

TITLE:

Advances in multiphysics simulation and experimental testing of MEMS and NEMS

ORGANISERS:

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DESCRIPTION

The mini-symposium focuses on the strictly related numerical and experimental procedures for the analysis and design of MEMS and NEMS. Reflecting a specific need emerging in academy and industry, it addresses the multiphysics nature of their mechanical behaviour.

The proposed mini-symposium will gather contributions on microfluidics in its multiple facets (e.g. experimental techniques for damping characterization of micro and nanostructures, new challenges in modeling liquid and gas flows in Micro/Nano devices, gas damping in MEMS using fast integral equation solvers), intrinsic dissipation (e.g. thermoelastic damping and “surface” dissipation), mechanical characterization of materials at the micro/nano scale through on-chip tests, coupled electro-mechanical analyses (nonlinear dynamics of MEMS, stiction problems, pull-in instabilities), topology optimization, numerical simulations in BIOMEMS.