Research Interests of the Martine Ben Amar Group on Physics and Mechanics of Soft Matter:
The group is interested in various aspects of growth, shapes and dynamics in physics, biophysics, mechanics and biomechanics. Using theoretical models, experiments as well as numerical simulations, we are trying to highlight the physical principles common to a broad range of morphogenetic events. The area of research that are currently under investigation are:

- Growth of skin tumors.
- Morphogenesis in vegetal and animal tissues.
- Biomechanics, nonlinear elasticity, viscoelasticity and rheology of complex matter.
- Elastic singularities.
- Mechanical properties of polymeric gels.
- Thin sheets of liquid crystals.
• Biological membranes, rafts and inclusions.
• Faraday instability.

Moreover, during the past five years, the group has actively worked on the following topics:

• Viscous fingering, wetting, dynamics of the contact line.
• Crumpled paper, statistics of folds.

**Biography** (translated from http://www.upmc.fr/fr/recherche/creatrices_de_futurs.html):

"I am a woman driven by passion of science: understanding, show, predict the laws of the universe and life."

She holds a doctorate in atomic physics. Martine Ben Amar as taught physics at UPMC since 1993. Elected senior member of the IUF in 2011, the professor was invited to MIT on McCarthy Chair from 1999 to 2000. Her preferred themes are the modeling of the cancer, the physics of cell morphogenesis and of soft tissue growth. With PhD students and postdocs, Martine Ben Amar is responsible for the federation "Dynamics of Complex Systems", bringing together 200 researchers and professors at UPMC, Université Paris-Diderot, the ENS and of ESCPI.

**Selected Publications:**


