 Constantine Dafermos (Brown University)  
Hyperbolic balance laws with dissipation  
14:30 – 15:25 Didier Smets (Université Pierre et Marie Curie Paris VI)  
Heat flow versus Schrödinger flow for the Ginzburg-Landau energy  
in two dimensions  
15:30 – 16:25 Giovanni Alberti (Università di Pisa)  
Structure of null sets in Euclidean spaces: results and open problems  
16:30 – 17:00 Pause café / Coffee break  
17:00 – 17:55 Louis Nirenberg (New York University)  
Extensions of a simple inequality

**Mardi 3 juillet / Tuesday, July 3**

- 09:00 – 09:55 Peter Lax (New York University)  
The weak limit of semigroups  
10:00 – 10:55 Yann Brenier (Université de Nice)  
On the field-matter interaction in electromagnetism:  
a weak convergence approach  
11:00 – 11:30 Pause café / Coffee break  
11:30 – 12:25 Nicola Fusco (Università di Napoli Federico II)  
The sharp Sobolev inequality in quantitative form  
14:30 – 15:25 Tristan Rivière (ETH Zürich)  
Analysis aspects of Willmore surfaces  
15:30 – 16:25 Nader Masmoudi (New York University)  
Existence results for micro-macro models of polymeric flows  
16:30 – 17:00 Pause café / Coffee break

### **Mercredi 4 juillet / Wednesday, July 4**

- 09:00 – 09:55 Luis Caffarelli (University of Texas at Austin)  
Fully nonlinear equations for integral diffusions
- 10:00 – 10:55 Patrick Gérard (Université Paris Sud)  
Wave equation, Strichartz inequality and Lorentz transformations
- 11:00 – 11:30 Pause café / Coffee break
- 11:30 – 12:25 Vsevolod Solonnikov (Steklov Institute & Università di Ferrara)  
On the stability of a uniformly rotating viscous incompressible self-gravitating fluid
- 14:30 – 15:25 Vladimir Sverak (University of Minnesota)  
On Landau solutions of the Navier-Stokes equations
- 15:30 – 16:25 Denis Serre (École Normale Supérieure de Lyon)  
Initial-boundary value problems for wave-like systems with Neumann-type boundary condition
- 16:30 – 17:00 Pause café / Coffee break
- 17:00 – 17:55 Abbas Bahri (Rutgers University)  
Contact homology via Legendrian curves: definition and first steps of computation

### **Jeudi 5 juillet / Thursday, July 5**

- 09:00 – 09:55 Roland Glowinski (University of Houston)  
Numerical simulation of a channel flow with chaotically moving boundary
- 10:00 – 10:55 Maria Esteban (Université Paris Dauphine)  
Hardy-Dirac inequalities and applications
- 11:00 – 11:30 Pause café / Coffee break
- 11:30 – 12:25 Graeme Milton (University of Utah)  
Modifications to Newton's second law and continuum elastodynamics
- 14:30 – 15:25 Olivier Pironneau (Université Pierre et Marie Curie Paris VI)  
Numerical challenges in mathematical finance
- 15:30 – 16:25 Evariste Sanchez-Palencia (Université Pierre et Marie Curie Paris VI)  
Heuristic and rigorous treatment of ill-posed singular perturbation problems
- 16:30 – 17:00 Pause café / Coffee break

### **Vendredi 6 juillet / Friday, July 6**

- 09:00 – 09:55 Mete Soner (Koc University)  
Backward stochastic differential equations and nonlinear partial differential equations
- 10:00 – 10:55 Craig Evans (University of California at Berkeley)  
A nonlinear partial differential equation model for lakes and rivers
- 11:00 – 11:30 Pause café / Coffee break
- 11:30 – 12:25 Yves Meyer (École Normale Supérieure de Cachan)  
New estimates on singular integral operators