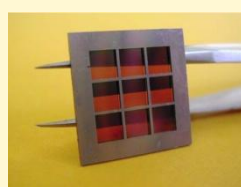


Staff: 235 researchers, professors, lecturers, engineers and technicians
220 PhD students, post-docs and temporary staff

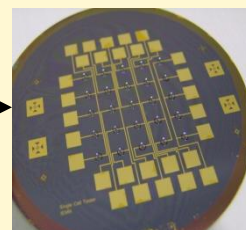
Research fields: Materials and Nanostructures,
Micro and Nano-Systems, Micro & Opto electronics,
Circuits and Systems for communication and Acoustics

Research topics in Micro and NanoSystems

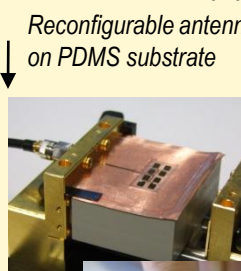
- Magnetic actuation
- Liquid-solid interactions for microfluidics
- Droplet-based microfluidics for LOC
- Active probe for AFM imaging
- MEMS/NEMS metrology & reliability
- Resonators for RF communication and timing
- Bio-inspired microsystems
- Thermal microsensors & thermoelectric generators
- Microbatteries & photoelectric energy scavenging
- BAW resonator & ultrasonic sensors
- Multifunctional materials and nano-structures
- Label-free biosensing (SPR, MS, dielectric spectroscopy (DS), ...)



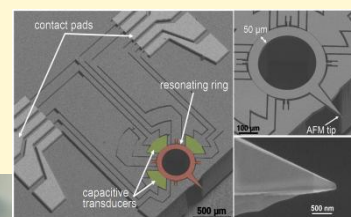
3x3 pixels infrared
thermal flux sensor



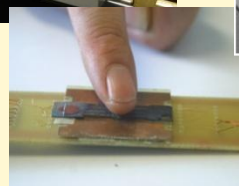
Droplet-chip for DS
analysis of bio-cells



Reconfigurable antennae
on PDMS substrate



Active probe for AFM imaging



Magnetic Micro-Actuator for Tactile Display

Technology

- 1600 m² clean rooms class 1000 & 100
- UV, DUV & e-beam lithography
- PZT, Magnetostrictive films
- XeF₂ etching, DRIE
- Supercritical CO₂ dryer, cleaner
- Au electroplating
- Adhesive & eutectic wafer bonding
- LPCVD furnaces

Design, simulation & characterization tools

- ANSYS, Coventorware, COMSOL, HFSS, ADS
- EDX, XPS, Auger
- AFM, STM, AFM-HV-LT, KFM, STM-LT
- Optical profilometer & vibrometer
- Confocal microscope
- DC-HF electrical measurements
- Ellipsometer
- Vacuum chamber for MEMS characterization

Institut d'Electronique, de Microélectronique et de Nanotechnologie

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