

08:45 Riccardo Donnini (ICMATE)

Assessment of mechanical and microstructural properties of structural alloys in fusion energy design for the EUROfusion framework

09:00 Chiara Aliotta (ISMN)

Doping strategies on perovskite oxides-based materials for clean energy and energy vectors

Chairperson: **LOREDANA DE BARTOLO** (ITM)

09:15 Monica Montesi (ISSMC)

3d scaffold-based cellular model mimicking the heterogeneity of osteosarcoma microenvironment, a new platform for preclinical study

09:30 Alessia Famengo (ICMATE)

Hybrids cellulose/TiO₂ substrates for biomedical applications

09:45 Francesca Della Sala (IPCB)

Natural polymers based substrates for pulmonary tissue regeneration

10:00 Lorenzo Degli Esposti (ISSMC)

Calcium phosphate nanoparticles loaded with therapeutic biomolecules for treatment of cardiovascular diseases and bacterial infections

10:15 Fausta Ulgheri (ICB)

PNRR PE13 INFACIT: Development of Immunomodulatory and Antiviral Lead Compounds

10:30 Coffee Break, Poster Session, Software Corner & UdVR Corner

Chairperson: **ELENA LANDI** (ISSMC)

11:00 Mario Marchionna (INVITED, SAIPEM)

Solutions for the decarbonization of hard to abate industries: a zero-carbon puzzle?

11:40 Frederic Monteverde (ISSMC)

Entropy as thermodynamic boost to stabilize compositionally complex ceramics: a diamond in a rough

11:55 Francesca Villa (ICMATE)

Thermomechanical and elastocaloric properties of NiMn-based shape memory alloys for solid-state cooling applications

12:10 Marinella Striccoli (IPCF)

Carbon Dots: new fluorescent nanoparticles for advanced optical applications

12:25 Francesco Galiano (ITM)

A new coating technology for the preparation of anti-fouling membranes

Chairperson: **SEBASTIANO TRUSSO** (IPCF)

12:40 Massimo Trotta (IPCF)

From sustainability to circularity. The mighty power of photosynthesis

12:55 Lucia Conzatti (SCITEC)

Macrocyclic oligomers of condensation polymers: from eco-composites to chemical recycling

13:10 Gianluca Di Profio (ITM)

Advanced membrane operations for the downstream processing of therapeutic biomolecules

13:25 Conclusioni Direttore DSCTM

13:40 Lunch

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Comitato Scientifico

Lidia Armelao	(DSCTM)	Maria Losurdo	(ICMATE)
Vincenzo Buscaglia	(ICMATE)	Michele Muccini	(ISMN)
Paola Stagnaro	(SCITEC)	Vincenzo Palermo	(ISOF)
Angelo Fontana	(ICB)	Claudio Sangregorio	(ICCOM)
Alberto Figoli	(ITM)	Alessandra Sanson	(ISSMC)
Cinzia Giannini	(IC)	Onofrio Maragò	(IPCF)
Salvatore Iannace	(SCITEC)	Eugenio Amendola	(IPCF)

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Francesco Verginelli	(DSCTM)		



GIORNATE DI DIPARTIMENTO CNR | DSCTM 2023

Molecular sciences, chemical technologies and materials for the global challenges



**18-20 OTTOBRE
2023**

Ex-Convento della Santissima Annunziata
Baia del Silenzio, Sestri Levante (GE)

Il Centenario del CNR è realizzato con il contributo della
Presidenza del Consiglio dei Ministri e con il Patrocinio di RAI



18 Ottobre

14:00 Saluti di apertura

Francesco Solinas, Sindaco Sestri Levante
Maria Chiara Carrozza, Presidente CNR
Lidia Armelao, Direttore DSCTM

Chairperson: LUIGIA CRISTINO (ICB)

14:30 Francesco Damin (SCITEC)

Analytical microsystems for infectious diseases: diagnosis and monitoring

14:45 Marianna Carbone (ICB)

Natural products chemistry as a tool to explore biodiversity and select promising bioactive metabolites: the contribution of ICB to the National Biodiversity Future Center (NBFC)

15:00 Andrea Sorrentino (IPCB)

Printing the Future of Orthopedics: Exploring the Boundless Horizons of Functional Materials and 3D Technologies

15:15 Giuseppina Rea (IC)

Space research and technologies addressing quality of life on Earth

Chairperson: FRANCESCA RAVERA (ICMATE)

15:30 Francesco Galeotti (SCITEC)

Functional Surfaces by Nano- and Microscale Fabrication of Soft Materials

15:45 Ilaria Bergenti (ISMN)

Spin-tunable interfaces for high speed and low consumption electronic devices

16:00 Lorenzo Poggini (ICCOM)

Titanium(III) Mixed-Sandwich Qubits on surface

16:15 Leonarda Liotta (ISMN) e Alessandro Mordini (ICCOM)

Meeting with the staff representatives in the Scientific Board of DSCTM

16:30 Coffee Break, Poster Session, Software Corner & UdVR Corner

Chairperson: MASSIMO TROTTA (IPCF)

17:15 Alessandro Benedetti (ICMATE)

MARECO, the polythematic marine laboratory of Bonassola: reconstruction and perspectives

17:30 Gerardo Grasso (ISMN)

AI based satellite and ground sensor analysis for surface waters protection: The EcoNet Project

17:45 Catia Algieri (ITM)

Photocatalytic membrane reactors: a possible route for environmental remediation

18:00 Daniela Caschera (ISMN)

Waste-derived cellulose and nanomaterials: a smart combination for nanotechnology application

18:15 Manuela Melucci (ISOF)

Advanced 2D materials and technologies for environmental applications

Chairperson: GIUSEPPINA REA (IC)

18:30 Giuseppe Di Natale (IC)

Study of peptides containing the KLVFF sequence: a potential route for understanding β amyloid aggregation

18:45 Andrea Caporale (IC)

SAR Study of the Human Host-Defence Peptide LL-37

19:00 Luigia Cristino (ICB)

Integrative Approaches by Multiscale Imaging, Biochemical and Functional Screening to Study Neuroactive Molecules

19:15 Elena Michelucci (ICCOM)

Proteomics analyses and integrative omics approach to highlight the common molecular signatures for different NCL forms

19:30 Greta Varchi (ISOF)

Biomimetic nanocarriers boosting chemotherapy by restoring breast cancer immune surveillance

20:30 Dinner

19 Ottobre

Chairperson: ALESSANDRO MORDINI (ICCOM)

08:20 Vladimiro Dal Santo (SCITEC)

Materials and processes for the sustainable hydrogen production

08:35 Donatella Spadaro (IPCF)

Next-Generation Photovoltaics: Unveiling the Synergy between Solar Energy, Nanomaterials, Green Chemistry and Technology

08:50 Barbara Ventura (ISOF)

Photoactive Arrays Based on Porphyrins and Acridinium Units

09:05 Simone Casadio (ISSMC)

Piezophototronic materials for solar conversion

09:20 Federica Aiello (IPCF)

NMR Spectroscopy as a Powerful Tool for Optimizing Perovskite Stabilization Processes

Chairperson: VINCENZO BUSCAGLIA (ICMATE)

09:35 Angela Altomare (IC)

Developing advanced methodology and computing to challenge the structure characterization of microcrystalline materials

09:50 Samuele Giannini (ICCOM)

Integrated Computational Protocols for Materials Science

10:05 Edoardo Mosconi (SCITEC)

Computational Modeling of Perovskites for Photovoltaics and photocatalysis

10:20 Coffee Break, Poster Session, Software Corner & UdVR Corner

Chairperson: LEONARDA LIOTTA (ISMN)

11:05 Andrea Candini (ISOF)

Exploiting fluorescent nanodiamonds for imaging and multimodal sensing in biological systems

11:20 Marzio Rancan (ICMATE)

Multifunctional luminescent lanthanoids systems for sensing and energy conversion

11:35 Andrea Cintio (IPCF)

High-temperature dielectric characterization for microwave-assisted processes

11:50 Mario Prosa (ISMN)

Smart Integration of Organic Optoelectronic and Photonic Components for a New Class of Miniaturized Biosensors

Chairperson: GABRIELLA DI CARLO (ISMN)

12:05 Sabrina Gualtieri (ISSMC)

Interdisciplinary methods for the study and enhancement of cultural heritage materials

12:20 Brenda Doherty (SCITEC)

Prediction and prevention of irreversible colour changes of dyes and pigments in artworks

12:35 Natalia Rovella (ITM)

Innovative eco-friendly materials for restoration and conservation of cultural heritage

12:50 Armida Torreggiani (ISOF)

CNR and School: Youth Educational Initiatives in the framework of DSCTM and beyond

13:05 Foto di gruppo

13:15 Lunch

Chairperson: SERGIO RIVA (SCITEC)

14:30 Fabrizio Cavani (INVITED, Università di Bologna)

Perspectives in the valorisation of biomass to chemicals and fuels

15:10 Elisabetta Alberico (ICB)

Methyl Formate as a Liquid Organic Hydrogen Carrier

15:25 Fabio Bazzarelli (ITM)

Formulation of bioderived lipid particles by membrane processes

15:40 Nicola D'Antona (ICB)

Cascade Biocatalysis Strategies... and Green Approaches in Samothrace Project

15:55 Pietro Russo (IPCB)

Green composites for automotive applications: opportunities, challenges and perspectives

Chairperson: PAOLA STAGNARO (SCITEC)

16:10 Alex Sangiorgi (ISSMC)

Advanced production processes for energy-related ceramics

16:25 Maria Rosaria Plutino (ISMN)

Functional hybrid nanomaterials as crucial tools for sustainable highly efficient products and smart technologies

16:40 Filippo Valorosi (ISOF)

Graphene-based heaters for aeronautical applications

16:55 Giuseppe Recca (IPCB)

New approaches for the manufacturing of hollow composite parts using wax-based blends loaded with ferromagnetic metal particles

17:10 Coffee Break, Poster Session, Software Corner & UdVR Corner

Chairperson: DOMENICO GAROZZO (IPCB)

17:55 Loredana De Bartolo (ITM)

Multifunctional membranes: New Insights into Regenerative Medicine

18:10 Mariangela Di Donato (ICCOM)

Design of a new class of light activated photoswitches for applications in photopharmacology

18:25 Giancarlo Tria (IC)

Potentiating the Italian Capacity for Structural Biology Services in Instruct-ERIC

18:40 Giunta DSCTM

20:00 Social Dinner

20 Ottobre

Chairperson: BARBARA VENTURA (ISOF)

08:30 Manuela Bevilacqua (ICCOM)

The Role of Electrochemistry and Electrocatalysis in a Sustainable Future Perspective: Representative Case Studies