

The ninth edition of the Research and Nanomedicine Workshop, organized by the University of Pavia, will be conducted this year in a hybrid format, combining an in-person session at the Chemistry Department (Viale Taramelli 12, Pavia) with a live-streaming event on YouTube. In addition to the young researchers from the University of Pavia, other young scientists from other universities have been invited to present their studies. This is intended to promote the knowledge and the meeting between various groups that carry out research in the area of nanomedicine and 3Rs, with a view to enabling the birth of scientific collaborations, synergies, and participation in future projects. Two "invited talks" from Department of Physics of Milan Bicocca University (Milan, Italy) and Joint Research Center of European Commission (ISPRA, Varese, Italy), respectively. Furthermore, the workshop is divided into 2 sessions: the morning session is dedicated to Nano-therapies and Nano-diagnostics while the afternoon session is focused on Regenerative Medicine.

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RESEARCH AND NANOMEDICINE

Ninth Edition

Edited by P. Pallavicini e L. Visai

Thursday, June 12, 2025

Time 8:15 > 18:30

WORKSHOP IN ENGLISH

8:20 – Short introduction to the workshop:
Piersandro Pallavicini and Livia Visai

**First Session: Nano-diagnostics and Nano-therapeutics
(in presence and online) – Chairman Piersandro
Pallavicini**

8:30 – Giorgia Dal Pan (INLAB – Chemistry Dept.,
University of Pavia, Pavia, Italy) “Assessing the
Antibacterial Properties of Coated Silver Nanoparticles
against Haemophilus influenzae”

8:50 – Laura Ghidoni (Chemistry Dept., University of
Pavia, Pavia, Italy) “Antimicrobial surfaces based on
photothermal nanoparticles coated by a polydopamine
layer loaded with copper(II) cations”

9:10 – Vittorio Maceratesi ((INLAB – Chemistry Dept.,
University of Pavia, Pavia, Italy) “Characterizing FeraSpin
R, a nanoparticle based MRI contrast agent”

9:30 – Rachele Rossi (online) (Drug Sciences Dept.,
University of Pavia, Pavia, Italy) “Microfluidic production
of mRNA-LNPs: comprehensive physicochemical
characterization and preliminary in vitro and protein
corona evaluation”

9:50 – Irene Segato (Drug Sciences Dept., University of
Pavia, Pavia, Italy) “Optimization of the microfluidics-
assisted production of PLGA nanoparticles loaded with
the imidazoquinoline derivative CL097”

10:10 – Marialaura Giannaccari (Molecular Medicine
Dept., University of Pavia, Pavia, Italy) “Harnessing
Green Chemistry: Prussian Blue Nanoparticles as a
Breakthrough in Multimodal Breast Cancer Therapy”

10:30 – **Invited speaker:** Laura D’Alfonso (Department of
Physics, Milan Bicocca University, Milan, Italy) “Optical
microscopy: a window on nanomedicine”

11:00-11:20 *Coffee break*

11:20 – Saeed Ahmed (Pharmaceutical Sciences Dept.,
University of Milan, Milan, Italy) “Advanced Insights into
Non-Natural Peptide Aggregation Through Accelerated
Molecular Dynamics”

12:00 – Davide Ferrario (Clinical Nanobiochemistry
Laboratory, Medicine and Surgery Dept., University of
Milano-Bicocca, Milano, Italy) “Innovative Design of Raft-
like Nano-sized Liposomes for Targeted Nucleic Acid
Delivery”

12:20 – Martina Cozzani (Chemistry and Industrial
Chemistry Dept., University of Genoa, Genoa, Italy) “On
the development of polylactic acid and polycaprolactone
blended films with high retention capacity”

12:40 – Lorenzo Guidi (online) (Civil and Industrial
Engineering Dept., University of Pisa, Pisa, Italy) “
Photoresponsive PLGA Nanoparticles for Ocular Drug
Delivery: Design, Characterization, and Therapeutic
Potential”

13:00 -14:10 *Lunch break*

**Second session: Regenerative Medicine – Chairman
Livia Visai**

14:10 – Michela Patrucco (Clinical Nanobiochemistry Lab,
Medicine and Surgery Dept., University of Milano-Bicocca,
Milano, Italy) “Brain Metastasis-Derived Nanoparticles: A
Novel Strategy for Enhanced CNS Drug Delivery”

14:30 – Francesco Saverio Sica (Clinical Nanobiochemistry
Lab, Medicine and Surgery Dept., University of Milano-
Bicocca, Milano, Italy) “Nanoformulated oxytocin for
brain targeting: potential therapeutic approach for
neurodevelopmental disorders”

14:50 – Maddalena Bracchi (Biotechnology and
Biosciences Dept., University of Milano-Bicocca, Milano,
Italy) “Mimicking ECM glycosignature for osteochondral
regeneration”

15:10 – Lauren Roberts (online) (NanoReMedi (MSCA-
DN), University of Montpellier, Montpellier, France)
“MSC-laden Scaffolds for Osteochondral Repair”

15:30 – Merve Gul (online) (Pavia University & University
Polytechnic of Catalunya) “Design and applications of
smart nanocarriers to achieve controlled release of
antimicrobial agents for regenerative medicine”

15:50 – **Invited speaker:** Luigi Calzolari (Project
Leader Nanomedicine at Joint Research Center of
European Commission, ISPRA, Varese, Italy) “LNP-RNA
Revolution: a new generation of medicines”

16:20 – 16:40 *Coffee break*

16:40 – Dhriti Shenoy (online) (Milan University &
University of Montpellier) “Self-Assembling Lipopeptide
Hydrogels: Building Bioactive Scaffolds for Next-Gen
Tissue Regeneration”

17:00 – Nursu Erdogan (online) (Pavia University
& Universidad del País Vasco/Euskal Herriko
Unibertsitate, CIC nanoGUNE BRTA) “Manufacturing of
composite electrospun vascular grafts for regenerative
purposes”

17:20 – Abinaya Nallathambi (Pavia University & Hebrew
University of Jerusalem) “Fabrication of off-the-
shelf biodegradable small calibre Vascular Graft with
improved microbiological and regenerative features”

17:40 – Marta Pollini (Drug Sciences Dept., University of
Pavia, Pavia, Italy) “Graphene-doped nanofibers for the
treatment of chronic wounds”

18:10 – Amedeo Ungolo (Drug Sciences Dept., University
of Pavia, Pavia, Italy) “Biomimetic hydrogels for wound
healing”

18:30- *Conclusions and end of the workshop*