SUMMER SCHOOL IN MATHEMATICS

OPTIMAL TRANSPORTATION THEORY AND APPLICATIONS

Institut Fourier – Grenoble (France)
June 15th – July 3rd, 2009

The aim is to present recent developments in optimal transportation and also its applications in biology, mathematical physics, information theory, ...

**First week: Basic courses**

- General theory of optimal transport
- Models and applications of optimal transport in economics, traffic and urban planning
- Lagrangian systems and their associated costs
- Logarithmic Sobolev inequality for diffusions and curvature- dimension condition
- Discrete Markov chains, functional inequalities and optimal transport

  - F. Santambrogio
  - A. Fathi
  - I. Gentil
  - Y. Ollivier

**Second week: Advanced courses**

- Variational methods for incompressible Euler equations
- Ricci flow
- Gradient flows and optimal transport
- Ricci curvature, entropy and optimal transport

  - A. Figalli
  - P. Topping
  - G. Savare
  - S. I. Ohta

**Third week: Workshop**

F. Bolley, Y. Brenier, V. Calvez, J. Delon, B. de Mèy, I. Ekeland, U. Frisch, N. Gozlan, R. Gray,
A. Guillin, D. Jacobs, C. Jimenez, A. Joulin, R. McCann, F. Maggi, B. Maury, Q. Mérigot,

For further information and registration:
Organizers: Y. Ollivier, P. Pajot, C. Villani
Secretary: Geraldine.Rahal@ujf-grenoble.fr

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