

The objective of the "PROTEZIONE" project is the development of innovative nanostructured materials with antimicrobial properties, able to prevent and mitigate the spread of pathogens in healthcare and social care environments.

As part of the project, multifunctional polymer-based nanocomposites were designed and created by using suitably modified clays imparting antimicrobial properties to the finished product. They have been applied in the preparation of small high touch objects to be tested in healthcare and social care facilities.

Particular attention was paid to the responsible design for the development of safe and eco-sustainable products, with a special focus on the evaluation and prevention of the potential risks deriving from exposure to the nanofillers of the workers involved in their manufacturing process and use.

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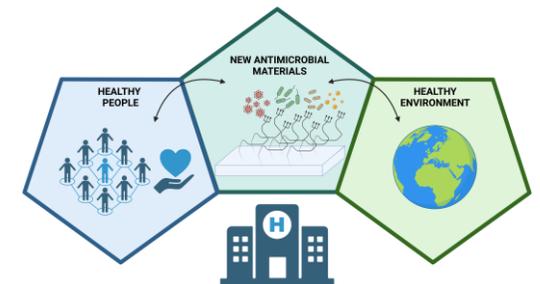
UNIMORE
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MODENA E REGGIO EMILIA



FINAL PROJECT WORKSHOP

“Design, production, characterization and testing of polymer-based nanocomposites with antimicrobial properties”

Project “PROTEZIONE”



Padova, 26-27 June 2025

AULA MAGNA - Department of Industrial Engineering
Via Leonardo Loredan 20, I-35131 Padova

PROGRAMME

Thursday, June 26, 2025

14.30 – 15:10 - Welcome and introduction

Giovanna Tranfo, Direttore DIMEILA (INAIL)
Fabrizio Dughiero, Direttore DII (UNIPD)

Roberta Bertani (Università di Padova)
The project PROTEZIONE

15.10 – 16.40 Healthcare-associated infections

15.10-15.40 - **Fortunato Paolo D’Ancona** (Istituto Superiore di Sanità, Roma)
Healthcare-associated infections and antibiotic resistance

15.40-16.10 - **Angelo Rossini** (Fondazione Santa Lucia, Roma)
Healthcare-associated infections: the specificity of post-acute situations

16.10-16.40 - **Stefano Capolongo** (Dipartimento di Architettura, Ingegneria delle Costruzioni e Ambiente Costruito, Politecnico di Milano)
Next Generation Hospital

16.40-17.10 Coffee break

17.10-18.30 Antimicrobial applications for healthcare settings

17.10-17.30 - **Serena Riela** (Dipartimento di Scienze Chimiche, Università di Catania)
Clays for health

17.30-17.50 - **Marina Massaro** (Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche, Università di Palermo)
Antimicrobial properties of clays and nanocomposites

17.50-18.10 - **Elisabetta Caselli** (Dipartimento di Scienze dell’Ambiente e della Prevenzione, Università di Ferrara)
Thinking out of the box: probiotics and bacteriophages to control nosocomial infections

18.10-18.30 - **Beatrice Casini** (Dipartimento di Ricerca Traslationale e delle Nuove Tecnologie in Medicina e Chirurgia, Università di Pisa)
UV radiation disinfection of critical healthcare areas

Friday, June 27, 2025

9.00-10.30 Health and safety aspects of advanced materials

9.00-9.20 **Fabio Boccuni** (DiMEILA, INAIL, Roma)
Prevention through design of nano and advanced materials

9.20-9.40 **S. Zienolddiny-Narui** (STAMI, Oslo Norway)
Occupational health hazards and toxicology of nano and advanced materials

9.40-10.00 **Maria Rosaria Plutino** (Istituto per lo Studio dei Materiali Nanostrutturati, ISMN—CNR, Università di Messina)
Development of Innovative and Sustainable Hybrid Functional Materials as Antibacterial and Antifouling Protective Coatings: From Blue-Growth to Healthcare Applications

10.00-10.20 **Angelo Moretto** (Dipartimento di Scienze Cardio-Toraco-Vascolari e Sanità Pubblica, Università degli Studi di Padova)
Industrial production and workers’ health: The role of the occupational physician

10.20-11.00 Coffee break

11.00 - 12.00 The “PROTEZIONE” project

11.00-11.20 **Mario Rigo e Alessandro Pontefisso** (Dipartimento di Ingegneria Industriale e Dipartimento di Tecnica e Gestione dei Sistemi Industriali, Università di Padova)
Preparation, characterization and mechanical properties of nanocomposites

11.20-11.40 **Antonella Mansi** (DiMEILA, INAIL, Roma)
Antibacterial properties of clay mineral-based composites and their possible use for the mitigation of infectious risk in healthcare settings

11.40-12.00 **Annalisa Bargellini e Claudio Cermelli** (Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze, Università degli Studi di Modena e Reggio Emilia)
From Bench to Bedside: In Vitro Antiviral Properties and In Situ Antibacterial Efficacy of Innovative Nanocomposites

12.00 – 12:30 Concluding remarks