



2st ENERCHEM SCHOOL

The second Italian school on renewable energies organized by the Interdivisional Group on the Chemistry of Renewable Energies (ENERCHEM) of the Italian Chemical Society

Centro Studi CISL, via della Piazzuola 71, Firenze

Scientific Programme

MONDAY, 13 FEBRUARY 2023

12:00-14:00 REGISTRATION

14:00-14:30 OPENING

Chairperson: Ilenia Rossetti

14:30-16:00 L1 – **Marc Robert** "Electrochemical and light-driven molecular catalysis. Principles, fundamental aspects, applications to CO₂ and N₂ reduction"

16:00-16:30 COFFEE BREAK

Chairperson: Massimo Innocenti

16:30-17:00 **Claudia Vivalda** "The National Energy Technology Cluster - Role and activities and its Energy Technology Roadmap"

17:00-18:30 OL1 – **Sara Garcia Ballesteros** "Green ammonia electrosynthesis in aqueous electrolyte: a preliminary study"

OL2 – **Costanza Tedesco** "Experimental strategy to enhance the photocatalytic activity of Cs₂AgBiCl₆ lead-free double perovskite derivative by g-C₃N₄ composite"

OL3 – **Lorenzo Rizzato** "N₂ solar activation: ammonia as hydrogen vector for energy storage"

OL4 – **Anna Mangini** "The Sun2rise Li-N₂ cell concept in the landscape of Li-mediated N₂ reduction reaction strategies for ammonia production"

OL5 – **Matteo Tommasi** "Photoreduction of CO₂ to liquid products with innovative photocatalysts"

OL6 – **Olimpia Tammaro** "High CO₂ photoreduction performance achieved with ceria-based photocatalysts"

18:30-19:30 POSTER SESSION

20:00 DINNER

TUESDAY, 14 FEBRUARY 2023

Chairperson: Lorenzo Zani

09:00-10:30 L2 – **Marina Freitag** " Diffuse light harvesting to structured information with molecular photovoltaics"

10:30-11:00 COFFEE BREAK

11:00-12:30 L3 – **Elisabetta Di Bartolomeo** " Materials for solid oxide cells (SOCs)"

12:30-14:00 LUNCH

Chairperson: Andrea Pucci

14:00-15:30 L4 – **Hyunwoong Park** "Photocatalysis: Principle and Applications"

Chairperson: Riccardo Basosi

15:30-16:15 T1 – **Silvia Gross** "MSCA: features, rules and my experience as MSCA reviewer: how to write a successful proposal"

16:15-16:45 COFFEE BREAK

16:45-17:30 T2 – **Francesco Basile** "Climate energy and mobility research opportunity and perspective in the Horizon Europe framework"

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Chairperson: Marta Da Pian

17:30-18:15 OI7 – **Maria Varsalona** "Effect of dopamine on photosynthetic growth of both Rhodospirillum rubrum R26 mutant and 2.4.1 wild type"

OL8 – **Nicolò Rossetti** "Confined single nickel atoms in low condensed carbon nitride as efficient oxygen evolution catalyst "

OL9 – **Alberto Picchi** "Luminescent solar concentrators based on poly(methyl methacrylate) from recycled sources"

20:00 SOCIAL DINNER

WEDNESDAY, 15 FEBRUARY 2023

Chairperson: Maria Assunta Navarra

09:00-10:30 L5 – **Stefania Specchia** "Sustainable electrocatalysts for PEMFC/AEMFC"

10:30-11:00 COFFEE BREAK

11:00-12:30 L6 – **Eliana Quartarone** " Critical raw materials in strategic energy technologies "

12:30-14:00 LUNCH

Chairperson: Alessandra Sanson

14:00-15:30 L7 – **Gianluca Chiarello** "Photo(thermo)catalytic hydrogen production for solar energy conversion and storage "

Chairperson: Matteo Bonomo

- 15:30-16:15** J1 – **Francesco Tassinari** "The Chiral Induced Spin Selectivity effect and its application to renewable energy technologies"
- 16:15-16:45** COFFEE BREAK
- 16:45-17:30** J2 – **Daniele Franchi** "Dye-Sensitized Solar Cells: exploring new designs of organic dyes to enhance optical properties"
- 17:30-18:15** J3 – **Chiara Liliana Boldrini** "Eco-friendly deep eutectic solvent electrolyte solutions for dye-sensitized solar cells"

Chairperson: Andrea Ienco

- 18:15-19:00** T3 – **Alessio Dessì** "Not just a matter of science! Tips and clues to improve your communication skills"
- 19:30** DINNER

Chairpersons: Alessio Dessì, Ottavia Bettucci

- 20:30-22:30** **ENERSHORT**
Ottavia Bettucci "Science on wall: STREETSCIENCE. Stories and curiosities about light through street art!"
Enershort presentations, 3 min each

THURSDAY, 16 FEBRUARY 2023

Chairperson: Adalgisa Sinicropi

- 09:00-10:30** L8 – **Teresa Gatti** "Photovoltaic energy harvesting: from the basics to new trends and future opportunities"
- 10:30-11:00** COFFEE BREAK
- 11:00-12:30** L9 – **Alessandro Abbotto** " Hydrogen: a clean and renewable fuel for the energy transition "
- 12:30-14:00** LUNCH

Chairperson: Paola Manini

- 14:00-15:30** L10 – **Jae-Joon Lee** "Evolution of Sensitization-based Photovoltaic Cells "
- 15:30-16:15** **Lucio Cinà** "From steady-state to dynamic tests: a must in hybrid organic-inorganic devices"
OL10 – **Andrea Osti** "Ni-LaMnO₃ nanocomposites as novel PGM-free catalysts for CH₄ combustion: effect of synthetic method in catalytic performances"

OL11 – **Giacomo Provinciali** “TiO₂-based heterojunction with 2D black phosphorus for efficient H₂ production”

16:15-16:45 COFFEE BREAK

16:45-17:30 OL12 – **Filippo Antonio Vernile** “Corrosion of Al alloys tanks in bio ethanol blended gasoline fuel”

OL13 – **Asya Mazzucco** “Experimental and theoretical studies of the LiBH₄-LiI pseudo-binary system and LiBH₄-LiI-LiBr pseudo-ternary system for solid-state electrolytes applications”

OL14 – **Rossella Infantino** “Enhanced light harvesting efficiency by Foster Resonance Energy Transfer (FRET) in Dye-Sensitized Solar Cells (DSSCs)”

17:30-18:30 POSTER SESSION

19:30-21:00 APERITIVO CAFFE' SCIENZA

21:00-22:00 CAFFE' SCIENZA: Tutti i colori dell'Idrogeno

Chairperson: **Gianna Reginato**

Experts: **Alessandro Abbotto; Alessandro Lavacchi**

FRIDAY, 17 FEBRUARY 2023

Chairperson: Elena Selli

09:00-10:30 L11 – **Kevin Sivula** "Solar fuel production via photoelectrochemistry at direct semiconductor/electrolyte interfaces"

10:30-11:00 COFFEE BREAK

11:00-11:05 JUNIOR ENERCHEM AWARD ANNOUNCEMENT

11:05-12:35 L12 – **Federico Bella** "Electrochemical nitrogen reduction: ammonia as a solar fuel"

12:35 CLOSING

L= Lecture ; J= Junior Lecture; T= Tutorial lecture; O= Oral communication