



PhD in Chemical
Sciences at Unifi
PiCSU 2025

Tuesday 14th January 2025

14:00	14:45	Opening session	Opening speech	
Chair: Andrea Sodini, Samuele Baldini				
14:45	15:03	OR01	Chiara Sarti	Addressing emerging microcontaminants in wastewater: the role of advanced nature-based solutions
15:03	15:11	OR02	Matteo Orlandi	Developing and Validating a New Force Field for Cadmium Proteins via QM/MM and MD Simulations
15:11	15:23	OR03	Angela Sofia Tino	Revealing the potential of a chimaera: a peptide-peptide nucleic acid molecule designed to interact with the SARS-CoV-2 N protein
15:23	15:31	OR04	Francesco Brenzini Biagioni	Synthesis of 5-member heteroaromatics containing peptide backbones: pro and cons of structural constraints induced by amide bond surrogates
15:31	15:43	OR05	Benedetta Ciuffi	Effect of process parameters on the physical-chemical properties of hydrochar from rigid polyurethane foams
15:43	16:15	Coffee break		
16:15	16:33	OR06	Lorenzo Bracaglia	Relaxation-edited NMR experiments to target multidomain proteins
16:33	16:41	OR07	Valentina Pacciani	Engineering Hybrid Synthetic-Biogenic Liquid Crystalline Nanoparticles for Biomedical Applications
16:41	16:53	OR08	Laura Sforzi	Crossing aquatic systems: insights into microplastic pollution in the Mediterranean Sea
16:53	17:01	OR09	Giulia Agnoloni	Chiral Donor-Acceptor Dyads to explore the CISS Effect
17:01	17:15	End of day one		



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Wednesday 15th January 2025

9:00	9:10	Opening of day two		
Chair: Yshtar Tecla Simonini Steiner, Matteo Orlandi				
9:10	9:28	OR10	Riccardo Spena	Microfluidic approach for the analysis of encapsulating agents in fabric care
9:28	9:40	OR11	Andrea Sodini	Bacteria Outer Membrane Vesicles Conjugated with MUC1 Antigen Mimetics with Increased Immune Response
9:40	9:52	OR12	Andrea Geri	Mechanistic Studies on Antitumor Gold Compounds
9:52	10:00	OR13	Valentina Ceccherini	Metal-based drugs: an insight into the development of novel antimicrobial agents
10:00	10:18	OR14	Francesca Bucu	Multivalent C2-alkylated piperidines as potential modulators of the β-glucocerebrosidase enzyme activity
10:18	10:30	OR15	Giulia Bonaccorso	Pyrolysis coupled to gas chromatography for the identification and quantification of plastic polymers in environmental and food samples
10:30	11:30	Coffee break & Poster Session		
11:30	11:48	OR16	Lorenzo Pacini	Solid-Phase Peptide Synthesis Beyond Dimethylformamide: Production of GLP1 agonist using green binary solvent mixture.
11:48	12:00	OR17	Mariano Riccardi	Adsorption of molecular magnets on metal surfaces
12:00	12:12	OR18	Chiara Mangini	A tailored CNC-AuNPs hybrid for precision radiotherapy in oncology
12:12	12:30	OR19	Michelangelo Fichera	Production of carbonaceous materials from biomass of high environmental hazard, their characterization and application for water depuration and analytical purposes



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12:30	12:38	OR20	Deborah Bonavolontà	Natural non-lamellar lipid scaffolds for cosmetics applications
12:38	12:50	OR21	Pietro Gentilesca	Development of materials for the selective coordination of critical elements present in production waters
12:50	13:02	OR22	Elena Mariani	Advancing Electroplating: The Potential of Pulsed Current Techniques for Superior and Sustainable Coatings
13:02	14:00	<i>Lunch</i>		
<i>Chair: Andrea Dali, Lapo Querci</i>				
14:00	14:18	OR23	Fernando Soto Bustamante	Characterizing Viscoelastic Properties and Confinement-Induced Dynamics in PVA-Chitosan Hydrogels
14:18	14:30	OR24	Fabio Biffoli	Sustainability and optimization of an electroplating industry: from multilayer engineering to theoretical understanding of charge transfer processes
14:30	14:38	OR25	Lapo Gabellini	The use of XPS photoelectron and Auger lines in the characterization of catalysts and their supports
14:38	14:50	OR26	Neri Fuochi	Innovative Smart Materials: From Reversible Shape Control to Passive Sweat Collection in Microfluidic Sensors
14:50	15:08	OR27	Lucrezia Cosottini	Ferritin-based anticancers
15:08	15:35	<i>Coffee Break</i>		
15:35	15:53	OR28	Marco Bonechi	Oxygen Reduction Reaction Catalysts from Electroplating Industries Waste Solution
15:53	16:01	OR29	Martina Tozzetti	Biomimetic Nanoarchitectures for Aerosol Treatment



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16:01	16:09	OR30	Matilde Rossi	Development of peptide nucleic acids-based molecules targeting G-quadruplex structures
16:09	16:17	OR31	Pedro Miguel Ascenso Vieira	Precision cancer therapy: strategies to selectively inhibit the biosynthesis of cancer associated glycans
16:17	16:30	<i>End of day two</i>		



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Thursday 16th January 2025

9:00	9:10	Opening of day three		
Chair: Leonardo Tacconi, Matilde Rossi				
9:10	9:28	OR32	Michele Casoria	Exploring Glycopeptide and Glycoprotein Structure and Dynamics. A Computational Study: from Classical Methods to Machine Learning Approaches
9:28	9:40	OR33	Chiara Baroni	Dual-Targeting Anticancer Agents: Design and Evaluation of Compounds Targeting Carbonic Anhydrase and Histone Deacetylase
9:40	9:52	OR34	Francesca Mancusi	Repurposed and novel molecules in photodynamic therapy with antimicrobial activity
9:52	10:00	OR35	Alice Beni	Wound Management: the importance of prevention and of appropriate treatments
10:00	10:18	OR36	Daniela Porcu	New strategies for the monitoring and the inhibition of metals and alloys corrosion in Cultural Heritage
10:18	10:30	OR37	Stefano Zineddu	Exploring the potential of metal-based compounds against multidrug resistant pathogens: the case of Burkholderia cenocepacia
10:30	11:30	Coffee break & Poster Session		
11:30	11:48	OR38	Michael Quagliata	Peptide Inhibitors of SARS-CoV-2 Cell-Entry: Synthesis, Structural Analysis, and Biological Evaluation
11:48	12:00	OR39	Laura Conti	Non-lamellar Lipid Nanoparticles as Innovative Vectors for RNA Delivery
12:00	12:12	OR40	Ilaria Chiarugi	Development and Optimization of Self-Assembling Modified Beta-Cyclodextrin-Based Nanocarriers for gene delivery
12:12	12:30	OR41	Alessandro Gerace	Synthesis of innovative nanomaterials to develop improved Rare Earths-free permanent magnets



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Thursday 16th January 2025

12:30	12:38	OR42	Samuele Baldini	Development and characterization of emulsion-templated PDMS organogels for modern and contemporary artworks cleaning
12:38	12:50	OR43	Prem Prakash Sahu	Computational Exploration of Magnetic Exchange in Transition Metal Molecular Spin Qubits: From Isolated Molecules to Bulk Phases
12:50	13:02	OR44	Chiara Cianci	Sustainable Nanostructured Coatings for the Conservation of Street-Art
13:02	14:00	<i>Lunch</i>		
<i>Chair: Prem Prakash Sahu, Lorenzo Pacini</i>				
14:00	14:18	OR45	Margherita Verrucchi	Electrochemical Strategies and Electrodeposition Techniques for Advancing Decorative Electroplating Applications
14:18	14:30	OR46	Leonardo Tacconi	Enhancing the rotating magnetocaloric effect in lanthanide complexes via high order magnetic anisotropies
14:30	14:38	OR47	Marta Albanesi	Ultra-low temperature magnetic investigation of a single molecule magnet on a type-II superconductor
14:38	14:50	OR48	Pietro Tordi	Multiresponsive Ionic Conductive Alginate/Gelatin Organohydrogels with Tunable Functions
14:50	15:08	OR49	Sara Aquilia	Valorization of Rapeseed Meal Proteins to Developing Sustainable Biodegradable Composites
15:08	15:35	<i>Coffee Break</i>		
15:35	15:53	OR50	Yshtar Tecla Simonini Steiner	Recognition of emerging pollutants (EPs) with artificial fluorescence chemical sensors: a supramolecular approach
15:53	16:01	OR51	Thomas Lulli	A Key Cope-House Reaction Accomplishes the First Stereoselective Synthesis of Polyhydroxylated 3-Methylindolizidines



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Thursday 16th January 2025

16:01	16:09	OR52	Simone Ventisette	Synthesis and Application of Polynorepinephrine-Derived Biomimetic Receptors: Nanoparticles and Films for Advanced Biosensing
16:09	16:17	OR53	Silvia Bracci	Anti-MOG glycopeptide antibodies for MOG antibody-associated disease patient stratification
16:17	16:30	<i>End of day three</i>		



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Friday 17th January 2025

9:30	9:40	Opening of day four		
Chair: Simone Ventisette, Silvia Bracci				
9:40	9:58	OR54	Alice Cappitti	Design and applications of innovative polymeric materials
9:58	10:10	OR55	Ilaria De Santis	Gold nanoparticles and lipid vesicles: a gateway to advanced nanoplasmonic and SERS probes for biomedical applications
10:10	10:18	OR56	Luca Campagiorni	Study of the physico-chemical properties and hydration reactions of cement formulation based on ground granulated blast furnace slag with varying sulfate content
10:18	10:30	OR57	Sara Pavone	Synthesis of iminosugar derivatives as potential agrochemicals for crop protection
10:30	10:42	OR58	Giulio Pappaiani	Electrodeposition and modification of surfaces of technological interest with low environmental impact
10:42	11:00	OR59	Serena Benedetta Cabigliera	Technological and biological innovations in tackling Microplastics and Microfibers Pollution
11:00	11:08	OR60	Filippo Turchi	Targeting Intrinsically Disordered Proteins in Neurodegenerative Diseases: Exploring pharmacological chaperone for Dual Action on α -Synuclein and GCase
11:08	11:30	Coffee Break		
11:30	11:48	OR61	Alessandro Veneri	Eco-Friendly Optoelectronic Devices: Semiconductors and Solar Cells for a Cleaner Tomorrow
11:48	12:00	OR62	Riccardo Gallorini	Comparative Evaluations of Thermochemical Reactions for Residual Biomass Conversion
12:00	12:12	OR63	Margherita Marino	Antibody-drug conjugates: a strategy of purification and identification



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Friday 17th January 2025

12:12	12:20	OR64	Lapo Querci	Development of hybrid devices based on a liquid metal alloy junction
12:20	12:38	OR65	Andrea Dali	Advanced spectroscopic study aiming to the understanding of the heme biosynthetic pathway of Gram-positive bacteria
12:38	12:46	OR66	Amina Mumtaz	Removal of PFAS by Graphene nanosheet polymer
12:46	12:58	OR67	Ilaria Antonia Vitale	Design and Development of Wearable Electrochemical Sensor for The Monitoring of Clinical Parameters
12:58	14:00	<i>Lunch</i>		
<i>Chair: Leonardo Tacconi, Andrea Sodini</i>				
14:00	14:18	OR68	Mert Acar	Hofmeister Effects on the Gelation Properties of a Peptide Hydrogel
14:18	14:30	OR69	Lorenzo Quadrini	Electrochemical Urea Sensing in Wastewater Using a Flow Biocatalytic Approach
14:30	14:42	OR70	Francesca Milano	Dextran-Modified Poly(allylamine) Nanoparticles as Nanocarriers for the Delivery of Enzymes involved in Lysosomal Storage Diseases
14:42	15:00	OR71	Laura Vespignani	Study of new eco-friendly materials for Cultural Heritage preservation
15:00	15:08	OR72	Georgia-Myrto Prifti	Multivalent Golgi-targeting compounds for the precision delivery of cancer therapeutics
15:08	15:20	OR73	Leonardo Querci	Shedding light on the electron delocalization pathway at the [Fe ₂ S ₂] ²⁺ cluster of FDX2
15:20	15:32	OR74	Sofiane El Barkaoui	Optimising Biochar-Based Column Filtration Systems for Enhanced Pollutant Removal in Wastewater Treatment: A Preliminary Study
15:32	15:45	<i>Closing session</i>		



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Poster presentation

POS01	C�line Adamo	Formulation and Physicochemical Characterization of Self-Assembling Biomolecular Aggregates and “Green” Sustainable Microcapsules
POS02	Chiara Baldi	Synthesis of paramagnetic porphyrin-based complexes and preliminary measurements for optical spin polarization
POS03	Emmanuel Baranger	Use of Sergent & Soldiers effect for chirality control of supramolecular nanotubes of Single-Chain Magnets deposition
POS04	Elisa Bianchi	Nanocellulose as biocompatible and versatile platform for delivering drugs
POS05	Consuelo Bigelli	Study of magnetic anisotropy of lanthanide complexes trough ab initio methodologies
POS06	Debora Briganti	Calcium Phosphate-Based Drug Delivery Nanosystems with Ionic Substitutions and Polymer Coatings for Applications in Nutraceuticals, Antitumor Therapies, and Bone Repair
POS07	Sara Callozzo	Immune-checkpoints response and Siglecs involvement as therapeutics targets.
POS08	Mattia Carbone	Smart device for fish and seafood freshness and quality
POS09	Quentin Chenin	Development and Characterization of Protein made Materials for Food Packaging Applications
POS10	Claudia Giovani	Sustainable Metal Deposition for Advancing High-Tech Materials
POS11	Mariasole Gobbo	Energetic valorization of lignocellulosic biomasses from industrial manufacturing
POS12	Livia Guiggi	Development of constructs for saccharide antigen’s presentation



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Poster presentation

POS13	Lorenzo Isidoro	Synthesis of Organic and Hybrid Organic-Inorganic Functional Materials for Heterogeneous Catalysis and Gas Storage
POS14	Irene Lunghi	Development of a new strategy for the inhibition of chemical and biological degradation on black-and-white photographs
POS15	Naufia Mohamedzakaria Shibinasbarveen	Macrocycles and Covalent Podands for Molecular Recognition of Carbohydrates
POS16	Francesco Montanari	Innovative approaches for sustainable metal coating for energy applications and the Made in Italy industry
POS17	Alessio Morano	Stereocontrolled synthesis of polyhydroxylated iminosugars: from small molecules to polymer decoration for antibacterial applications.
POS18	Sara Morozzi	Implementation of a database of contaminants of emerging concern as training set of preconcentration protocols for non-target analysis
POS19	Daniele Sartini	Complexes on a bookshelf: A library for a better understanding of Spin-Electric effects
POS20	Francesca Serventi	Development of natural encapsulation systems for the controlled release of active molecules
POS21	Davide Sestaioni	Machine Learning-Assisted Imprinting Analysis of Epitopes in Polynorepinephrine Biopolymers via (L)SPR Assay
POS22	Shima Siadohoni	Design, synthesis and biological evaluation of SARS-CoV-2 peptides: therapeutic and diagnostic applications
POS23	Zhiyi Zhou	Conjugation strategies toward the development of carbohydrate-based vaccines against <i>Acinetobacter baumannii</i>