

**1ST POLISH-ITALIAN CONFERENCE**

**ON CHEMISTRY,  
MATERIALS AND  
BIOMEDICINE (CMB)**

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**PROGRAMME**

**18 - 19 SEPTEMBER 2025**





**PROGRAMME**  
**THURSDAY, 18.09.2025**

- 9:30 – 10:00**    **Plenary Lecture:**  
**The Intriguing World of Nucleoamino Acids and Nucleopeptides: Synthetic Approaches, Nucleic Acid Binding Studies and Self-Assembling Properties**  
Domenica Musumeci
- Talks:**
- 10:00 – 10:15**    **Metal Ion–Peptide Interactions: Effects on the Structure and Chemistry of Cosmetic and Biologically Active Peptides**  
Joanna Makowska
- 10:15 – 10:30**    **Phospha-Fluorophenylglycines, Synthesized as Potential Inhibitors of Human Urokinase Plasminogen Activator and Evaluated for Their Anticancer Activity**  
Donata Pluskota-Karwatka
- 10:30 – 10:45**    **Biomimetic Organocatalytic Reactions of Pyruvate**  
Jacek Młynarski
- 10:45 – 11:00**    **Artificial Intelligence in Chemistry: Designing Molecules with Desired Properties**  
Marcin Hoffmann
- 11:00 – 11:15**    **Bioinspired Metal–Ligand Coordination Compounds as Selective Agents Against Drug-Resistant Cells and Pathogens**  
Mariusz Makowski
- 11:15 – 11:30**    **Formation of Polymers Layers for Electrochromic Applications by On-Substrate Polymerization Methods**  
Monika Wałęsa-Chorab
- 11:30 – 12:00**    **Coffee Break**
- 12:00 – 12:30**    **Plenary Lecture:**  
**New Fluorophores and Noble Metal Nanoclusters Two-Photon Probes for Amyloid Imaging**  
Joanna Olesiak-Bańska
- Talks:**
- 12:30 – 12:45**    **Adsorption of Proteins and Peptides at the Liquid–Liquid Interface**  
Martin Jönsson-Niedziółka
- 12:45 – 13:00**    **Interplay Between Hemin and Neuronal Peptides Relevant to Neurodegenerative Diseases**  
Simone Dell’Acqua
- 13:00 – 13:15**    **Antimicrobial Peptidomimetics Based on Salivary Peptides – a Comparison of Stability, Structure, Coordination Chemistry and Antimicrobial Activity**  
Klaudia Szarszoń
- 13:15 – 13:30**    **Structural and Functional Characterization of Metalloporphyrinoid–Amyloid B Interactions**  
Arian Kola



**PROGRAMME**  
**THURSDAY, 18.09.2025**

**13:30 – 15:00**    **Lunch Break**

**PROF. HENRYK KOZŁOWSKI SESSION**

**15:00 – 15:30**    **Plenary Lecture:**  
**Natural Polyphenols as Modulators of Copper-Mediated Amyloid- $\beta$  Aggregation and Toxicity**  
Daniela Valensin

**Talks:**

**15:30 – 15:45**    **Uncovering Metabolic Alterations in Cognitive Decline: Focus on the Astrocyte-Neuron Lactate Shuttle**  
Piotr Młynarz

**15:45 – 16:00**    **Metal-Histidine Complexes, the Pillar of a Thirty-Year Collaboration Between Ferrara and Wrocław Universities**  
Maurizio Remelli

**16:00 – 16:15**    **Copper Uptake and Metallophore-Mediated Transport in Pathogenic Bacteria**  
Aleksandra Hecel

**16:15 – 16:30**    **Transition Metal Bioavailability and Coordination in Microbial Defense and Viral Invasion**  
Massimiliano Peana

**16:30 – 16:45**    **Peptidomimetics and Peptide Conjugates – a Challenge for Cosmeceutical and Pharm, Aceutical Industry**  
Rafał Latajka

**16:45 – 17:00**    **Development of Novel Peptide-Mimetic Compounds as Potential Anticancer Agents: a Collaborative Polish-Italian-Armenian Study**  
Danuta Witkowska

**17:00 – 17:30**    **Coffee Break**

**Talks:**

**17:30 – 17:45**    **Selective Formation of Silver-Mediated X-AGI-T Base Pairs in DNA Duplexes**  
Alicia Domínguez Martín

**17:45 – 18:00**    **Plant-Derived Extracellular Vesicles for Drug Delivery**  
Miquel Barceló-Oliver

**18:00 – 18:15**    **Transition Metal vs. Organocatalyzed Hydrometallation Reactions**  
Jędrzej Walkowiak

**18:15 – 18:30**    **Lanthanum(III) and Dysprosium(III) Hexaaza Macrocycles Revisited: Enhanced Stabilization of G-quadruplex DNA**  
Marta Fik-Jaskółka



**PROGRAMME**  
**FRIDAY, 19.09.2025**

- 9:30 – 10:00**    **Plenary Lecture:**  
**A Quest for Chemical Diversity – Organocatalytic Cycloadditions, Higher-Order Cycloadditions and Beyond**  
Łukasz Albrecht
- Talks:**
- 10:00 – 10:15**    **Cage-Like Functionalized Silsesquioxanes: Multifunctional Building Blocks for Biomedicine**  
Łukasz John
- 10:15 – 10:30**    **Redox Changes in Carbo-/Heterocyclic 3D Skeletons**  
Miłosz Pawlicki
- 10:30 – 10:45**    **Novel Advanced Supramolecular Synthons Based on Combined Sets of Molecular Multiste Anion Receptors**  
Robert Podgajny
- 10:45 – 11:00**    **Engineering Interactions to Tailor Nanomaterials for Antimicrobial and Antiviral Applications: From Surface Engineering to Selective Biocontrol**  
Jan Paczesny
- 11:00 – 11:15**    **Pyrrrole-Based Mechanically Interlocked Molecules: Dynamics, Tautomerism, Chirality**  
Bartosz Szyszko
- 11:15 – 11:30**    **The Multifunctionality of Self-Assembling Copper (II) Supramolecular Systems Based on Imine Ligands**  
Daria Nowicka
- 11:30 – 12:00**    **Coffee Break**
- 12:00 – 12:15**    **Developing of New Artificial Pseudoenzymes Based on Spytag/Spycatcher Anchored on Bacteria Surface for Hydrogen Production**  
Valentina Borghesani
- 12:15 – 12:30**    **Exploring Synthetic Amino Acids for Biomedical Applications**  
Pasqualina Liana Scognamiglio
- 12:30 – 12:45**    **Mercury Levels in Biological Samples of Women With and Without Breast Cancer: Correlation and Risk Assessment**  
Joanna Słowik
- 12:45 – 13:30**    **ERC Workshop Intro**
- 13:30 – 15:00**    **Lunch**
- 15:00**            **ERC Workshop**