

## Programma Scientifico:

### 14 Settembre

15.00-15.10: Apertura Congresso

Chairperson: Gaetano Guerra (UniSa)

15.10-15.50: **Keynote Lecture dedicata ad Adolfo Zambelli:** Claudio Pellecchia (UniSA) *Stereoselective Polymerization Catalysis: from "Tailor-made" Polyolefins to "Green Plastics" in the Tradition of the Natta's School*

Chairperson: Gaetano Guerra (UniSa)

Sezione I (a) : Polimeri

15.50-16.05: Claudio De Rosa (UniNA)

*Structure, Mechanical Properties and Stress-induced Phase Transformations of Crystalline Elastomers*

16.05-16.20: Giuseppe Di Silvestro (UniMI)

*Functional polycondensates of potential industrial interest*

16.20-16.35: Alfonso Grassi (UniSA)

*Synthesis and Applications of Styrene Copolymers; a 25 years long history at UniSA*

16.35-16.50: Elena Groppo (UniTo)

*Looking at Ziegler-Natta catalysts from another perspective*

16.50-17.05: Luigi Cavallo (KAUST, UniSA)

*A Unified Model Explaining Heterogeneous Ziegler-Natta Catalysis*

17.05-17.20: Coffee Break

Chairperson: Finizia Auriemma (UniNa)

Sezione I (b) : Polimeri;

17.20-17.35: Placido Mineo (UniCT)

*Synthesis, characterization and thermal properties of polymers based composite materials for high power electronic packaging applications*

17.35-17.50: Rocco Di Girolamo (UniNA)

*Crystalline-crystalline and crystalline-amorphous syndiotactic polypropylene based di-block copolymers prepared by living olefin polymerization*

17.50-18.05: F. Curto (Mapei)

*Paper and packaging PVAc adhesives: performance and application process enhancement by means of a rheological approach*

18.05-18.20: Andrea Pucci (UniPI)

*Self-healing and electronic conducting properties of a CNT/polymer composite*

18.20-18.35: Ivan Fuso Nerini (Vinavil)

*New generation of secondary suspending agents for the polymerization of VCM*

18.35-19.35: Assemblea Gruppo Interdivisionale di Catalisi

## 15 Settembre

Chairperson: Martino Di Serio (UniNa)

8.30-9.10: **Keynote Lecture:** Sesto Viticoli (AIRI)

*La Ricerca Responsabile e la Chimica*

Chairperson: Martino Di Serio (UniNa)

Sezione II: Il REACH e la Sicurezza dei prodotti chimici

9.10-9.25: Biagio Naviglio (Staz. Sper. Industria delle Pelli, NA)

*Tanning, leather and SVHC Substances*

9.25-9.40: Carla Zannoni (ENI Dow Lab, S. Donato)

*A new GCxGC-MSD method tailored for REACH registration*

9.40-9.55: Matteo Guidotti (CNR ISTM, MI)

*Bentonite clays as active sorbents: the genesis of a prototypal on-field decontamination device against chemical warfare agents*

Chairperson: Ilenia Rossetti (UniMi)

Sezione III (a): Catalisi

9.55-10.10: Roberto Esposito (UniNA):

*A sustainable approach for the production of azelaic acid through oxidative cleavage of oleic acid*

10.10-10.25: Caterina Barzan (UniTO)

*The Comonomer Effect on the Cr<sup>II</sup>/SiO<sub>2</sub> Phillips Catalyst: First Spectroscopic Evidences*

10.25-10.40: Matteo Compagnoni (UniMI)

*High-pressure photoreactor for CO<sub>2</sub> conversion to fuels*

10.40-11.00: Coffee Break

Chairperson: Mario Marchionna (Saipem)

Sezione III (b): Catalisi

11.00-11.15: Almerinda Di Benedetto (UniNA)

*CFD modeling of novel reactor configurations for catalytic combustion .*

11.15-11.30: Francesco Della Monica (UniSA)

*Dinuclear Iron(III) Complexes containing Thioether-Triphenolate Ligand: Exceptionally Active Catalysts for the Coupling of Carbon Dioxide with Epoxides for COCs Production*

11.30-11.45: Giorgio La Sorella (UniVE)

*Mimicking Enzymes: Fully Organocatalytic Alkyne Hydration Reaction with a Supramolecular Self-Assembled Capsule*

11.45-12.00: Francesco Puzzo (UniBO):

*A new process for maleic anhydride synthesis from a renewable building block: the gas phase oxydehydration of bio 1-butanol*

12.00-12.15: Massimiliano Mari (UniBO)

*The synthesis of nicotinic acid by gas-phase oxidation of  $\beta$ -picoline: an analysis of key catalyst features*

12.15-12.30: Angelo Vaccari (UniBO)

*On-board H<sub>2</sub> production by partial dehydrogenation of fuels*

12.30-12.45: Ilenia Rossetti (UniMI)

*Process simulation and optimisation of H<sub>2</sub> production from bioethanol and its use in fuel cells*

13.00-14.00: Lunch

Chairperson: Paolo Pollesel (ENI)

14.00-14.40: **Keynote Lecture Medaglia Chiusoli:** Alessandro Scarso (UniVE)

*Hugging Catalysts... If They Do Not Mind*

Chairperson: Giorgio Strukul (UniVe)

Sezione III (c): Catalisi

14.40-14.55: Nicola Schiaroli (UniBO)

*Amines formation in the Medium Temperature Water Gas Shift Reaction*

14.55-15.10: Tommaso Selleri (PoliMI)

*Low-T mechanistic analysis of NO oxidation and standard SCR over Fe- and Cu- zeolite catalysts by chemical trapping techniques*

15.10-15.25: Federico Galli (UniMI)

*Nano and micro-TiO<sub>2</sub> for the photodegradation of ethanol: experimental data and kinetic modeling*

15.25-15.40: Amir Reza Fahami (PoliMI)

*Mechanistic Kinetic Modeling of NO Oxidation over Cu-chabazite*

15.40-15.55: Chiara Costabile (UniSA):

*Self-healing materials based on Ru and Ru-functionalized-graphene catalysts*

16.00-18.30: Poster Session and Coffee

18.30-19.30: Assemblea della Divisione di Chimica Industriale

20.00:

Cena Sociale

## 16 Settembre

Chairperson: Angelo Vaccari (UniBo)

8.30-9.10: **Keynote Lecture:** Valentina Medri (CNR Faenza):

*How to tailor the porosity in geopolymer based materials*

Chairperson: Angelo Vaccari (UniBo)

Sezione IV: Materiali e Prodotti Inorganici: sintesi ed applicazioni

9.10 - 9.25: Anna Malafronte (UniNA)

*Fabrication of ordered arrays of Pd nanoclusters and PdO nanoparticles by using self-assembled block copolymers as templates*

9.25 - 9.40: Federico Bella (PoliTO)

*Towards large-scale energy storage systems: how industrially-scalable polymer electrolytes can be conceived*

9.40 - 9.55: Alfonso Troisi (UniSa)

*Fe<sub>3</sub>O<sub>4</sub>/MoS<sub>2</sub> and MoS<sub>2</sub>: comparisons based on morphological and electrochemical evaluations for two innovative materials for supercapacitors. Features and prospects*

9.55-10.10: Francesco Malara (CNR ISTMI, MI)

*Photodeposition vs. elettrodeposition of Ni(OH)<sub>2</sub> co-catalyst on hematite electrodes for water splitting application*

10.10-10.25: Elettra Papa (CNR ISTECC, Faenza)

*Insights into freeze casting of geopolymers*

Chairperson: Amilcare Collina (Mapei)

10.25-10.55: **Invited Lecture:** Giorgio Ferrari (Mapei)

*Innovative sustainable technologies for the construction industry*

10.55-11.15: Coffee Break

Chairperson: Federico Bella (PoliTo)

Sezione V: Materiali e Prodotti Organici: sintesi ed applicazioni

11.15-11.30: Giovanni Iannaccone (PoliMI)

*Water-based reactive silver ink for flexible polymer solar cells and its interaction with the polymeric hole-transporting layer*

11.30-11.45: Simone Galliano (PoliTO)

*From organic solvents to water: a more sustainable approach toward industrially-up scalable hybrid solar cells*

11.45-12.00: Valentina Sabatini (UniMI)

*Innovative printable self-cleaning material for covering photovoltaic cells*

12.00-12.15: Damiano Bandelli (UniFI)

*Palladium macrocomplexes based on Polymers and Copolymers from renewable resources*

Chairperson: Diana Sannino (UniSa)

12.15-12.55: **Keynote Lecture:** Paolo Ciambelli (UniSA)

*Carbon nanomaterials: from reserach to market.*

13.00-14.00: Lunch

14.00-15.00: Tavola Rotonda con AICIng sulle prospettive delle rispettive discipline

Chairperson: Diana Sannino (UniSa)

Sezione VI: Materiali a base di nano carboni

15.00-15.15: Maria Rosaria Acocella (UniSA)

*Dual Role of Graphite Oxide Nanofiller in Thermosets Resins*

15.15-15.30: Michele Melchionna (UniTS)

*Exceptional activity of MWCNT@Pd/TiO<sub>2</sub> nano hybrid catalyst in the photo reforming of biomass derived alcohols*

15.30-15.45: Sara Andreoli (UniBO)

*Synthesis of ordered mesoporous carbon materials through soft-template method and their characterization for catalytic application*

15.45-16.00: Candida Milone (UniME)

*Functional Carbon-Based Materials for Advanced Applications*

16.00-16.15: Marcello Casa (UniSA)

*Development and characterization of silver nano-particles supported on reduced graphene oxide layers*

16.15-16.30

Chiusura Congresso

## POSTER

### Polimeri

**POLI-01:** Oreste Tarallo (UniNA)

*Isotactic Copolymers of Poly(1-Butene) with 1-Octene from Metallocene Catalysts: Crystallization Behaviour and Mechanical Properties*

**POLI-02:** Odda Ruiz de Ballesteros (UniNA)

*Thermoplastic Elastomers from Binary Blends of Syndiotactic Polypropylenes with Different Stereoregularity*

**POLI-03:** Chiara Santillo (UniNA)

*Crystal Structure of Isotactic Poly((R,S)3-Methyl-1-Pentene)*

**POLI-04:** Claudia Cioce (UniNA)

*Structural characterization of isotactic copolymers of propene with 1-octadecene from metallocene catalysts*

**POLI-05:** Giovanna Capuano (UniMI)

*The use of novel PLGA-g-PVP amphiphilic copolymers for fabrication of nanostructured materials*

**POLI-06:** Christophe Daniel (UniSA)

*Syndiotactic polystyrene fibers with nanoporous crystalline phases for water and air purification applications*

**POLI-07:** Antonio De Nicola (UniSA)

*Computational Study of Polypropylene melt: effect of stereoregularity on chain dimension*

**POLI-08:** Laura Falivene (KAUST)

*Mechanistic understanding of polar monomers polymerization*

**POLI-09:** Rosita Lapenta (UniSA)

*Polymerization and Copolymerization of L-Lactide and  $\epsilon$ -Caprolactone promoted by Monoamidinate Titanium complexes*

**POLI-10:** Paola Rizzo (UniSA)

*Co-crystallization with low-molecular-mass guest molecules: a common route for getting uniplanar orientations of polymer crystalline phases even in the absence of stretching*

**POLI-11:** Miriam Scoti (UniNa)

*Elastomeric properties and stress-induced phase transformations of syndiotactic poly(propylene-co-eicosene)*

### Catalisi

**CAT-01:** Rosa Turco (UniNa)

*Supported Zinc complex for the esterification and transesterification of vegetable oils*

**CAT-02:** Vincenzo Russo (UniNA)

*Ru-based catalysts for  $\gamma$ -valerolactone synthesis*

**CAT-03:** Rosa Vitiello (UniNA)

*Synthesis of biolubricants by esterification using new heterogeneous catalysts*

**CAT-04:** Claudia Bandinelli (UniBO)

*One-pot Glycerol Oxidehydration to Acrylic Acid on Hexagonal-Tungsten-Bronze-Derived Structures as Multifunctional Catalysts*

**CAT-05:** Rodolfo Mafessanti (UniBO)

*Development of innovative catalysts for methanation of syngas deriving from biomass gasification*

**CAT-06:** Angelo Vaccari (UniBO)

*New tio-resistant catalysts for on-board H<sub>2</sub> production*

**CAT-07:** Lorenzo Grazia (UniBO)

*Selective reduction of furfural with MgO and Mg/Fe/O using methanol as H-transfer reactant*

**CAT-08:** Mattia Melloni (UniBO)

*Direct acid hydrolysis of lignocellulosic and cellulosic biomasses: Zr/P/O system vs. Nb/P/O system*

**CAT-09:** Andrea Malmusi (UniBO)

*Synthesis of isoprene through C4 – C1 coupling: substituting formaldehyde with methanol, an investigation over the reaction mechanism*

**CAT-10:** Chiara Dalla Valle (UniPD)

*A new strategy for the obtainment of fluorinated resins as catalytic support*

**CAT-11:** Antonella Salvini (UniFI)

- Transesterification of castor oil with trimethylchlorosilane for BioDiesel and  $\alpha$ -monochlorohydrin production*  
**CAT-12:** Elisa Bertolucci (UniPI)  
*Green synthesis of ruthenium nanoparticles on magnetic carbon nanostructures and their use for the selective hydrogenation of nitroaromatics*  
**CAT-13:** Caterina Barzan (UniTO)  
*Thermal- and Photo-Activation of CrVI/SiO<sub>2</sub> Phillips Catalyst with Ethylene: Operando Spectroscopic Evidences*  
**CAT-14:** Caterina Barzan (UniTO)  
*Cyclohexene and Methane as Reducing agents for CrVI/SiO<sub>2</sub> Phillips Catalyst*  
**CAT-15 :** Caterina Barzan (UniTO)  
*Surface Reduction of TiO<sub>2</sub> with Hydrosilanes: Conversion of Ethylene to HDPE Without Alkylating Agent*  
**CAT-16:** Andrea Chiminazzo (UniVE)  
*1,2,3-Triazole Fluorescent Bisphosphonates as Osteoporosis Probes Drugs*  
**CAT-17:** Alberto Comazzi (UniMI)  
*Experimental results and dynamic simulation of enriched air production by water degassing for process intensification*  
**CAT-18:** Alberto Comazzi (UniMI)  
*Co and Co/Ru based catalysts synthesized by FSP for the industrial Gas-to-Liquid Fischer-Tropsch process*  
**CAT-19:** Nunzia Galdi (UniSA)  
*One Pot Synthesis Of Linear Alkylbenzenes From Styrene, Ethylene And Hydrogen*  
**CAT-20:** Giuseppina Iervolino (UniSA)  
*Photocatalytic removal of Patent Blue V dye on Au/TiO<sub>2</sub> catalysts*  
**CAT-21:** Paola Lanzafame (UniME)  
*Role of acid sites in porous silica catalysts for selective production of biodiesel additives*  
**CAT-22:** Federica Menegazzo (UniVE)  
*Selective oxidations of biomass resources on Au/ZrO<sub>2</sub> catalysts doped by sulphates*  
**CAT-23:** Annarita Noschese (UniSA)  
*Selective and Efficient Reduction of Nitrobenzene to Aniline catalyzed by AuNPs Embedded in a Nanoporous Crystalline Polymeric Support*  
**CAT-24:** Alberto Olivo (UniVE)  
*Study of photoreactor design for sustainable carbon dioxide photoreduction*  
**CAT-25:** Fabrizio Puleo (CNR PA)  
*B-site Pd and Ni promoted La<sub>0.6</sub>Sr<sub>0.4</sub>Co<sub>0.2</sub>Fe<sub>0.8</sub>O<sub>3- $\delta$</sub>  perovskites as IT-SOFCs cathodes*  
**CAT-26:** Elisabetta Rombi (UniCA)  
*Hard-Templated NiO-CeO<sub>2</sub> mixed oxides as catalysts for CO<sub>2</sub> methanation*  
**CAT-27:** Maria Pia Ruggeri (PoliMI)  
*An innovative method for the estimation of AN storage over commercial Cu-zeolite catalysts for automotive applications*  
**CAT-28:** Tommaso Selleri (PoliMI)  
*Experimental and modeling study of hydrocarbon inhibition effects on NH<sub>3</sub>-SCR over metal promoted zeolite catalysts*  
**CAT-29:** Claudia Antonetti (UniPI)  
*Heterogeneous catalysis for the production of 5-hydroxymethyl-2-furfural and of 2,5-bis(hydroxymethyl)furan from fructose and inulin*  
**CAT-30:** Javier Miguel Ochando-Pulido (University of Granada)  
*Organic matter abatement kinetics in olive mill effluents by photocatalysis with ferromagnetic nanoparticles as ultrafiltration pretreatment*  
**CAT-31:** María Dolores Víctor-Ortega (University of Granada)  
*Study of kinetics and equilibrium studies for phenol removal through anionic resins*

## **Materiali e prodotti inorganici**

- INORG-01:** Federico Bella (PoliTO)  
*Industrially-scalable encapsulation of flexible, microfluidic and polymeric dye-sensitized solar cells*  
**INORG-02:** Claudia Cirillo (UniSA)

*Graphene Coated FeCo Nanoparticles for Supercapacitors*

**INORG-03:** Claudio Evangelisti (CNR MI)

*Gold nanoparticles obtained by aqueous digestive ripening: their application as X-ray contrast agents*

**INORG-04:** Giorgio Ferrari (MAPEI)

*New sustainable technology to recover returned concrete*

**INORG-05:** Olga Sacco (UniSA)

*Improving visible light active photocatalyst performances through photoactive supports in the photocatalytic removal of emerging contaminants*

**INORG-06:** Giuseppe Sarno (UniSA)

*Photocatalytic Properties of N-Doped TiO<sub>2</sub> Functionalized Ceramic Tiles under UV and Visible Light Irradiation*

**INORG-07:** Vincenzo Venditto (UniSA)

*Monolithic nanoporous-crystalline aerogels with sulfonated amorphous phases: fast and efficient polymer materials for removing VOCs from water*

**INORG-08:** Mario Maggio (UniSA)

*Graphite and graphene oxide paper*

## **Materiali e prodotti Organici**

**ORG-01:** Marialuisa Siepi (UniNA)

*Denatured Lysozyme: a new tool to solubilize carbon nanomaterials*

**ORG-02:** Damiano Bandelli (UniFI)

*Pyrolysis of  $\alpha$ -cellulose with multimode microwave oven*

**ORG-03:** Stefano Antenucci (UniMI)

*Intrinsic antioxidant bio-based polymer for food active packaging*

**ORG-04:** Federico Galli (UniMI)

*Polyhydroxyalkanoate extraction from biomass using environmentally friend techniques*

**ORG-05:** Eleonora Macedi (UniSA)

*Guest activated organic functional materials*

**ORG-06:** Gabriele Milani (PoliMI)

*Experimental and Finite Element optimization of the production process of rubber insulated electric cables vulcanized with steam water*

**ORG-07:** Stefania Pragliola (UniSA)

*Characterization and Optoelectronic Applications of Highly Stereoregular Polymers Containing Carbazole*

## **REACH e Sicurezza**

**REACH-01:** Anna Basco (CNR NA)

*The impact of hazardous substances in the case of structural failure of oil and gas offshore platform*