51st Congress of the Physical Chemistry Division

7-10 July 2026 Polytechnical University Bari

Latest program update 22 June 2026

Tuesday 7 July 2026

Time	Room A	Room B	Room E
09:15-10:00	**Registration**		
10:00-10:30	**Coffee break**		
10:30-11:15	**Opening:** Prof. M. Venanzi (President DCF SCI), Prof. Umberto Fratino (Rector, Polytechnic University of Bari), Prof. Roberto Bellotti (Rector, University of Bari), Prof. Lidia Armelao (Director, DSCTM-CNR), Prof. G. Palazzo, (Director of Chemistry Department University of Bari), Dr. Onofrio Maragò (Director of CNR IPCF), Prof. Angela Agostiano (President, EuChemS).		
11:15-12:00	**Plenary lecture – I. Pastoriza-Santos, Colloidal Plasmonic Nanomaterials as Platforms for (Bio)Sensing – (Room A)** Chair: TBD		
12:00-13:00	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O1 D. Ranieri** - Enhancing the Optical Response of Gold and Silver Nanoclusters via Rigid Embedding in High-Refractive Index Polyacrylamide Matrix **A O2 A. Mercedi** - Spectral Reshaping of Porphyrin Excitation by Plasmonic Nanostructures **A O3 G. Cappelletti** - Turning Wate Into Value: Sustanable Bio-Emulsifiers from Agro-Food By-Products **A O4 Adriana Grandolfo** - Chemical-Affinity-Driven SERS Response of Histidine-Functionalized RGO/Ag Nanowire Nanocomposites on Hydrophobic Paper	**Physical Chemistry for Health and Life Sciences** | Chair: TBD **D O1 R. Oliva** - Modulating Disease-Related Biocondensates with Small Bioactive Peptides **D O2 D. Roversi** - Membrane Interactions of Antimicrobial Peptides: a Kinetic Perspect **D O3 M. Roggio** - Aerosol-Assisted Atmospheric Pressure Plasma Jet Deposition of Antimicrobic Zinc-Based Nanocomposite Thin Film	**Materials and Nanoscience for Sustainable Technologies** | Chair: TBD **F O1 S. Garroni** - Low-Temperature Formation of BCZT Piezoceramics: Kinetic Pathways and Structure–Property Relationships **F O2 S. Slimani** - Spin Disorder in Hollow Nanoarchitectures: Beyond Geometric Surface Effects **F O3 G. Ragusano** - Enhanced Physico-Chemical Characterization of Complex Hybrid Nanocomposites: an O_2-GCIB TOF-SIMS Depth Profiling Approach **F O4 V. Spampinato** - Physico-Chemical Insights into the Stepwise Assembly of Copper-Based Metal-Organic Frameworks Thin Films on Functionalized Silicon Oxide
13:00-14:40	**Lunch**		
14:40-15:25	**Plenary lecture – C. Giannini, Deciphering the Hierarchical Structure of Natural and Engineered Materials - A Multiscale X-ray Scattering-based Approach – (Room A)** Chair: TBD		
15:25-15:35	**Sponsor presentation - Graziella Gariano ALFATEST (Room A)**		
15:35-16:05	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O5 F. L. Damiani** - Crystal Structure Refinement of New Organocatalyst: Benchmarking Between Independent Atom Model (IAM) Refinement and Hirshfeld Atom Refinement (HAR) **A O6 L. Evangelisti** - Decoding Molecular Structure with Rotational Spectroscopy	**Soft Matter, Interfaces, and Complex Systems** | Chair: TBD **C O1 V. La Gambina** - Exact Stoichiometry Far-Off Neutrality Catanionic Nanotubes: Unconventional Self-Assembly of Oppositely Charged Surfactants **C O2 G. Li Destri** - Macro- and Nanoscale Electrostatics Govern the Static and Dynamic Behaviour of Charged Aqueous Interfaces	**Materials and Nanoscience for Sustainable Technologies** | Chair: TBD **F O5 D. Peddis -** From Cultural Heritage to Fundamental Magnetism: Insights from Nanostructured Hematite **F O6 M. L. Saladino** - The NanoLuBC Project: a Join Chairs on Innovative Nanostructured Materials with Luminescent Properties for Cultural Heritage
16:05-16:45	**Coffee break**		
16:45-17:30	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O7 G. Sambucari** - Integrating Twisted and Push-Pull Structural Motifs for Efficient Dual-Functioning Near-Infrared Bodipy Photosensitizers **A O8 P. Sassi** - Spatially Resolved Biochemical Signatures of Cardiorenal Syndrome Revealed by FTIR Imaging **A O9 S. Massardo** - SpeComp: a User-Friendly Tool for Spectral Comparison to Facilitate Microplastics Detection in Complex Biological Matrices	**Soft Matter, Interfaces, and Complex Systems | Chair: TBD** **C O3 S. Napoletano** - Soluplus® Micelles Characterization and Application in Drug Delivery **C O4 R. E. Camerini** - Bio-Based Polyglycerol Esters for LLPS-Driven Soft Microencapsulation **G O1 P. Lasala** - Cellulose-Based Nanocomposites Embedding Metal Oxides Nanoparticles for Dye Removal from Wastewater by Synergistic Adsorption and Photocatalytic Processes	**Electrochemistry, Catalysis, and Energy Conversion** | Chair: TBD **E O1 R. Del Sole** - Combined Atomic Layer Deposition and Sputtering of ZnO/Cu Coatings for CO_2 Electroreduction **E O2 N. Iuliano** - Spectroelectrochemical Insights into Heterogeneous Catalysts for the CO_2 Reduction Reaction **E O3 F. Panagini** - Structural Insights on FeZnCuK Catalysts for Mild Photothermal CO_2-to-Hydrocarbons
17:30-18:00	**Invited lecture – Pier Paolo Abis (Acquedotto Pugliese S.p.A.), Ensuring Drinking Water Quality in Acquedotto Pugliese through the Digitalization of the Water Safety Plan - (RoomA)** Chair: TBD		
18:00-18:15	**Leonardo Marchese – The Research and Development Center for Environmental Remediation and Protection (RisPA CENTER)**		
18:30-20:30	**Welcome event at Caffè Vergnano Via Amendola**		

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Wednesday 8 July 2026

Time	Room A	Room B	Room E
09:15-10:00	**Plenary lecture – G. M. Pavan, The Information Contained in Self Assembling Systems - (Room A)** Chair: TBD		
10:00-11:15	**Theory, Modelling, and Data-Driven Physical Chemistry** | Chair: TBD **B O1 F. Avanzini** - Coarse Graining Photo-Isomerization Reactions: Thermodynamic Consistency and Implications for Molecular Ractchets **B O2 G. Bocchinfuso** - Multiscale Molecular Dynamics for Probing Second-Timescale Protein Conformational Changes: The SHP2 Activation Case **B O3 N. Tuccitto** - When Molecules Communicate: Entropy Production as the Thermodynamic Cost of Molecular Information Transfer **B O4 S. Pezzola** - The Perfect Couple: a Critical Analysis of CAM-B3LYP/SMD for Alcohol pKa Prediction **B O5 D. Tatini** - Machine Learning and Data Fusion Strategies for the Investigation of Hofmeister Effects in Polysaccharide Systems Combining IR Spectroscopy and Thermal Analysis	**Physical Chemistry for Health and Life Sciences** | Chair: TBD **D O4 P. Maltoni** - Magnetic Response of Giant Unilamellar Vesicles Embedding Functionalized Magnetite Nanoparticles **D O5 G. Quaglia** - Photothermal Effect of Gold Nanostructures on Amyloid Aggregates: Role of Shape and Size in the Optical Response **D O6 F. Cardoni** - Plasmonic Au NP-Derived Thin Films for Monitoring Cardiac Cells and Their Biomarkers **D O7 G. Mandriota** - Functionalized Petal-Like ZnO as a Promising Nanoplatform for Gene Delivery **D O8 V. De Leo** - Liposomal Co-Encapsulation of Curcumin and Quercetin Enhances the Protective Effect on Endothelial Cells from TNF-α-Induced Inflammation, Oxidative Stress, and Apoptotic Damage	**Electrochemistry, Catalysis, and Energy Conversion** | Chair: TBD **E O4 M. Grattieri** - Tuning Bacteria-Electrode Interfaces for Biohybrid Electrochemical Systems **E O5 M. Viviani** - Stability and Electrochemical Properties in Multi–Doped Sr Ferrates **E O6 A. Astengo** - The Gilded Cage: Towards High Thermoelectric Efficiency in Single-Filled Skutterudites **E O7 V. Ferrara** - Interference and Plasmonic Effects in Dielectric/Metal/Dielectric Multilayers for Semi-Transparent Perovskite Solar Cells **E O8 C. Zonno** - Controlling Energy Flow in *Rhodobacter Sphaeroides* Chromatophores via Selective Electron Transfer Inhibition
11:15-12:00	**Coffee break**		
12:00-12:30	**Keynote – P. L. Gentili, The Contribution of Photochromic Materials in the Development of Chemical AI - (Room A)** Chair: TBD		
12:30-13:30	**Fundamental Physical Chemistry: Structure, Dynamics, And Spectroscopy** | Chair: TBD **B O6 I. Rivalta** – Generating Molecules with Artificial Intelligence without Databeses **A O10 A. Scarperi** - Multinuclear Solid-State NMR Investigation of Adsorption-Induced Structural Changes and CO_2 Dynamics in Calf-20 **A O11 A. Ghelardi** - Molecular Motions of Active Pharmaceutical Ingredients Investigated by Solid-State NMR Spectroscopy **A O12 S. Melandri**- The Halogen Advantage: the Role of Halogen Atoms in Architecting Novel Non-Covalent Interactions	**Soft Matter, Interfaces, and Complex Systems** | Chair: TBD **C O5 G. Graziano** - Magnitude of Macromolecular Crowding Caused by Dextran and Ficoll **C O6 G. Palazzo -** The Empirical HLD-NAC Model of Microemulsion Can Be Rationalized on the Basis of Random Field Description of Oil/Water Domains **C O7 A. Del Giudice** - Complex Coacervation Between Sodium Decanoate and Cationic Inulin: Structural and Deposition Studies of Bio-Based Polymer and Surfactant Mixtures **C O8 M. Tancredi** - Microfluidic Production of Rhamnolipid Coacervates: Linking Droplet Formation to Internal Organization	**Environmental Physical Chemistry** | Chair: TBD **G O2 A. Carmelo Perri** - Thiol-Functionalized Chitosan Derivative as a Novel Bioadsorbent for Selective Mercury Remediation **G O3 M. Baratta** - Synthesis and Preparation of Cyclodextrin Modified Carbon Nanotube Buckypapers for the Efficient Removal of Carbofuran from Water **G O4 S. Nanan** - Magnetic Fe_3O_4/BiOBr for Sunlight Degradation of Tetracycline Antibiotic **G O5 F. Secci** - Probing Aluminum Speciation and Surface Acidity in Mesostructured Aluminosilicates: Structure–Acidity Insights for CO_2-to-DME Conversion
13:30-15:15	**Lunch**		
15:15-16:00	**Plenary lecture – R. Marcilla, Unlocking the Potential of Organic Materials for Energy Storage: The Fascinating Journey Toward Sustainable Batteries – (Room A)** Chair: TBD		
16:00-16:30	**Keynote – A.B. Muñoz-García, Addressing Complexity in Energy Materials and Interfaces: Predictive Modeling Strategies Beyond DFT - (Room A)** Chair: TBD		
16:30-17:15	**Theory, Modelling, and Data-Driven Physical Chemistry** | Chair: Tbd **B O7 M. A. Zambrano Angulo** - Atomistic Insights into Hole Injection at Multi-Cation Perovskite/HTL Interface **B O8 A. Landi** - From Electronic Structure to Nonradiative Pathways in INVEST Emitters: a Combined Electronic-Structure and Quantum-Dynamics Perspective **B O9 Ranjini Sarkar** - First-Principles-Based Insights into Adsorption and Reactivity of Na^+ Salt and Room-Temperature Ionic Liquids at Sodium Metal Surface	**Physical Chemistry for Health and Life Sciences** | Chair: TBD **D O9 I. Miletto** - Advanced Yb^{3+}/Er^{3+}-TiO_2 Architectures: Mastering Upconversion for NIR-To-Visible Light Harvesting **D O10 L. Fabiano** - Tuning Physicochemical Properties of Pedot:PSS/Hnts Nano Composites for Smart Bioactive Interfaces **D O11 V, Piscopo** - Development of Dielectric/Metal/Dielectric (DMD) Architectures for Optical Biosensing Applications	**Electrochemistry, Catalysis, and Energy Conversion** | Chair: TBD **E O9 F. Murgia** - Boosted Ionic Conductivity in $Na_2B_{12}H_{12}/SiO_2$ Nanocomposite Electrolyte for Solid-State Sodium Batteries **E O10 U. Mattia** - Enhanced Biophotocurrent Generation via Tailored Nano-Biointerfaces in *Rhodobacter Capsulatus* Biohybrids **E O11 S. Brutti** - "The SIGNE project: Composite Silicon Nanowire on Graphite Anodes with Ni-Rich Cathodes and Safe Ether based Electrolytes for High-Capacity Li-ion Batteries
17:15-19:00	**Poster session and refreshment**		
19:30-on	**Social event: Guided tour following the "Di Arco in Arco" itinerary in Bari's Old Town**		

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Thursday 9 July 2026

Time	Room A	Room B	Room E
09:15-10:00	**Plenary lecture – R. Mezzenga, Amyloid-metal Supramolecular Hybrids for Health and Environmental Remediation Technologies – (Room A)** Chair: TBD		
10:00-10:30	**Keynote – E. Gianotti, Confined Spaces, Boundless Opportunities: Controlling Confinement in Porous Materials from Catalysis to Nanomedicine – (Room A)**		
10:30-11:15	**Theory, Modelling, and Data-Driven Physical Chemistry** | Chair: TBD **B O10 M. Corno -** Atomistic Modeling of Hydroxyapatite Surfaces: from Biomolecular Adsorption to Environmental Catalysis **B O11 V. Palumbo** - A New Method to Characterize the Porosity of Materials: Distribution of Nanoporous Volume, Specific Surfaces and Prediction of Gas Adsorption **B O12 Sofia Chiara Sarnataro** - Computational Exploration of Derivatized Cyclodextrin-Based Drug Delivery Systems	**Physical Chemistry for Health and Life Sciences** | Chair: TBD **D O12 P. Albanese** - Photomodulation of Vesicle Dynamics Using Fluorescent Photoswitchable Amphiphiles **D O13 N. Depalo**- pH-Responsive Dendritic Large-Pore Mesoporous Silica Nanoplatforms for 5-Fluorouracil Delivery in Colorectal Cancer **D O14 A. Auditore** - Decoding Molecular Information via Mass Transport–Electron Transfer Coupling	**Environmental Physical Chemistry** | Chair: TBD **G O6 G. Ancora** - A Sequential Probe Adsorption Approach for the Characterization of Acid Sites in Hierarchical Zeolites **G O7 G. Mulas** - Valuable Waste for CO_2 Conversion and H_2 Evolution Induced by Mechanical Energy **G O8 V. Ancona** - Use of Vis-NIR Spectroscopy for Environmental Monitorin: Potential and Applications
11:15-12:00	**Coffee break**		
12:00-12:45	**Plenary lecture – D, Berti, Engineering Nano-Bio Interfaces: From Self-Assembly to Functional Hybrid Nanosystems – (Room A)** Chair: TBD		
12:45-13:15	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O13 L. Gentile -** Acid-Induced Plasticization on Cellulose Thin Films **A O14 R. Lettieri** - Structure-Property Relationships In Cellulose Acetate Composites Containing Microalgal Residues	**Soft Matter, Interfaces, and Complex Systems** | Chair: TBD **C O9 L. Bellandi** - Physicochemical Characterization of PVA-Based Twin Chain Polymeric Networks Loaded with a Citric Acid Solution **C O10 P. Tordi** - Ion-Programmed Biopolymer Organohydrogels for Multiresponsive Soft Electronics	**Materials and Nanoscience for Sustainable Technologies** | Chair: TBD **F O7 R. Labarile** - Microbial Photosynthesis for Space Applications **F O8 G. Rando** - Next-Generation Sustainable Membranes: Nanostructured Platforms for Environmental and Energy Challenges
13:15-14:45	**Lunch**		
14:45-15:15	**Keynote lecture – C. Milanese, The C Treasure in Biomasses for Energy and Analytical Systems – (Room A)** Chair: TBD		
15:15-16:00	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O15 D. Valli -** Doping Strategies in Lead-Free Double Perovskites for X-Ray to NIR Photodetection **A O16 M. C. Di Gregorio** - Engineering Metal-Organic Frameworks for Highly Nonlinear Photonics **A O17 T. Gentili** - Infrared-Activated Dynamic Crystals: Remote Motion in a Metal-Organic Framework	**Soft Matter, Interfaces, and Complex Systems** | Chair: TBD **C O11 E. Gatto** - From Nature to Nanoscience: Peptide Building Blocks Driving Photoinduced Electron Transfer **C O12 M. Trotta** - Repurposing Bacterial Photosynthesis	**Electrochemistry, Catalysis, and Energy Conversion** | Chair: TBD **E O12 H. P. Bloch** - A Comprehensive DFT Study of the Mechanism of Selective PE Oxidation with a Ruthenium-Porphyrin Catalyst **E O13 D. Conelli** - Photoinduced Surface-Driven Bromination of Electron-Rich Arenes on Lead-Free $Cs_2AgBiBr_6$ Microcrystals under Sustainable Conditions **E O14 G. Manca** - Ultrafast Piezo-Assisted Engineering of Metal-ZnO Interfaces for Catalytic Applications
16:00-16:45	**Coffee break**		
16:45-19:00	**Assembly of the Physical Chemistry Division and Medals Ceremony**		
20:30-on	**Social dinner at Villa Romanazzi Carducci**		

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Friday 10 July 2026

Time	Room A	Room B	Room E
09:15-09:45	**Keynote lecture – M. R. Plutino, Innovative Hybrid Materials for a Sustainable Future: Bridging Circular Resources, Nanotechnologies, and Green Transition (Room A)** Chair: TBD		
09:45-11:00	**Fundamental Physical Chemistry: Structure, Dynamics, and Spectroscopy** | Chair: TBD **A O18 F. Locardi -** Persistent Luminescence Nanocrystals **A O19 R. Gelli** - Bisphosphonates and Polyacrylates Control the Size and Assembly of Amorphous Magnesium-Calcium Phosphate Particles **A O20 A. Mangolini** - Structural and Magnetic Properties of Iso-Oriented Assemblies of Co–Zn Ferrite Nanoparticles **A O21 V. Scardaci** - Study and Characterization of the Gold Nanoparticle's Formation Mechanism by Re-Irradiation of Linear Bromide Induced Gold Nanoparticle Chains **A O22 C. N. Dibenedetto** - Assemblying Colloidal Emissive Nanocrystals into 3D Super-Architectures	**Soft Matter, Interfaces, and Complex Systems** | Chair: TBD **C O13 F. Sarnelli** - A Physicochemical Approach to Surfactant-Mediated Deposition of Volatile Compounds from Detergent Formulations onto Fabrics **C O14 C. Adamo** - Controlling Fibroin Self-Assembly in Sustainable Consolidants for Fragile Silk Artifacts **C O15 M. Baglioni** - Influence of Surfactants on Industrial Cheese Sauces **C O16 G. Ballabio** - Interfacial and Emulsifying Properties of Potato Protein Hydrolysates Obtained by Enzymatic Processing **C O17 J. Costa** - Physicochemical Characterization of High-Performance Chitosan Based Adhesives: a Sustainable Approach to Enhances Interfacial Adhesion	**Materials and Nanoscience for Sustainable Technologies** | Chair: TBD **F O9 C. Ingrosso** - Innovative Hybrid Nanocomposites based on Soot Carbon Nanoparticles Decorated with Au Nanoparticles for Electroanalytical Sensors **F O10 C. Carandente Coscia** - Modulating the Morphology of Lignin Microparticles via Green Solvent-Shifting **F O11 F. Morari** - Activated Carbon Derived from Agro-Industrial Waste for H_2 Storage **F O12 M. Tonelli** – 3D-Printable Bioreceptive M–S–H Cements Containing Large Quantities of Marble Dust Waste **F O13 L. Viacava** - Flexible Synthesis of Copper, Iodine – Based Coordination Polymers with Modulable Luminescent Emission
11:00-12:00	**Coffee break**		
12:00-13:00	**Conference awards ceremony**		
13:00-13:30	**Closing remarks**		