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UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

UNIVERSITÀ DEGLI STUDI
DI TRENTO

Dr. Maria Fiorella Pantano:

MECHANICAL CHARACTERIZATION OF MATERIALS AT THE MICRO- AND NANOSCALE

Monday 25 November 2019 · at 11.00-13.00
Room 1.7 (ex room A)
Physics Building – via G. Campi 213/a, 41125 Modena

Abstract
Owing to their unrivalled properties, nanoscale materials, like nanotubes and single atomic layer (2D) materials, are envisioned as the core of a new disruptive technology. In order to exploit their great potential for the production of high-performance yet reliable devices, it is necessary to achieve a deep comprehension of their mechanical behavior. However, the capability to manipulating and testing nanomaterials with conventional techniques is significantly affected by their unique nanoscale topology. Thus, alternative testing solutions have to be developed, with the most successful ones being now based on Micro-Electro-Mechanical Systems (MEMS) technology. Custom-made MEMS devices can be designed in order to include all the sensing and actuating structures necessary for applying and recording tensile loads onto a <1 mm2 stage. This can be compatible with electron microscopes, e.g., scanning electron microscope (SEM) and transmission electron microscope (TEM), thus allowing for real time imaging of the sample deformation at the nanoscale.

Host
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