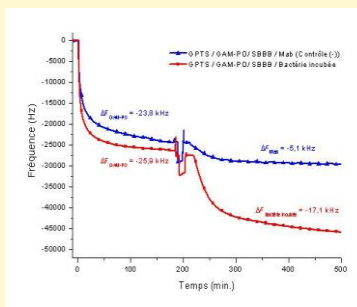


**Staff:** 144 researchers, professors, lecturers, engineers and technicians  
200 PhD students, post-docs and temporary staff  
(including 25 persons in the microsystems team)

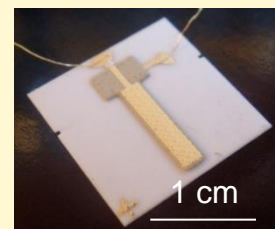
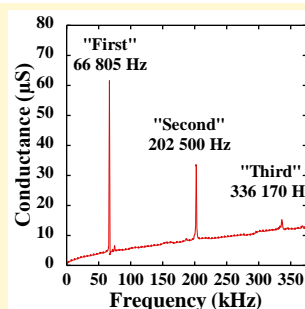
**Research fields:** Materials, Microsystems, Nanoelectronics, design, reliability, automatic control, signal, production engineering, bioelectronics, cognitics and human factor

## Research topics in Micro and NanoSystems

- Acoustic wave based micro sensors
  - Bio sensors
  - Chemical detection in harsh environment
  - Materials and fluids characterization
- Microassembled materials for Microsystems
  - Thick film components and microsystems
  - Microcantilever based sensors
  - Hermeticity of MEMS packaging



Love wave immunosensor



Self-actuated thick film piezoelectric cantilever

## Technology

- 200 m<sup>2</sup> clean rooms
- Screen printing
- Polymer deposition
  - Dip coating
  - Spin coating
  - Spray coating
- Lithography (UV lamp)
- Wire bonding

## Design, simulation & characterization tools

- Comsol, Coventor, ANSYS
- Nanofocus X-Ray Analysis System,
- MEB with XPS
- Optical microscopy
- AFM
- Laser vibrometry (Polytec MSA 500)
- Gain phase analyzer (Agilent 9194A)
- Chamber with accurate humidity control  
0% - 90% RH (SMS VGI 2000M)

## Laboratoire de l'Intégration du Matériau au Système

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