



Dipartimento
Chimica

2023 - 2027
**DIPARTIMENTO
DI ECCELLENZA**
Ministero dell'Università e della Ricerca

UNIVERSITÀ
DI TORINO

NIS COLLOQUIUM STAR

Grant for Internationalization Project:

“Smart NIR dye-based wound dressings
to fight bacteria”

Antimicrobial Biomaterials and their Potential Applications

19th June 2023, 14:00-18:45

Aula Magna - Department of Life Sciences and Systems Biology
Via Accademia Albertina 13, Turin, Italy

Chair: Prof. Nadia Barbero and Dr. Carlotta Pontremoli

Antibiotics have seen extensive use in applications ranging from healthcare, livestock, and food security. However, widespread distribution and misuse of these antibacterial compounds has led to increased antimicrobial resistances (AMR), which is currently projected to affect over ten million lives by 2050. As such, with antibiotics serving as a primary treatment for wound management, it is necessary to consider alternative strategies that do not promote the generation of antimicrobial resistances.

With this colloquium we wish to bring together national and international researchers that are tackling this topic from different perspectives with the aim to discuss the latest results and opportunities.



Attendance is free, but you are required to register (deadline June 15th):
<https://bit.ly/nisAntimicrobial>



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14:00-14:10

Welcome

14:10-14:40

Silvia Irusta - *UniZar* Synthesis of biomaterials by electrospinning

14:40-15:10

Sonia Fiorilli - *PoliTO* Multifunctional nanostructured materials as antibacterial agents for the regeneration of bone and skin

15:10-15:30

Elisa Restivo - *UniPV* Effect of low copper doping on optically transparent calcium phosphate glasses and assessment of cytocompatible and antibacterial and SARS-CoV-2 trapping properties

15:30-15:40

Emanuela Peluso - *UniPV* In vitro study of various bacterial strains from human microbiota cultured in different types of advanced 3D substrates

15:40-16:20

Coffee break

16:20-16:50

Manuel Arruebo - *UniZar* Antimicrobial Materials and Devices

16:50-17:10

Sonja Visentin - *UniTO* Mucosomes: Intrinsically Mucoadhesive Glycosylated Mucin Nanoparticles as antimicrobial nanopatform

17:10-17:20

Cristina Yus Argon - *UniZar* Antibacterial photodynamic therapy: a promising weapon against antimicrobial resistance achieved by a polymer vector loaded by indocyanine green decorated with CuS nanoparticles for wound infection treatment

17:20-17:35

Federico Mussano, Giacomo Baima - *UniTO* Dental implants: limitations and perspectives based on the bone-medical device interface

17:35-17:45

Valeria Allizond - *UniTO* Combination of essential oils to poly(ϵ -caprolactone)-based biomaterials to achieve anti-bacterial and osteoblast proliferative properties for regenerative medicine scaffolds

17:45-17:55

Marta Corno - *UniTO* Antimicrobial functionalized silica based nanomaterials: a computational chemist's point of view

17:55-18:05

Enrique Gámez Herrera - *UniZar* Antimicrobial natural compounds against resistant bacteria

18:05-18:30

Conclusions and Final Remarks