



DIPARTIMENTO DI MEDICINA
MOLECOLARE

1222·2022
800
ANNI



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



DIPARTIMENTO DI INGEGNERIA
INDUSTRIALE

PHD PROGRAMS IN:

**MOLECULAR MEDICINE - MATERIALS SCIENCE ENGINEERING AND
NANOSTRUCTURES - INDUSTRIAL ENGINEERING**

SEMINAR

Paolo A. Netti

Istituto Italiano di Tecnologia, Centre for Advanced Biomaterials for Health Care IIT@CRIB

& University of Naples Federico II, Interdisciplinary Research Centre on Biomedical Materials

***Governing material-cytoskeleton-nuclear envelope
mechanical communication to engineer biological
tissues***

Wednesday October 23th 2019, h. 16:00

**Room AULA G – Piano Rialzato @ Polo Biologico Vallisneri
Viale Colombo 3, Padova**

Instructive materials, displaying patterns of biochemical and biophysical signals, proved to potently affect cell behaviour. In particular, signals including topographic patterns, along with material stiffness can finely control cell adhesions dynamics, cytoskeletal assemblies and cell generated forces. This impacts on the mechanical properties of the whole cell and on nuclear mechanics. Additionally, material features may guide supra cellular self-organization, and may constitute the foundation of a new generation of biomaterials able to impart specific commands to control complex cell behaviour through mechanotransduction pathways. Practical implementation of these insights includes surface functionalization of biomaterials, new culturing systems for stem cells and in vitro generation of complex tissues for transplantations, drug discovery, and body-on-a-chip devices.

La S.V. è cordialmente invitata

*Giovanna Brusatin, Giovanni Mattei, Paolo Colombo, Stefano Piccolo,
Stefania Bruschi*