Cells under mechanical stress

Culturing cells in a mechanically active environment to mimic \textit{in vivo} conditions

**Topics**
- Cell and tissues mechanical response
- Cell adhesion
- Dermal cohesion
- Cell differentiation
- Skin aging

**Services**
- Expertise in cell imaging and image processing to characterize short and long term changes in:
  - Cell monolayer organization
  - Cell morphology
  - Cytoskeleton structure
  - Cell-Cell or Cell-Matrix adhesion
  - Protein aggregation
- Partnership with several laboratory services to quantify:
  - Gene expression
  - Rate and amount of protein synthesis
  - Protein secretion or degradation

**Technical devices**
- In-house and commercial mechanical devices to offer a broad range of mechanical stress
  - Stretching or compression
  - Static, incremental, cyclic
  - Large range of deformation
  - Single and multiple parallel test
  - Variety of flexible membranes with cell adhesive patterns
- Coupling with other stresses
  - Temperature
  - Oxydative stress
  - UVA-UVB radiation

**R & D**
- Test of active ingredients
- Custom assays
- Development of mechanical device adapted to a specific application

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