

Workshop 8

Smart Materials

CONVENERS:

Luigi De Nardo (Politecnico di Milano), luigi.denardo@polimi.it;
Paolo Fornasiero ((Università di Trieste), pfornasiero@units.it

WORKSHOP ORGANIZING COMMITTEE:

8.4.1.

ORGANIZED BY:

Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali - INSTM

SHORT DESCRIPTION:

The workshop addresses the new opportunities given from science and technology of materials to sustainability of industry and society, with presentations of new possibilities and tools, rather than just scientific results, which can open new perspectives in this direction and mutual integration of research and production worlds. Although not limited to only the following topics, the focus of the workshop will be on five main aspects, which are highly cross-sectorials:

- 1) Self-diagnostic materials,
- 2) Self-healing materials,
- 3) Smart coatings,
- 4) Stimuli-responsive materials.
- 5) Multifunctional materials.

SPEAKERS and PROGRAMME (to be completed):

Introductory note:

Luigi Nicolais (Chairman of Materias): *Materias: a model for developing innovative science-based technologies*

Plenary lecture:

Prof. Radek Zboril, General director of the Regional Centre of Advanced Technologies and Materials (Czech Republic). Chemistry of graphene and carbon dots towards advanced magnetic, biomedical and environmental technologies

WP8.1. Advanced chemical routes for smart materials (2 H)

The session focuses on chemical routes to obtain smart and functional materials

8.1.1. Prof. Ernesto Di Maio (Università di Napoli Federico II). *Simply advanced foams*

WP8.2. Functional Materials in industrial scenario

The session focuses on the application of smart and functional materials in industrial sector

8.2.1. Dr. Paolo Vacca (SAES GETTERS). *Functional composites for advanced packaging solutions.*

8.2.2 Dr. Luca De Stefano (IMM-CNR). *Polymeric microneedles-based devices: from material design to application*

WP8.3. Advanced Fabrication for smart materials

WP8.3.1. Giovanni Vozzi (UniPi). Tailoring materials properties from nano to microscale.

WP8.3.2. Massimo Messori (UniMoRE). Additive Manufacturing of Shape Memory Polymers.

WP8.4. Smart Materials in Medicine

8.4.1. Silvia Marchesan (UniTs). *Nanostructured materials for selective chemical separation and advanced diagnostics*

8.4.2. Alessandro Sannino (UniLe, Materials). *From lab to fab: the Italian scenario of scale-up of smart materials in medicine*

8.4.3. Silvia Farè (PoliMi). *Smart Biopolymers for Hydrogels in Medicine*

PROGRAMME OF THE WORKSHOP:

The symposium will also include other key notes and oral communications that will be selected among the proposed contributes. A poster session is preview, in common with the other Workshops.

CALL FOR ABSTRACT: See general indications for the conference, indicating WS8 in the abstract form.

GRANTS:

10 grants for covering the participation fees (Reduced II) for PhD students, Post-doc and fellowships in Universities and research institutions that are affiliates to INSTM are available. Please apply sending a CV and a short motivation letter to the Workshop organisation committee, see above.