AICIng
Associazione Italiana di Chimica per Ingegneria

UNIVERSITÀ DI PISA

DICI
DIPARTIMENTO DI INGEGNERIA CIVILE E INDUSTRIALE

XI Workshop Nazionale AICIng
1-2 settembre 2026, Pisa

Innovazione Sostenibile: Materiali, Tecnologie ed Economia Circolare

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MARTEDÌ 1° SETTEMBRE - Sala Storica · Stazione Leopolda

8:30 - 9:00 — **Registrazione**
Sala storica della Stazione Leopolda (Via Francesco da Buti, Pisa)

9:00 - 9:30 — **SALUTI ISTITUZIONALI**
Dott. Michele Conti (Sindaco di Pisa)
Prof.ssa Benedetta Mennucci (Prorettrice alla Ricerca dell'Università di Pisa)
Prof. Pierluigi Stipa (Presidente Associazione Italiana di Chimica per l'Ingegneria AICIng)

9:30 - 11:00 — **PLENARY LECTURES** — **Chair: Pierluigi Stipa, Maurizia Seggiani**

PL1: Dott. Francesco Romani (Head of Materials Management - Pirelli Tyre SpA)
New Recycled and Renewable Materials into the Tire Industry
PL2: Dott. Giacomo Melani (Expert Computational Chemist – R&D Technologist – ENI SpA) - *Taking care of complexity: A pragmatic view on computational modeling in catalysis and materials science*

11:00 - 11:30 — **Coffee Break**

Sessione 1 — **Idrogeno, fotocatalisi e valorizzazione di biomasse**
Chair: Candida Milone, Giuseppe Marcì

11:30 - 11:45 — **O1** – **Khalil Abassi** (Università di Palermo)
Solar Thermo-Photoreforming of Aqueous Organic Solutions for Hydrogen Generation Using Semiconductor/Carbon Photocatalyst

11:45 - 12:00 — **O2 – Narimene Aoun** (Università di Palermo)
Waste Coffee Grounds as a Templating Matrix for the Synthesis of Ce-Modified TiO_2 Nanostructures for Photocatalytic Oxidation and Photoreforming

12:00 - 12:15 — **O3 – Yuri Ferruzzi** (Università degli Studi Guglielmo Marconi)
Hydrogen Production from Biomethane/Biogas/Biosyngas via Electrically-Managed Membrane-Assisted Reforming System (BEMARS project)

12:15 - 12:30 — **O4 – Francesca Baldassarre** (INSTM, UdR Salento)
PROMETEUS Project: sustainable biohydrogen production using Microbial Electrochemical Cell for the treatment of industrial wastewater

12:30 - 12:45 — **O5 – Francesca Derobertis** (Politecnico di Bari)
Orange peel waste for biobased jet fuel synthesis: limonene hydrogenation

12:45 - 14:05 — **Pranzo**

Sessione 2

Polimeri sostenibili e packaging

Chair: Nadia Lotti, Sara Filippi

14:05 - 14:20 **O6 – Giulia Guidotti** (Università di Bologna)
Physical blends of poly(butylene furanoate) and poly(pentamethylene furanoate) for sustainable and high-performance food packaging

14:20 - 14:35 **O7 – Matteo Venturi** (Università di Bologna)
Biobased Polymers for Sustainable High-Performance Packaging: Effect of Chemical Architecture on Solid-State Properties

14:35 - 14:50 **O8 – Edoardo Bondi** (Università di Bologna)
Designing FDCA-Based Biopolymers for Rigid and Flexible Sustainable Packaging

14:50 - 15:05 **O9 – Alessandro Coatti** (Università di Bologna)
FDCA-based polymers for FDM and DLP printing: sustainable alternatives for additive manufacturing

Sessione 3

Strategie circolari e bio-based per polimeri sostenibili

Chair: Marta Feroci, Patrizia Cinelli

15:05 - 15:20 **O10 – Alessia Iennaco** (Politecnico di Bari)
Valorization of Waste Cooking Oil (WCO) as a Bio-Polyol Precursor for Polyurethane Foam Production

15:20 - 15:35 **O11 – Daniele Rocco** (Università di Roma Tre)
Design, synthesis and characterization of a bio-based caffeinium ionic liquid as plasticizer for starch film

15:35 - 15:50 **O12 – Chiara Pedrotti** (Università di Pisa)
Biochar/Poly(butylene succinate-co-adipate) Composites for Sustainable Agricultural Mulching

15:50 - 16:05 **O13 – Riccardo Gallorini** (Università di Pisa)
Circular End-of-Life Strategies for Bio-Based Furanic Polyesters

16:05 - 16:20 **O14 – Alessandro Francini** (Università di Modena e Reggio Emilia)
Life Cycle Assessment of a bio-based plasticizer from early-stage development to industrial scale: the case of glycerol trilevulinate

16:20- 16:50 **Coffee Break**

Sessione 4

Sensori, materiali molecolari ed elettronica sostenibile

Chair: Roberto Paolesse, Pierluigi Stipa

16:50 - 17:05 **O15 – Alessia Fata** (Università di Roma Tor Vergata)
Investigation of porphyrinoid-based films via electropolymerization on LIG for sensing applications

17:05 - 17:20 **O16 – Francesco Pizzoli** (Università di Roma Tor Vergata)
Thioalkyl Porphyrazines as Sensing Materials for Electronic Nose Applications

17:20 - 17:35 **O17 – Elaheh Mohebbi** (Università Politecnica delle Marche)
Graphene Surface Engineering by Phthalate Derivatives for advanced sustainable electronics

17:35 - 18:35 **Poster Session**

20:00 - 23:30 **Cena Sociale**
Domus Comeliana (Via Cardinale Maffi 48, Pisa)

MERCOLEDÌ 2 settembre 2026 – Sala Storica Stazione Leopolda

Sessione 5 — **Accumulo termochimico, materiali inorganici e valorizzazione dei rifiuti**
Chair: Pierangelo Metrangolo, Barbara Bonelli

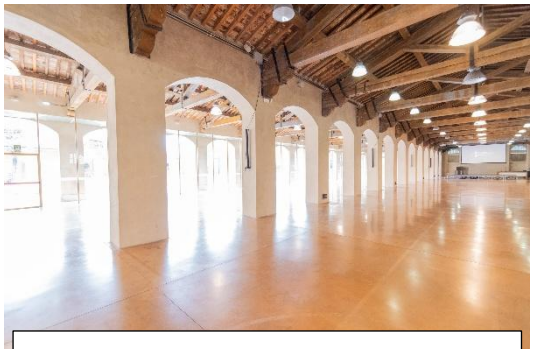
9:00 - 9:15	**O18 – Zar Jan** (Università di Messina) *Design and Characterization of $Na_4P_2O_7{\cdot}10H_2O$-Silica Gel Composites for Thermochemical Energy Storage*
9:15 - 9:30	**O19 – Giuseppina Anna Corrente** (Università di Messina) *Exploring Natural Polysaccharide Gums for Thermochemical Heat Storage*
9:30 - 9:45	**O20 – Francesco Genua** (Università di Modena e Reggio Emilia) *Chemical approach to the design of an alumino-silicate sustainable matrix hosting cations and anions from hazardous wastes*
9:45 - 10:00	**O21 – Daria Ballardini** (Università di Roma La Sapienza) *Turning Solar Waste into Value: Green Recovery of Solar Cells Using Deep Eutectic Solvents*
10:00 - 10:15	**O22 – Marina Petroselli** (Università Politecnica delle Marche) *Evaluation of temperature-dependent changes in $Hf_{70}Zr_{30}O_2$ electronic properties for satellite applications: an atomistic study*
10:15 - 10:30	**O23 – Martina Lippi** (Università di Firenze) *Guest-Responsive Mn(II) Coordination Polymers with orthogonally oriented chains for VOC Capture*
10:30 - 11:00	**Coffee Break**

Sessione 6 — **Biomateriali, materiali ibridi e applicazioni avanzate**
Chair: Giuseppina Raffaini, Michelina Catauro

11:00 - 11:15	**O24 – Alessandra Perrucci** (Università di Bologna) *Physical blends of acrylate copolymers as functional materials for artificial corneal endothelium applications*
11:15 - 11:30	**O25 – Antonio D'Angelo** (Università di Salerno) *Correlation between morphological and biological properties of zirconia/polyethylene glycol hybrids*
11:30 - 11:45	**O26 – Marika Fiorentino** (Università della Campania "Luigi Vanvitelli") *Sol–Gel Synthesis and Characterization of Silica/Sodium Alginate Hybrid Biomaterials for Biomedical Application*
11:45 - 12:00	**O27 – Elodia Spinelli** (Università di Roma Tor Vergata) *Chitosan-beeswax nanocomposite coatings for the protection of bronze artifacts*
12:00 - 12:15	**O28 – Claudiu Bostan** (Università di Roma La Sapienza) *N-heterocyclic carbenes by cathodic reduction of imidazolium COFs*
12:15 - 12:30	**O29 – Michele Garavini** (Netzsch Geraetebau GmbH) *From Thermal Fingerprints to Polymer Composition: AI-Supported DSC Analysis for Recyclate Quantification*
12:30 – 12:45	**O30 – Giorgio Bologna, Virginia Serito** (AMSE srl) *AMSE: Expertise and Support for Materials Testing and Characterization*
12:45 - 14:15	**Pranzo**
14:15 - 15:15	**Conclusione Lavori, Premiazione e Saluti**

Poster

P1	**Consuelo Celesti** (Università di Messina) - *Functionalized Lignin for Sustainable Thermal Energy Storage Materials*
P2	**Nicolò Cambise** (Università di Roma Tre) - *Functional Starch–Chitosan Films with CeOx Nanoparticles*
P3	**Francesca Anna Scaramuzzo** (Università di Roma La Sapienza) - *Sustainable materials from waste for advanced energy storage devices*
P4	**Marta Rosati** (Politecnico di Milano) - *Upcycling Battery Separators: Comprehensive Recovery and Polymer*
P5	**Pierangelo Metrangolo** (Politecnico di Milano) - *A Circular and Chemistry-Neutral Approach for Recycling and Recovery of Battery Waste Feeds*
P6	**Maria Fatima** (Università di Roma Tor Vergata) - *Metalloporphyrin-based Electropolymers for gas sensing applications*
P7	**Francesco Dian** (Università di Udine) *Extraction of rare earth elements using ionic Liquids and the extractant molecule TODGA*
P8	**Damiano Rossi** (Università di Pisa) - *Design of Eco-Friendly Bio-Based Flexible Polyurethane Foams with Integrated Phase-Change Materials for Thermal Energy Storage*
P9	**Maria Michela Dell'Anna** (Politecnico di Bari) - *Recovery of cellulose acetate from cigarette butts with deep eutectic solvents*
P10	**Simona Sabbatini** (Università Politecnica delle Marche) - *Antimicrobial Electrospun rPA6 from Upcycled Fishing Nets via Mg/Al LDH Functionalization*
P11	**Eleonora Pavoni** (Università Politecnica delle Marche) - *Influence of Nitrogen Dopant Configurations on the Performance of Graphite-Based Field-Effect Transistors*
P12	**Luisa Barbieri** (Università di Modena e Reggio Emilia) - *Sustainable innovation in the development of systems with slow fertilization capacity*
P13	**Maria Cristina Righetti** (IPCF, CNR) - *Poly(lactic acid)/silica nanocomposites: effect of nanoparticles aggregates/agglomerates on various functional properties*
P14	**Giuseppina Raffaini** (Politecnico di Milano) - *α–Cyclodextrin and Xenon Inclusion Complexes: Molecular Dynamics Simulations and Experimental Study*



Sala storica – Stazione Leopolda

Domus Comeliana