

# Polymer models and related topics

February 20-21 2007

The University of Nice & Sophia Antipolis  
Lab, J.A. Dieudonné (*Salle de Conférence*)

The main objective of the workshop is to discuss and review some recent results related to the mathematical modeling, the analysis, and the stochastic simulation of directed polymers and micro-macro complex fluids. Topics covered at this meeting include : partial differential equations and stochastic models, theoretical and computational fluid dynamics, pinning, wetting and repulsion phenomena in random interfaces and polymers models.

## Speakers

- Asselah Amine (université Paris-XII).
- Jérémie Bec (CNRS, Lab. Cassiopée Nice).
- Francesco Caravenna (University of Padova).
- Frédéric C erou (IRISA, INRIA Rennes, France).
- Pierre Del Moral (Nice & Sophia Antipolis Univ.).
- Claude Le Bris (CERMICS & INRIA).
- Tony Leli evre (CERMICS & INRIA).
- Ken Lange (Stanford Univ.).
- Samy Tindel (Institut Elie Cartan, Univ. Nancy).
- Lorenzo Zambotti (Universit e Paris 6 - Pierre et Marie Curie).

## Workshop Program

### – Tuesday

1. 10h30-11h *Welcome Coffee*
2. 11h-11h45 **Directed polymers and Burgers turbulence**  
*Jérémie Bec*
3. 13h15-14h **On some stochastic differential equations arising in the modeling of complex fluids.** *C. Le Bris* [joint work with *B. Jourdain, T. Lelièvre, and with P.L. Lions*]
4. 14h15-15h **Longtime behaviour of micro-macro models for polymeric fluids.** *T. Lelièvre*
5. 15h-15h30 *Coffee Break*
6. 15h30-16h15 **Comment fait une marche transiente pour s'intersecter souvent ?** *A. Asselah*

### – Wednesday

1. 9h40-10h30 **An Overview of the MM Algorithm.** *Ken Lange*
2. 10h30-11h *Coffee Break*
3. 11h00-11h45 **Some models of random polymers in continuous time.** *S. Tindel*
4. 13h15-14h **Feynman-Kac Interpretation Models.** *F. Cerou, P. Del Moral*
5. 14h15-15h **Pinning and wetting models with Laplacian interaction in (1+1) dimension.** *F. Caravenna*
6. 15h-15h30 *Coffee Break*
7. 15h30-16h15 **Scaling limits of periodic co-polymers which fluctuates near a selective interface.** *L. Zambotti*