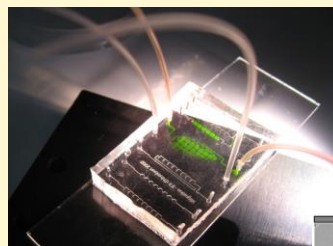


**Staff:** 70 researchers, professors, lecturers, engineers and technicians  
70 PhD students, post-docs and temporary staff

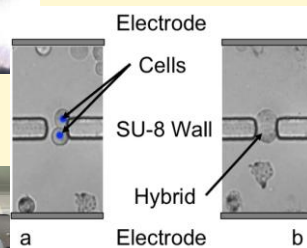
**Research fields:** Microsystems for biology, Integration in materials and in power electronics, Signal treatment and multi-sensors, Energy systems for transport and environment.

### Research topics in Micro and NanoSystems

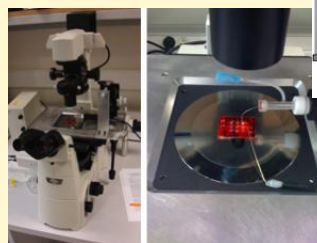
- Materials for BioMEMS
- Microfluidics
- Cell/Electric Field Interaction
- Electrofusion biochip
- Nanoporation on chip
- Membrane protein biochips
- Biochips for the co-culture of cells
- Biodetection
- Integrated chemical gradient generator



PDMS Microfluidic chip



Electrofusion on chip



Ion Channel Recording

### Technology

- 140 m<sup>2</sup> clean rooms class 10000
- 40 m<sup>2</sup> Microfluidic Platform
- UV Lithography techniques
- Parylene coating and etching
- PDMS, SU8, PMMA technology
- Si and Glass devices
- O<sub>2</sub> Plasma etching and bonding
- RIE and Evaporation (Au, Cr, Al)
- 20m<sup>2</sup> Cells culture room

### Design, simulation & characterization tools

- Comsol, Matlab, Ansys, L-Edit, VHDL, Simplorer
- Microscopies : SEM, AFM
- Stylus Surface Profilers
- Under probe electrical measurements
- Microfluidic : syringe pump, pressure control
- Patch clamp techniques
- Fluorescence microscopy, Confocal microscopy