

Program

Day 1 – Wednesday 02 October 2024

| | | WELCOME SESSION | |
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| 9:00 | 9:30 | Prof. M. Midiri (Rector UniPa) | Prof. A. Pace (Delegate UniPa) |
| Session I: Solar cells and PV modules | | | Chair: Maurizio Cellura Mario Tucci |
| 9:30 | 10:00 | Ivan Gordon , IMEC <i>Innovative High-Performance Crystalline-Silicon Solar Cells: State-Of-The-Art and Future Challenges</i> | |
| 10:00 | 10:20 | Jessica Jazmine Nicole Barrantes , University of Padova <i>LBIC Analysis of Heterojunction Silicon Solar Cells for Photocurrent Mapping and Surface Recombination Detection</i> | |
| 10:20 | 10:40 | Salvatore Antonino Lombardo , CNR-IMM <i>Bifacial Photovoltaics, Four-Terminal Systems, and their Coupling: Modeling and Data</i> | |
| 10:40 | 11:00 | Mario Tucci , ENEA <i>Selective Contacts by Evaporation Process for Heterojunction Solar Cell</i> | |
| 11:00 | 11:30 | Coffee break | |
| Session II: Solar systems sustainability | | | Chair: Maurizio Cellura |
| 11:30 | 11:50 | Massimo Izzi , ENEA <i>PHOTORAMA, A New European Methodology Route to Recover and Recycle the Components from End-Of-Life PV Modules</i> | |
| 11:50 | 12:10 | Teresa Gulotta , University of Messina <i>Life Cycle Thinking analysis of Unitized Regenerative Fuel Cells: from literature review to applicative key findings</i> | |
| 12:10 | 12:30 | Sonia Longo , University of Palermo <i>Life Cycle Assessment of Solar Heating and Cooling Systems</i> | |
| 12:30 | 12:50 | Marina Mistretta , Mediterranean University of Reggio Calabria <i>High-resolution electricity generation mixes in net zero energy building</i> | |
| 12:50 | 13:10 | Le Quyen Luu , UniPa <i>Application of product environmental footprint method for life cycle assessment of concentrating solar technologies</i> | |
| 13:10 | 15:00 | Lunch | |
| Session III: Photovoltaic Integration I | | | Chair: Laura Maturi |
| 15:00 | 15:20 | Daniele Bricca , Sapienza University of Rome <i>GKN for future: an effective and socially responsible re-industrialization plan boosting building integrated photovoltaic offer to european market</i> | |
| 15:20 | 15:40 | Gianfranco Modoni , CNR STIIMA <i>BIPV designing by VR/AR and DT. The case of Parma Municipality administrative building</i> | |
| 15:40 | 16:00 | Roberto Speranza , Politecnico di Torino <i>Integrated solar cells and supercapacitors for self-rechargeable power sources</i> | |
| 16:00 | 16:20 | Francesco Guarino , University of Palermo <i>Towards implementation of the concept of Positive Energy Districts in the EU: state of the art and case-studies</i> | |
| 16:20 | 16:40 | Gabriella Gonnella , Eurac Research <i>Exploring Optical Properties and Assembly Techniques for IPV prototypes</i> | |
| 16:40 | 17:00 | Coffee Break | |

Day 2 – Thursday 03 October 2024

| Session IV: Photovoltaic Integration II | | Chair: Maurizio Cellura |
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| 9:00 | 9:20 | Leonardo Micheli , Sapienza University of Rome <i>Soiling of Photovoltaic Systems in the Era of High PV Penetration: Impact and Mitigation Strategies</i> |
| 9:20 | 9:40 | Cristina Cornaro , Tor Vergata University <i>Modelling Performance in Agri-PV Systems</i> |
| 9:40 | 10:00 | Girolamo di Francia , ENEA <i>Robotics For PV Large Utility Visual Inspection</i> |
| 10:00 | 10:20 | Salvatore Fabozzi , ENEA <i>Optimizing energy efficiency and sustainability in smart microgrids through polygenerative hybrid systems: a case study at the ENEA research center in portici</i> |
| 10:20 | 10:40 | Antonino Alessi , Ecole Polytechnique Paliseau <i>Solar Cells in Space Environment</i> |
| 10:40 | 11:20 | Coffee Break |
| Session V: Innovative Materials for PV & Solar Thermal | | Chair: Michele Saba |
| 11:20 | 11:40 | Alessandro Mattoni , CNR-IOM <i>Classical Molecular Dynamics Simulations of Hybrid Perovskites: Towards the Modeling of Crystal Growth and Complex Interfaces</i> |
| 11:40 | 12:00 | Aurora Rizzo , CNR Nanotec <i>Engineering Perovskite materials from solution to solar cells</i> |
| 12:00 | 12:20 | Simone Barbarossa , University of Palermo <i>The effects of cation mixing in optoelectronic properties of lead-free double perovskites for solar applications</i> |
| 12:20 | 12:40 | Erica Magliano , Tor Vergata University <i>Two-Step Hybrid Perovskite Deposition: Organic Cations Interdiffusion through Spin-Coating and Blade-Coating for Tandem Applications</i> |
| 12:40 | 13:00 | Elisa Sani , CNR-INO <i>Optimization approaches of Ultra-High Temperature Ceramics for new high-temperature solar absorbers</i> |
| 13:00 | 15:00 | Lunch |
| Session VI: Thermal and Concentrated Photovoltaic | | Chair: Alessandro Galia |
| 15:00 | 15:20 | Francesca Fabris , FuturaSun <i>How to bring photovoltaic module production back to Europe</i> |
| 15:20 | 15:40 | Marina Foti , 3Sun <i>3Sun The First European PV Gigafactory: Enabling Progress with Sustainable Energy</i> |
| 15:40 | 16:00 | Arianna Berto , University of Padova <i>Harvesting the solar energy by means of carbon nanofluids: a way to decarbonize heat in the building sector</i> |
| 16:00 | 16:20 | Roberto Pagano , CNR-IMM <i>Breakdown in industrial grade silicon monocrystalline solar cells</i> |
| 16:20 | 16:40 | Alberto Giaconia , ENEA <i>Integration of photovoltaic and concentrating solar technologies for high-efficient solar hydrogen production by high temperature water electrolysis</i> |
| 16:40 | 17:00 | Coffee Break |
| 17:00 | 18:00 | Visit to the Botanic Garden |
| 20:30 | | Social Dinner |

Day 3 – Friday 04 October 2024

| NEST Session | | Chair: Maurizio Cellura |
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| 9:00 | 9:30 | WP 1.7, UNIPA/ENEA <i>Dissemination and Communications</i> |
| 9:30 | 10:00 | WP 1.1, ENEA <i>Technologies for innovative high performance solar cells and PV module</i> |
| 10:00 | 10:30 | WP 1.2, CNR/UNICA <i>Innovative solar cell architectures for high conversion efficiency</i> |
| 10:30 | 11:00 | WP 1.3, EURAC <i>Advanced technologies and solution for BIPV and BAPV</i> |
| 11:00 | 11:30 | Coffee Break |
| 11:30 | 12:00 | WP 1.4, UNIPA/ENEA <i>New concept for CSP/CST systems</i> |
| 12:00 | 12:30 | WP 1.6, UNIPA <i>Sustainable Eco-Design</i> |
| 12:30 | 13:00 | Final Remarks |
| 13:00 | | Lunch |