



TIXIER-MITA LAB.

[Integrated Platforms for Bio and Chemical Applications]

Centre for International Research on MicroNano Mechatronics

Integrated MEMS/NEMS technologies for industrial & bio applications



<http://toshi.iis.u-tokyo.ac.jp/toshilab/?Agnes%20Tixier-Mita>

How to improve the detection of disease or to investigate new approaches for further understanding of cells interactions or cells diseases?

Precise and sensitive tools are needed. In particular platforms with integrated electronics allow further investigation in the biomedical field for: diseases detection, new drugs development, or fundamental understanding of biological phenomena. Here, a new tool is proposed: a hybrid system with integrated micro-electronics, micro-fluidics, and sensors. It allows a multitude of investigation approaches: electrical, optical, chemical and biological.

- ◆ Electronics integration by LSI or TFT technology gives a 2D surface, for cells culture, with a dense array of independently controllable electronic components.
- ◆ Miniaturization and micro-structurization, thanks to micro-fabrication: improvement of portability and sensitivity.
- ◆ A large array of microelectrodes: a large 2D surface for biomaterial manipulation and sensing.

