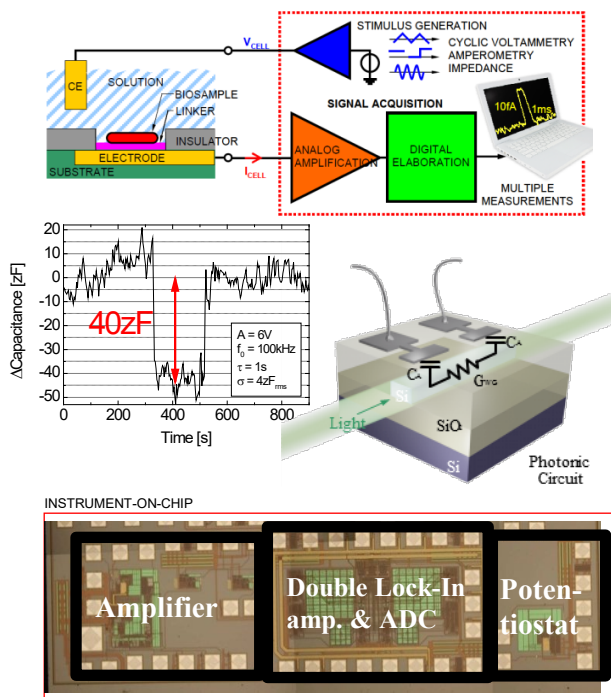




## Advanced course on

# HIGH RESOLUTION ELECTRONIC MEASUREMENTS in Nano-Bio Science

Milano, 7-18 June, 2021



### Content of the course:

- *High sensitivity electronic instrumentation for the measurement of currents, voltages and impedance:* circuit architectures, integration on single Si-chip, achievable performance.
- *Nanodevices characterisation with high resolution:* measurement aspects (sensor capacitance, measuring time, system bandwidth, etc.), AFM instrumentation, sub-attofarad performance, cryogenic investigations.
- *Electrochemical measurements:* electrodes for ohmic contacts to liquids, cyclic voltammetry (I-V plots), ECIS, amperometry and impedance tracking, limitations imposed by the electrodes.
- *Applications:* integrated microfluidic platforms, AFM in liquids, cell counting and nanopore sequencing, Si-photonics, magneto-resistive approaches.
- *Noise as a tool to access the nanoscale:* shot and telegraph noise, dielectric relaxation time, correlation spectrum analyzer.

### Organized by :

Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB) at POLIFAB  
Via G. Colombo 81, 20133 Milano (Italy)

### Directed by:

Prof. Marco Sampietro (tel.02.23996188)  
Prof. Giorgio Ferrari (tel.02.23994008)

### Secretary office :

Marjorie Ballesteros  
([marjorie.ballesteros@polimi.it](mailto:marjorie.ballesteros@polimi.it))

### Supported by



Further information on : <http://sampietro.faculty.polimi.it/Nano>