**ESPCI**
Laboratoire PMMH
10 rue Vauquelin, 75231 Paris Cedex 05

# Séminaire PMMH

*Bureau d'Études, Bâtiment L, 2 ème étage*

*Vendredi 3 avril 2015, 11h00-12h00*

## Dmitry Kolomensky

McGill University

### Numerical modelling of insect flight

Numerical simulation can provide important insights to the mechanics of animal locomotion. In this talk, I will present a numerical method for modeling flapping flight of insects. It is based on a Fourier pseudo-spectral method for solving the Navier-Stokes equations. Time-varying solid boundaries are modeled using the volume penalization method. Applications of this method will be presented, including such topics as the leading-edge vortex, fluid-structure interaction of flexible flapping foils, and the dynamics of takeoff.