



# Programme

Conference of the Italian Photovoltaic  
Network for Research, Development  
and and Innovation

Napoli - Bagnoli

27 - 28 May 2025



Tuesday 27 May

08:30 - 09:30 | Registration

09:30 - 10:00 | Welcome addresses

**Filippo De Rossi** - Subcommissario per la bonifica ambientale e rigenerazione urbana dell'area di rilevante interesse nazionale Bagnoli

**Gaetano Manfredi** - Sindaco di Napoli

**Valeria Fascione** - Assessore con delega alla Ricerca, Innovazione e Startup della Regione Campania della Regione Campania

10:00-10:20

**Giorgio Graditi**

Direttore Generale ENEA

**Fonti rinnovabili: iniziative e misure per una economia a zero emissioni di carbonio**

10:20-10:40

**David Moser**

Managing Director Becquerel Institute Italia, vice chair ETIP PV

**A strategic research and innovation agenda for PV**

10:45-12:00

Tavola rotonda

**Italia, Hub europeo del Fotovoltaico:**

**Una Visione Collaborativa per un futuro energetico resiliente**

Moderator:

**Massimo Mazzer**, CNR, National Research Council | RetelFV

Speakers

- **Cosimo Gerardi**, 3SUN
- **Gianluca Coletti**, FUTURASUN
- **Paolo Viscontini**, Italia Solare
- **Mariangela Lancellotta**, Set Energie
- **Marco Calabrò**, MiMIT
- **Massimiliano Atelli**, MASE (i)

12:00 | Lunch break

**13:00 | Topic 1 - Session 1****Fundamental research on photovoltaic materials and devices***5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Hanna Ellis**

European Commission - Joint Research Centre

**Investigating Measurement Methodology for Perovskite PV Modules**

5 min

**Alice Scardina**

Università di Pavia

**Tuning the Orientation of Low-Dimensional Perovskites for Efficient Photovoltaic Devices**

5 min

**Debendra Prasad Panda**

Università di Napoli Federico II

**Deciphering the Role of Halide Engineering in Enhancing Outdoor and Indoor Photovoltaic Performance of DMSO-Free Tin Halide Perovskites**

5 min

**Gianluca Timò**

RSE

**First Demonstration of a Three Terminals-quadruple Junction InGaP/InGaAs/Ge/T/Ge Solar Cell**

12 min

**Diego Di Girolamo**

3SUN

**FPerovskite Silicon Tandem Development in 3Sun Gigafactory**

12 min

**Silvia Colella**

CNR, National Research Council

**Interface Engineering based on Plasma Processing for Perovskite Solar Cells**

12 min

**Annalisa Bruno**

Nanyang Technological University

**Perovskites Thermal Evaporation for Advanced Photovoltaics and Optoelectronics Device Customization**

## 14:20 | Topic 3 - Session 1

### Photovoltaic applications

*5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Valeria Casalicchio**

Eurac Research

**Assessing BIPV Competitiveness in Selected European Renewable Energy Communities**

5 min

**Carmine Cancro**

ENEA

**Design And Testing of an Innovative Closed Agrivoltaic System: "Algaeoltaictm"**

5 min

**Gianfranco Modoni**

CNR, National Research Council

**BIPV designing by VR/AR and DT. The case of Parma Municipality administrative building**

12 min

**Giorgio Pastore**

SoliTek

**Case Study of Bifacial PV based Noise Barriers in Lithuania**

12 min

**Angele Reinders**

Eindhoven University of Technology

**Luminescent Solar Concentrator Photovoltaics: From Research to Design of Applications in Products and Buildings**

**Short presentations by the conference sponsors**

## 15:30 | Coffee break



## 15:30 | Poster elevator pitch | Topic 1

### Fundamental research on photovoltaic materials and devices

*3 minutes presentations*

**Sara Ferrara**

Università di Torino

**Green Production of Flexible Cathodes for Dye Sensitized Solar Cells: Biodegradable Cellulose-Based Substrates**

**Madineh Rastgoo**

Università di Napoli Federico II

**Organic n-Doping of Tin Perovskite in Solar Cell**

**Franco Trespidi**

RSE

**Design and Optimization of a High-Performance Compact Prismatic Solar Concentrator for CPV**


**Martina Botti**

Università di Salerno

**Electro-Thermal Circuital Model of PV Cells Subjected to Optical Degradation Phenomena**
**Filippo Annoni**

RSE

**Investigating Optoelectronic Properties of ZnSnN<sub>2</sub> Grown by High-Power Impulse Magnetron Sputtering for Tandem Solar Cells**
**Pasquale Morvillo**

ENEA

**Development of Semitransparent Organic Solar Cells for Greenhouse Applications**
**Elisabetta Achilli**

RSE

**Strain Release and Morphology Evolution Control in Step-graded III-V Metamorphic Buffers on Ge: a Pathway for Sustainable MJ Solar Cells**
**Paola Jakuza**

Università di Padova

**Hotspot analysis on a Flexible PV Mini-modules based on IBC Solar Cells**
**Francesco Di Giacomo**

Solertix

**Towards Industrialization of Bifacial Module-Based Tandem**
**Daimiota Takhellambam**

Università di Roma Tor Vergata

**Augmenting Green Solvents in Upscaling Flexible Perovskite Solar Cells in Ambient Air**
**Donato Spolitore**

Università di Parma

**Delocalization Promoted by Structural Order Fosters Efficient Charge Separation at Molecular Heterojunctions**
**Paolo Mariani**

CNR, National Research Council

**A Technical Study to Bring Dye-Sensitized Solar Cells Technology Towards Scaled-Up Production**
**Alessandra Alberti**

CNR, National Research Council

**Resilience to Demixing and Phase Segregation in Perovskite Solar Cells Under Light-Dark Cycles and Temperature**
**Davide Delmonte**

CNR, National Research Council

**Advancing Ferro-Photovoltaic Materials Synthesis: Mechanochemistry as a Creative Pathway for SbSI**
**Daniel Alencar**

Università di Torino

**Sustainable Hole Transport Materials for Perovskite Solar Cells: Bridging Performance and Eco-Friendly Manufacturing**



## Poster elevator pitch | Topic 2 Electronics and PV integration with grid and storage systems

*3 minutes presentations*

**Giovanni Spagnuolo**

Università di Salerno

**An Isomorphism-based PV Array Digital Twin**

**Asja Alic**

Università di Trento

**Optimal Operation and Revamping Strategy for an Integrated Photovoltaic -Battery Energy Storage System Considering Cyclic Degradation**



## Poster elevator pitch | Topic 3 Photovoltaic applications

*3 minutes presentations*

**Leonardo Micheli**

Università di Roma La Sapienza

**The Impact of Dust Storms on the Growing Photovoltaic Capacity**

**Jordi Veirman**

Eurac Research

**Screening of Module Components Towards Improved Diffusive Properties of Overhead agriPV Modules**

**Kateryna Bondar**

Università di Torino

**Theoretical Characterization of NIR Cyanine Dyes for Dye-Sensitized Solar Cells (DSSC)**

**Serena Amenta**

Politecnico di Torino

**Vacuum Pouch Sealing and Polymer Electrolyte Integration for Scalable DSSC Fabrication**

**Ali Sohani**

Università di Roma Tor Vergata

**Evaluation of the Accuracy of Bifacial PV Power Estimation Models Using an Experimental Setup**

**Giuseppe Demofonti**

Convert Italia Spa / Valmont Solar

**Innovative Single Axis Tracker for Advanced AGRI-PV Plants**

**Giovanni Arcidiacono**

Università di Salerno

**Experimental Observation on a Bifacial Photovoltaic-Green Roof**

**Riccardo Adinolfi Borea**

Università di Bologna

**Optimizing Diffuse-Stow Tracking for Photovoltaic Systems: Balancing Energy Yield and Tracker Movement**



**Poster elevator pitch | Topic 4**  
**Economics of photovoltaic supply chains and sustainability**

*3 minutes presentations*

**Francesco Groppi**

Studio tecnico Groppi

**Build PV Safely**



**Poster elevator pitch | Topic 5**  
**Green energy transition and social transformations**

*3 minutes presentations*

**Luca Chirico**

Università degli studi di Foggia

**Analysis of Decision Making Process for Innovation: The Agrivoltaic**

**Massimiliano Mariani**

CNR, National Research Council

**Environmental Impact of Photovoltaic Modules and Solar Systems for the Energy Transition of Urban Areas**

**Lucia Montoni**

ETA-Florence Renewable Energies

**Digital Platforms and Collaborative Strategies for Advancing Solar Architecture in Europe**

**Giuseppina Santomartino**

Università di Napoli Federico II

**Integrated Strategies for Urban Sustainability: The Role of Green-Blue-Roofs in Urban Contexts**

**Hanging posters:**

From 27 May at 8:30 and during opening session.

**Poster removal:**

From 28 May at 10:00 until a few minutes before the conference closing session.

**16:40 | Topic 2****Electronics and PV integration with grid and storage systems**

*5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Gianluigi Bovesecchi**

Università di Roma Tor Vergata

**Infinity, a Small-scale Prototype for Firm-PV Generation**

5 min

**Nicola Sangiorgi**

CNR, National Research Council

**Multi-functional WO<sub>3</sub>-based Photoelectrodes for Solar Supercapacitors**

12 min

**Roberto Giacomobono**

UNiversità di Salerno

**Total Efficiency of Voltage Doubler Based Multi Stage CSI Inverter**

12 min

**Alessandro Lorenzo Palma**

ENEA

**Supercapacitors as a System-Level Solution for Enhanced Photovoltaics Self-Consumption Strategies**

12 min

**Grazia Barchi**

Eurac Research

**The Role of PV and BESS in the Flexibility of Plus Energy Buildings**

**Short presentations by the conference sponsors**





**18:00 | Topic 1 - Session 2****Fundamental research on photovoltaic materials and devices***5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Elisa Nonni**

Solertix

**Stack Optimization for Low-Cost Large Area Bifacial 4 Terminal Perovskite Silicon Tandem with Efficiencies Up To 30%**

5 min

**Noah Tormena**

Università di Padova

**Stability of Perovskite-Based Mini-Modules: Experimental Analysis and Interpretation**

5 min

**Fabio Matteocci**

Università di Roma Tor Vergata

**Transparent Perovskite Technology for BIPV and Tandem Application**

5 min

**Lucio Cinà**

Cicci Research s.r.l.

**The quest for advanced electro-optical tests in photovoltaic research**

12 min

**Antonio Abate**

Università di Napoli Federico II

**Lead-Free Perovskite Solar Cells**

12 min

**Carla Gobbo**

Università di Milano Bicocca

**Overcoming 20% Efficiency in Kesterite/Perovskite Tandem Solar Cells on Rigid and Flexible Substrates**

12 min

**Giulia Spaggiari**

CNR, National Research Council

**Enhancing the Performance of Sb<sub>2</sub>Se<sub>3</sub> Thin-Film Solar Cells: Strategies for Optimization and the Role of Characterization****19:00 | Aperitivo**

**08:40 | Topic 1 - Session 3**

**Fundamental research on photovoltaic materials and devices**

*5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Mirko Seri**

Eurac Research

**Economic Feasibility Assessment of Building-Integrated Photovoltaics Across Different Markets**

5 min

**Lorenzo Squillantini**

CNR, National Research Council

**Enhancing the Performance of Inverted Hybrid Perovskite Solar Cells with Sustainable Carbon Nanoparticle Integration: Impact of Chemical Composition on Efficiency**

5 min

**Antonio Carella**

Università di Napoli Federico II

**Novel isoindigo derivatives as electron transport materials for perovskite solar cells**

5 min

**Roberto Speranza**

Politecnico di Torino

**Valerolactone as a Green and Low-Toxic Solvent for Dye-Sensitized Solar Cells under Indoor Illumination**

12 min

**Alberto Picchi**

Università di Pisa

**Enhancing the Sustainability of Luminescent Solar Concentrators: Photostable Fluorophores in Chemically Recycled PMMA**

12 min

**Alessandro Lanuti**

Solertix

**Lamination of Tandem Perovskite Silicon 4T modules: a step toward industrialization**

12 min

**Thomas Brown**

Università di Roma Tor Vergata

**Photovoltaics for Indoor Energy Harvesting**

10:00 | Coffee break



**10:30 | Topic 4****Economics of photovoltaic supply chains and sustainability****Topic 5****Green energy transition and social transformations**

*5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Gabriella Gonnella**

CNR, National Research Council

**Sodium Alginate as a Natural Substrate for Stable and Efficient Eco-Designed Organic Solar Cells**

5 min

**David Moser**

Eurac Research

**Economic Feasibility Assessment of Building-Integrated Photovoltaics Across Different Markets**

12 min

**Julia Nerantzia Tzortzi**

Politecnico di Milano

**Circular Production in Photovoltaic Supply Chains: A Lifecycle-Based Approach to Economic and Environmental Sustainability**

5 min

**Mirella De Falco**

Università di Roma La Sapienza

**The Social Acceptability of Agrivoltaics: Findings from an I-SETA Model**

12 min

**Paolo Picchi**

Università di Firenze

**Community Engagement In Designing Agrivoltaic Systems as Social-Ecological Systems - A Case Study in Friuli Region, Italy**

12 min

**Filippo Lafleur**

LAND

**Agrivoltaics as a Catalyst for Nature-Positive Territorial Transition: A Power Plant Revitalization Case Study**

**Short presentations by the conference sponsors**



## 11:45 | Topic 3 - Session 2

### Photovoltaic applications

*5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Marco Leonardi**

3SUN

**Outdoor Reliability of Solar Modules in Desertic Conditions: a Yearly Assessment by a Semi-empirical Approach**

5 min

**Giovanni Landi**

ENEA

**Photovoltaic-Powered IoT Platform for Indoor Environmental Monitoring**

5 min

**Federico Andreozzi**

Università di Roma Tor Vergata

**Long-Term Performance and Degradation Testing Of Bifacial PV Modules For Agri-PV Application**

12 min

**Federica Marandino**

Università di Napoli Federico II

**Support Tools for Agrivoltaic System Design: Technical Solution Data Sheets**

12 min

**Giosuè Maugeri**

RSE

**A Public Repository for PV Production Data with Fault Events: Enabling Advanced Fault Detection and Diagnosis Models**

12 min

**Martina Pelle**

Eurac Research

**Industrial feasibility study and scale-up of coloured encapsulant with organic fluorophores for BIPV applications**

**Short presentations by the conference sponsors**



**13:00 | Topic 1 - Session 4****Fundamental research on photovoltaic materials and devices***5 minutes presentations or 10 min. presentation + 2 min. Q&A*

5 min

**Floriana Morabito**

CNR, National Research Council

**Perspectives for a Spectral Splitting Solar Concentrator with Minimum Self-Shading for 4-Terminals and Bifacial Applications: Numerical Evaluations**

5 min

**Nadir Vanni**

CNR, National Research Council

**Ambient Air Deposition Allows Reaching Record Light Use Efficiency in FAPbI<sub>3</sub> Perovskite Solar Cells**

5 min

**Erica Magliano**

Università di Roma Tor Vergata

**Advancing All-Perovskite Tandem Solar Cells: Optimization Strategies for Enhanced Efficiency**

5 min

**Salvatore Ferruggia Bonura**

Università di Palermo

**Optical Structural Feature Evaluation Of Glasses For Photovoltaic Applications**

12 min

**Marcello Franzini**

Università di Torino

**Ni-Based Coordination Polymer as Counter Electrode Exceeding 10% Efficiency in Dye Sensitized Solar Cells**

12 min

**Francesca Menchini**

ENEA

**Thermally Evaporated Indium Oxide as TCO for Fully-evaporated Silicon-based Heterojunction Solar Cells**

12 min

**Alessandro Romeo**

Università di Verona

**CdTe Solar Cells for Tandem Si Solar Cells****14:10 | Final session****Final Remarks and announcement of the venue of RetelFV2026**

## Prizes



**Elevator pitch Topic 1 Award**



**Elevator pitch Topic 2 -5 Awards**



**Poster Award**



**Attractor paper of RetelFV 2025**

With the participation of

