



# Giornate di dipartimento

## DSCTM 2022

# 26-28 Ottobre 2022

## Aci Castello Catania

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## 26 Ottobre

14:00 *Saluti e apertura meeting*  
Presidente CNR e Direttore DSCTM

**Chairman:** **Maria Grazia Raucci**

14:30 **Alessia Ligresti** (ICB)

*Natural small molecules targeting cancer: a long journey from bench to bedside*

14:45 **Marcella Chiari** (SCITEC)

*Extracellular Vesicles in Liquid Biopsies*

15:00 **Angela Messina** (IPCB)

*Non invasive colorectal cancer liquid biopsy by exosomes N-glycome*

15:15 **Cristina Bolzati** (ICMATE)

*[<sup>99m</sup>Tc][Tc(N)PNP]-tagging of small peptide: impact of different PNP structures on the labeling and pharmacokinetics of the radioconjugates*

**Chairman:** **Matteo Ceppatelli**

15:30 **Monica Sandri** (ISTEC)

*Medicated 3d hybrid patches designed for disinfection and healing of deep, infected skin wound*

15:45 **Maria Chiara Trapani** (ISMN)

*Functional hybrid nanomaterials for sensing and biological applications*

16:00 **Francesca Petronella** (IC)

*Label-free and reusable plasmonic biosensor for the rapid detection of Escherichia coli cells in water*

16:15-17:15 **Coffee Break - Poster Session/Software Corner**

**Chairman:** **Paola Fini**

17:15 **Giuseppe Vitola** (ITM)

*Insights into Biocatalytic Membrane Reactors for pesticides degradation*

17:30 **Sergio Riva** (SCITEC)

*Biocatalysis and steroids at SCITEC: A forty-year history*

17:45 **Simone Quaranta** (ISMN)

*An example of circular economy: from mining tailings to value-added materials*

18:00 **Roberto Avolio** (IPCB)

*Design and processing of multicomponent polymeric materials towards improved recyclability and sustainability*

18:15 **Antonino Foti** (IPCF)

*Controlled aggregation of gold nanorods by radiation pressure for ultrasensitive sensing: from biomolecules to nano-plastics.*

**Chairman:** **Francesco Attanasio**

18:30 **Vincenzo Di Marzo** (ICB)

*Caratterizzazione chimica e biomolecolare dei microbiomi: nuove scoperte a cavallo tra il CNR e l'Université Laval*

18:45 **Daniilo Belviso** (IC)

*From multiscale X-ray based techniques to integrative structural biology and drug design*

19:00 **Ines Fasolino** (IPCB)

*Extracellular matrix analogues to treat acute and chronic neuroinflammation*

19:15 **Carla Ferreri** (ISOF)

*Cell membrane and lipidomics: a chemical-biological approach for precision medicine and nutraceuticals*

19:30 **Stefano Tartaglia** (ICB)

*Design and investigation of biologically relevant peptides*

20:30 **Dinner**

## 27 Ottobre

**Chairman:** **Nicola D'Antona**

08:20 **Invited lecture Gianluca Maria Farinola** (UniBa)

*From organic synthesis to synthetic biology: a route to sustainable materials for solar energy conversion*

09:00 **Enrico Ronca** (IPCF)

*Controlling molecular properties with quantum fields*

09:15 **Gabriele Manca** (ICCOM)

*CO<sub>2</sub> conversion into N-alkyl/aryl Oxazolidin-2-ones Promoted by Metal-Free catalyst*

**Chairman:** **Leonarda Liotta**

09:30 **Francesca Ravera** (ICMATE)

*Nanoparticles and nanostructures at liquid interfaces: from basic concepts to applications*

09:45 **Giuseppe Annino** (IPCF)

*Processing of SiC-based composites by means of micro wave-assisted techniques*

10:00 **Alessandro Kovtun** (ISOF)

*X-Ray Photoelectron Spectroscopy: a unique tool to understand the chemical structure of nanomaterials*

10:15 **Luca Zoli** (ISTEC)

*Processing and properties of Ultra high Temperature Ceramic Matrix Composites*

10:30-11:30 **Coffee Break - Poster Session/Software Corner**

**Chairman:** **Davide Altamura**

11:30 **Adele Brunetti** (ITM)

*Advanced Membrane operations for the hydrogen separation, purification and conversion into liquid carriers*

11:45 **Davide Barreca** (ICMATE)

*Towards clean energy production: eco-friendly material mastering to tailor the oxygen evolution reaction*

**Chairman:** **Enrico Ronca**

12:00 **Luisa Barba** (IC)

*The XRD1 Synchrotron hard X-ray light source beamline as a tool for chemistry, material science and technical engineering of materials*

12:15 **Elisa Carignani** (ICCOM)

*Solid State NMR Spectroscopy unravels Structural Complexity and Dynamics in Lead Halide Perovskite*

12:30 **Carlo Alberto Biffi** (ICMATE)

*Additive manufacturing of metallic implantable and customized components: design, manufacturing and characterization*

12:45 **Eletra Papa** (ISTEC)

*Geopolymer based materials for pollutant removal (from water and gas)*

13:00 **Matteo Ceppatelli** (ICCOM)

*Materials synthesis under extreme pressure conditions*

13:15 **Lunch**

**Chairman:** **Monica Sandri**

14:35 **Invited lecture Stefano Besseghini** (Presidente ARERA)

*Il Sistema energetico tra decarbonizzazione e sicurezza degli approvvigionamenti*

15:15 **Mario Foti** (ICB)

*Antioxidant properties of catechols against the hydroperoxyl radical, HOO\**

15:30 **Alessandra Criscuoli** (ITM)

*Membrane Distillation in Water Treatment and Desalination*

15:45 **Matteo Guidotti** (SCITEC)

*La Chimica per società più sicure e resilienti*

**Chairman:** **Manuela Melucci**

16:00 **Alfonso Martone** (IPCB)

*High performance epoxy vitrimers for recyclable carbon fiber reinforced composites*

16:15 **Ilaria Bergenti** (ISMN)

*New paradigms for spintronics based on functional interfaces*

16:30 **Serena Coiai** (ICCOM)

*Functional polymeric substrates with intercalated layered double hydroxides*

16:45-17:30 **Coffee Break - Poster Session/Software Corner**

**Chairman:** **Angelo Palmigiano**

17:30 **Giuseppe Pappalardo** (IC)

*Exploring conjugated peptides for neuroprotection and Abeta detection*

17:45 **Laura Siracusa** (ICB)

*Natural products: past, present and future*

18:00 **Emanuela Saracino** (ISOF)

*Probing structural and functional properties of primary astrocytes in vitro by fluorescent gold-nanoclusters (fAuNCs) as potential quantum nano-tools for the modulation of brain's functions*

**Chairman:** **Matteo Guidotti**

18:15 **Paola Fini** (IPCF)

*Eco-friendly strategies to remove emerging pollutants from wastewater*

18:30 **Rosaria Ciriminna** (ISMN)

*A circular economy approach to biowaste valorization*

18:45-20:00 **Giunta di Dipartimento**

20:30 **Social Dinner**

## 28 Ottobre

**Chairman:** **Maria Rosaria Plutino**

08:20 **Simona Barison** (ICMATE)

*Colloidal systems based on phase change materials and their applications in cooling, solar and construction technologies*

08:35 **Marco Scoponi** (ISOF)

*Methods for the identification of microplastics from flexible packaging of conventional plastics and bioplastics*

08:50 **Chiara Zanelli** (ISTEC)

*The Ceramic Industry in the challenge of sustainability through resource efficiency*

09:05 **Stefano Toffanin** (ISMN)

*A fully integrated miniaturized optical biosensor for multiplexing plasmonic detection of high-and low-molecular weight analytes*

**Chairman:** **Alessia Ligresti**

09:20 **Invited lecture Fabio Fava** (UniBo)

*The Biobased industry and circular Bioeconomy in Europe: state-of-the-art and new priorities*

09:45 **Antonella Piscioneri** (ITM)

*Topographical cues of PLGA membranes modulate the behavior of hMSCs, myoblasts and neuronal cells*

10:00 **Maria Cristina De Rosa** (SCITEC)

*Accelerating drug discovery through computer simulation methods and artificial intelligence*

10:15 **Monica Favaro** (UDVR-DSCTM)

*Unità di Supporto alla Ricerca di Dipartimento: risultati di un anno di attività*

10:30-11:10 **Coffee Break - Poster Session/Software Corner**

**Chairman:** **Antonella Piscioneri**

11:10 **Daniele Sanna** (ICB)

*Biospeciation of vanadium compounds with potential medicinal application*

11:25 **Marianna Pannico** (IPCB)

*Raman Spectroscopy and Raman Imaging for bioanalytical applications*

11:40 **Roberto Consonni** (SCITEC)

*La spettroscopia NMR: potenzialità presenti e future nella metabolomica agroalimentare*

11:55 **Francesco Bellia** (IC)

*Role and interplay of copper(II) and related ligands as effectors of  $\alpha$ -synuclein*

**Chairman:** **Adele Brunetti**

**Elena Villa**

12:10 **Enrica Fontananova** (ITM)

*Sustainable Energy Recovery from Salinity Gradients by Reverse Electrodialyses*

12:25 **Hamish Miller** (ICCOM)

*Electrocatalysis for future sustainable energy generation and storage*

12:40 **Jessica Groppi** (ISOF)

*The Evolution of Light Effected Autonomous Molecular Pumps*

12:55 **Elisa Mercadelli** (ISTEC)

*Ceramic materials for the Hydrogen Economy*

13:10 **Valentina Villari** (IPCF)

*Porphyrin-based supramolecular nanocomposites: properties and opportunities*

13:25 **Conclusioni Direttore DSCTM**

13:45 **Lunch**