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 INFACT: Development of Immunomodulatory and Antiviral Lead Compounds

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

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 Proffio (ITM)
Advanced membrane operations for the downstream processing of therapeutic biomolecules

13:25 Conclusions Direttore DSCTM

13:40 Lunch


18 Ottobre

**14:00** Saluti di apertura
Francesco Solinas, Sindaco Sestri Levante
Maria Chiara Carrozzi, Presidente CNR
 Lidia Armelao, Direttore DSCTM

Chairperson: **GIUSEPPINA REA (IC)**

14:15 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 (SCITEC)
Waste-derived cellulose and nanomaterials: a smart environmental remediation approach

16:00 Lorenzo Poggi (ICCOM)
Titanium(III) Mixed-Sandwich Qubits on surface

16:15 Leonardo 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 polythermic 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 Bevilacqua (ICB)
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 Cintio (ICB)
SAR Study of the Human Host-Defence Peptide LL-37

19:00 Luigia Cristina (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

**08:20** Vladimirino 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 Phosphoryls and Acidinium 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: **VINCENTO BUSCAGLIA (ICMATE)**

**09:35** Angela Altomare (IC)
Developing advanced methodology and computing to challenge the structure characterization of microcrystalline materials

**09:50** Giacomo Prampolini (ICMATE)
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 Candi (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 Ciotti (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 (ISSSM)
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

**14:00** 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

**08:30** Manuela Bevilacqua (ICCOM)
The Role of Electrochemistry and Electrocatalysis in a Sustainable Future Perspective: Representative Case Studies