

PERSONAL INFORMATION

Assistant Professor
Laboratoire Matière et Systèmes Complexes UMR
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EDUCATION

PHD

Brown University, Providence, Rhode Island
Department of Physics, May 2006

- Topics: Visualization of topological defects in molecular dynamics simulations of nematic liquid crystals. Nucleation of twist defects in unwinding of cholesteric elastomers.
- Thesis title: *Topological defects in liquid crystalline matter: strain transitions, defect core structure and fluctuations.*
- Adviser: Professor R. A. Pelcovits

MASTER'S

Queen's University, Kingston, Ontario
Department of Physics, August 2001

- Topic: Hubbard models of high temperature superconductivity.
- Thesis title: *Pairing in the non-self-consistent ladder approximation*
- Adviser: Professor R. J. Gooding

BACHELOR'S

Queen's University, Kingston, Ontario
Engineering Physics, June 1999

- First class honors
- Specialization in Mechanical Engineering

PROFESSIONAL EXPERIENCE

ACADEMIC
APPOINTMENTS

Assistant professor September 2013 –
Laboratoire Matière et Systèmes Complexes (MSC), Université Paris-Diderot

- Research: ¹Cortex-driven cell polarization. ²Adaptation of the cytoskeleton to rigidity of cell environment. ³Interactions between proteins and curved membranes. ⁴Membrane hydrodynamics with inclusions .
- Collaborators :
 - ^{1,2} R. Voituriez **Université Pierre et Marie Curie, Paris**
 - ¹ C.-P. Heisenberg **IST Austria**
 - ² B. Ladoux **Institut Jacques Monod, Paris**
 - ³ P. Bassereau **Institut Curie, Paris**
 - ³ D. Stamou **University of Copenhagen**
 - ⁴ J.-B. Fournier **MSC**

Assistant Professor September 2009 to August 2013
Laboratoire Charles Coulomb (LCC), Université Montpellier 2

- Research: ¹Active hydrodynamics of the cytoskeleton. ²Curling of an elastica. ³Ejection of malaria parasites from red blood cells.
- Collaborators :
 - ¹ F. Jülicher **MPI-PKS Dresden**
 - ² B. Audoly **Université Pierre et Marie Curie**
 - ³ M. Abkarian, G. Massiera, V. Lorman **LCC**

POSTDOC **Postdoctoral Researcher** September 2006 to August 2009
Institut Curie, Paris

- Research: Modeling polarization of cell fragments using active gel theory. Lipid sorting in tubes pulled from multi-component membrane vesicles.
- Supervisors: **J.-F. Joanny, J. Prost**

TEACHING **Université Paris-Diderot**

- Flows and conservation laws, 2nd year, *Tutorials*, (2015–)
- Thermodynamics, 2nd year, *Lectures and tutorials*, (2013–2014, 2014–2015)
- Mechanics, 1st year, *Tutorials*, (2014, 2015)
- Physics for biologists, 1st year, *Tutorials*, (2014,2015)
- Hydrodynamics, Masters, *Tutorials*, (2014–2015, 2015–)

Université Montpellier 2

- Introduction to biophysics, Masters, *Lectures*, (2010, 2011, 2012, 2013).
- Physics of cell membranes, Masters, *Lectures*, (2009).
- Mechanics, 1st year biology majors, *Course organization, lectures, tutorials*, (2011–2012, 2012–2013).
- Mechanics, 1st year chemistry majors, *Lectures and tutorials*, (2011–2012, 2012–2013).
- Electromagnetism, 2nd year, *Tutorials*, (2011).
- Thermodynamics, 1st year, *Tutorials*, (2011).
- Experimental physics, 1st year, *Lectures, labs, and tutorials*, (2009–2010, 2010–2011).

SUPERVISION **Université Paris-Diderot**

- Supervision of 2nd year Masters student (2015–): “Cell motility in a 3D viscous gel” (K. Mensah, U. Paris 7)

ADMINISTRATIVE FUNCTIONS

TEACHING RESPONSIBILITIES • **Organizer** for course on mechanics (UM2, 1st year, 2011–2013) and thermodynamics (UP7, 2nd year, 2013–2014).

SCIENTIFIC RESPONSIBILITIES • **Co-organizer** of Workshop 7emes rencontres MSC (2014).
• **Referee** for Physical Review Letters, Physical Review E, New Journal of Physics, European Journal of Physics E, Soft Matter, Biophysical Journal.

AWARDS

- Bourse de l'Association de la Recherche du Cancer (France), for an overseas post-doctoral fellow, 2008–2009.
- Dissertation Fellowship, Physics Department, Brown University, 2005–2006.
- National Science and Engineering Council Scholarship (Canada), 1999-2001.
- Ontario Professional Engineers' Foundation for Education Gold Medal, 1999.
- Engineering Physics gold medal, Queen's University, 1999.

CITIZENSHIP

Canada, UK