

PRESENTER INFORMATION



Name: Cara
First name: Eleonora

E-mail: e.cara@inrim.it
Website: amdgroup.inrim.it

Institute/ affiliation: INRiM - Istituto Nazionale di Ricerca
Metrologica, Torino, Italy

BIOGRAPHICAL SKETCH

Eleonora Cara graduated in Physics of Advanced Technologies at the University of Turin in 2015. In 2019, she received her PhD in Metrology cum Laude at the Polytechnic University of Turin with a project focused on the development of self-assembled 3D plasmonic nanostructures for surface-enhanced Raman spectroscopy and metrological characterization. In 2018, she won a mobility grant by EURAMET and worked at BESSY II synchrotron facility laboratories of PTB, Berlin on mass quantification by reference-free X-ray fluorescence. Currently, she is a post-doctoral researcher in the group of Advanced Materials and Devices at INRiM, where she works on self-assembly methods for the realization of nanomaterials with interest to their optical and plasmonic properties. She is author and co-author of 15 peer-reviewed papers and 1 patent. She is currently guest editing a Special Issue for the journal Polymers (MDPI) on Self-Assembled Polymers: Advanced Processing and Hybrid Metrology.

TITLE: Application of Porous Silicon Nanowires in Metrology and Sensing

ABSTRACT

The seminar will describe the nanofabrication of porous silicon nanowires and the approach carried out at INRiM using a combination of nanospheres lithography (NSL) and metal assisted chemical etching (MACE). Both fundamental studies on nanofabrication and some applications of this technology will be discussed ranging from sensing by surface-enhanced Raman scattering (SERS) to metrology.

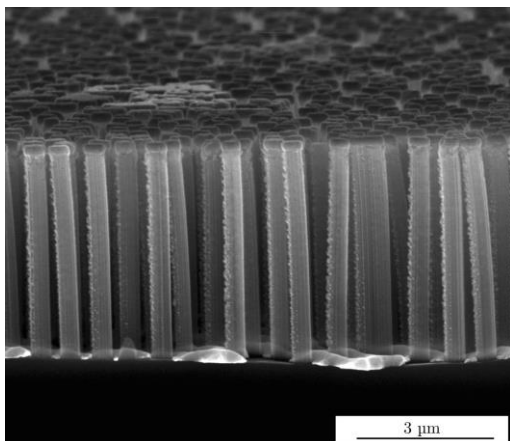


Figure - Cross section SEM image of a matrix of gold coated and flexible porous silicon nanowires for sensing application by surface-enhanced Raman scattering.