

## CONFERENCE TIMELINE

TIME	SUN June 22nd	MON June 23rd	TUES June 24th	WED June 25th	THURS June 26th
8:00		Registration			
9:00		Opening Remarks			
9:15		<b>PLENARY Session I</b>	<b>Session 7:</b> Reforming Technologies: Catalysts & Reactors ( <i>Margherita Room</i> ); <b>Session 8:</b> Materials and Technologies for Water Electrolysis ( <i>Nereo Room</i> ); <b>Session 9:</b> Thermal Energy Storage ( <i>Doride Room</i> )	<b>Session 16:</b> Post-Lithium Battery Materials and Designs ( <i>Margherita Room</i> ); <b>Session 17:</b> Catalysis for Sustainable Fuels and Chemicals ( <i>Nereo Room</i> ); <b>Session 18:</b> Hydrogen economy in EU demonstration project: Hy2Market ( <i>Doride Room</i> )	<b>Session 24:</b> Hydrogen and Clean Energy: Insights from the IAGE Community ( <i>Margherita Room</i> ); <b>Session 25:</b> Smart Energy Systems and Decarbonization ( <i>Nereo Room</i> ); <b>Session 26:</b> Next-Gen Energy Storage in RdS Project ( <i>Doride Room</i> )
9:30					
9:45					
10:00					
10:15					
10:30		<b>PLENARY Session II</b>			
10:45					
11:00		Coffee & Ice Cream Break	Coffee & Ice Cream Break	Coffee & Ice Cream Break	
11:15		Coffee & Ice Cream Break			
11:30		<b>PLENARY Session III</b>	<b>Session 10:</b> Reactors and Catalysts for Ammonia-to-Hydrogen Conversion ( <i>Margherita Room</i> ); <b>Session 11:</b> Materials and Technologies for Water Electrolysis ( <i>Nereo Room</i> ); <b>Session 12:</b> Thermal Energy Storage ( <i>Doride Room</i> )	<b>Session 19:</b> Post-Lithium Battery Materials and Design ( <i>Margherita Room</i> ); <b>Session 20:</b> Catalysis for Sustainable Fuels and Chemicals ( <i>Nereo Room</i> )	<b>Session 27:</b> CO <sub>2</sub> Methanation and Biogas Upgrading: Innovative Processes ( <i>Margherita Room</i> ); <b>Session 28:</b> Smart Energy Systems and Decarbonization ( <i>Nereo Room</i> ); <b>Session 29:</b> Mission Project: Multivector Integrated Intelligent Microgrids ( <i>Doride Room</i> )
11:45					
12:00					
12:15					
12:30					
12:45		Lunch	Lunch	Lunch	Lunch
13:00					
13:15					
13:30					
13:45					
14:00		<b>Session 1:</b> Advanced Materials for Electrochemical Energy Conversion ( <i>Margherita Room</i> ); <b>Session 2:</b> Li-Ion Battery Materials and Sustainability ( <i>Nereo Room</i> ); <b>Session 3:</b> Hydrogen and CO <sub>2</sub> Management Pathways ( <i>Doride Room</i> )	<b>Session 13:</b> Hydrogen from Photocatalysis and Solar Energy ( <i>Margherita Room</i> ); <b>Session 14:</b> Materials and Technologies for Water Electrolysis ( <i>Nereo Room</i> ); <b>Session 15:</b> TES Cluster Session ( <i>Doride Room</i> )	Young Researcher Awards	Closing Ceremony
14:15					
14:30					
14:45					
15:00					
15:15					
15:30					
15:45					
16:00		Coffee & Ice Cream Break			
16:15					
16:30		<b>Session 4:</b> Advanced Materials for Electrochemical Energy Conversion ( <i>Margherita Room</i> ); <b>Session 5:</b> Li-Ion Battery Materials and Sustainability ( <i>Nereo Room</i> ); <b>Session 6:</b> PLUG-IN Project: Decarbonizing Reforming Technologies, Electrified Routes to Sustainable Hydrogen ( <i>Doride Room</i> )			
16:45					
17:00					
17:15					
17:30					
17:45					
18:00	Welcome Cocktail & Registration	Sparkling Talks			
19:00				Poster Session & Wine Tasting at Castle of Lipari	
20:00					
21:00			Gala Dinner		
22:00					
23:00					
24:00					

Throughout the duration of the conference, the **Sponsor Exhibition Desks** will be available in the **Mosaico Room**. The Welcome Party and Sparkling Talks will take place on the terrace adjoining the **Mosaico Room**. Coffee breaks will be served in the **Pool Room**, while ice cream will be available during the coffee breaks in the **Mosaico Room**. Lunches will be served in the **Pool Room**. Sessions will be held in the **Margherita, Doride, and Nereo Rooms**.

To download the **Book of Abstracts** (with ISBN), simply scan the QR code printed on the back of your badge.



Network ID: ICSET 2025  
Password: ICSET\_2025

# PROGRAM

## Sunday, June 22nd

18:00 21:00 *Registration and Welcome Party* "Mosaico" Room

## Monday, June 23rd

Session: **Plenary Session**  
Chair: **Antonino S. Aricò** "Margherita" Room

09:00 09:15 **Opening Remarks**

09:15 10:15 **Plenary K. Andreas Friedrich German Aerospace Center (German Aerospace Center (DLR)) Germany**  
COST REDUCTION STRATEGIES IN LOW TEMPERATURE WATER ELECTROLYSIS WITH IMPROVED CATALYTIC ACTIVITY

10:15 11:15 **Plenary Enrico Tronconi Politecnico di Milano Italy**  
JOULE HEATED STRUCTURED REACTORS: COMBINING ELECTRIFICATION WITH PROCESS INTENSIFICATION

11:15 11:45 *Coffee & Ice Cream Break*

11:45 12:45 **Plenary Vincenzo Antonucci CNR-ITAE Italy**  
DECARBONIZATION AND SECURITY OF SUPPLY: A POLITICAL OR A SCIENTIFIC PROBLEM?

13:00 14:00 *Lunch*

Session 1: **Advanced Materials for Electrochemical Energy Conversion**  
Chair: **Jacques Roziere** "Margherita" Room

14:00 14:40 **Keynote Deborah Jones Centre National de la Recherche Scientifique (CNRS) France**  
C212 CHALLENGES IN FUEL CELL MATERIALS DEVELOPMENT FOR PEMFC FOR AVIATION

14:40 14:55 **Oral Rodrigo Schneider ICGM France**  
C190 PROTON EXCHANGE MEMBRANE WITH ACTIVE REINFORCEMENT BASED ON FUNCTIONALIZED POLYMER NANOFIBERS

14:55 15:10 **Oral Matteo Andrea De Luca Politecnico di Milano Italy**  
C054 PFASs-FREE PBI-PGO COMPOSITES AS PROMISING POLYMER ELECTROLYTE MEMBRANES FOR BRIDGING THE "CONDUCTIVITY GAP"

15:10 15:25 **Oral Alessio Occhicone Federico II University of Naples Italy**  
C059 MODIFIED PVA AS ALTERNATIVE PEM IN LTFCS APPLICATIONS

15:25 15:40 **Oral Luna Iacobini ENEA Italy**  
C136 Ceria-reduced graphene oxide as a co-catalyst for oxygen reduction in low platinum loading acidic fuel cells

15:40 15:55 **Oral Emmanuel De Gregorio Parthenope University of Naples Italy**  
C061 Phosphoric acid adsorption on PBI electrospun membranes: a kinetic overview

Session 2: **Li-Ion Battery Materials and Sustainability**  
Chair: **Vincenzo Antonucci** "Nereo" Room

14:00 14:40 **Keynote Maximilian Fichtner Helmholtz-Institute Ulm (HIU) Germany**  
C071 Recent Results and Progress with Multivalent Batteries

14:40 14:55 **Oral Arcangelo Celeste La Sapienza University of Rome Italy**  
C141 ROLE OF TRANSITION METALS IN STABILIZING ELECTROCHEMICAL PERFORMANCE IN CO-FREE LITHIUM-RICH CATHODES

14:55 15:10 **Oral Laura Silvestri ENEA Italy**  
C127 DESIGN AND CHARACTERIZATION OF IRON-DOPED CO-FREE LI-RICH CATHODE MATERIALS

15:10 15:25 **Oral Antonio Giarrizzo La Sapienza University of Rome Italy**  
C196 Simulating the Influence of Cu Impurities on the Performance of NMC811 Cathodes from Recycling

15:25 15:40 **Oral Mauro Francesco Sgroi University of Torino Italy**  
C062 COATING OF NMC811 CATHODE MATERIAL FOR LI-ION BATTERIES

<b>Session 3: Hydrogen and CO<sub>2</sub> Management Pathways</b>				
Chair:	<b>Adele Brunetti</b>			<b>"Doride" Room</b>
14:00	14:25	<b>Invited</b>	<b>Gianpiero Groppi</b> C121 A SUSTAINABLE PROCESS FOR H <sub>2</sub> RELEASE FROM LOHC: METHYL-CYCLOHEXANE DEHYDROGENATION IN AN ELECTRIFIED REACTOR	<b>Politecnico di Milano</b> <b>Italy</b>
14:25	14:40	<b>Oral</b>	<b>Valerie Meille</b> C040 Hydrogen storage in LOHC: the latest news	<b>IRCELYON - CNRS</b> <b>France</b>
14:40	14:55	<b>Oral</b>	<b>Ion Agirre</b> C042 ENVIRONMENTAL AND ECONOMIC ASSESSMENT OF LARGE-SCALE HYDROGEN SUPPLY CHAINS ACROSS EUROPE: THE POTENTIAL OF LOHC TECHNOLOGY	<b>UPV/EHU</b> <b>Spain</b>
14:55	15:10	<b>Oral</b>	<b>Andrej Markovic</b> C014 Advancing hydrogen storage: a numerical analysis of metal hydrides thermal management for proper operation	<b>Free University of Bozen-Bolzano</b> <b>Italy</b>
15:10	15:25	<b>Oral</b>	<b>Antonio Fabozzi</b> C118 HYDROGEN IRON TRANSPORT (HIT)	<b>CNR-STEMS</b> <b>Italy</b>
15:25	15:40	<b>Oral</b>	<b>Edoardo Disarò</b> C113 THE FUTURE OF CO <sub>2</sub> LIQUEFACTION: A COMPARATIVE ANALYSIS FOR LARGE-SCALE CCS PROJECTS	<b>NextChem Tech</b> <b>Italy</b>
15:40	15:55	<b>Oral</b>	<b>Beatrice Castellani</b> C070 CO <sub>2</sub> GEOLOGICAL STORAGE WITH GAS HYDRATES: THE EFFECT OF SALT WATER ON THE FORMATION PROCESS	<b>University of Perugia</b> <b>Italy</b>
16:00	16:30	<i>Coffee &amp; Ice Cream Break</i>		
<b>Session 4: Advanced Materials for Electrochemical Energy Conversion</b>				
Chair:	<b>Piercarlo Mustarelli</b>			<b>"Margherita" Room</b>
16:30	16:55	<b>Invited</b>	<b>Lorenzo Freschi</b> C043 SINTERING AND CONDUCTIVITY STUDIES ON SOLID ELECTROLYTES FOR PROTON CERAMIC FUEL CELLS	<b>ENEA</b> <b>Italy</b>
16:55	17:10	<b>Oral</b>	<b>Lucia Cardona</b> C150 MATRICES COMPARISON IN MOLTEN CARBONATE CELLS APPLICATION	<b>University of Genova</b> <b>Italy</b>
17:10	17:25	<b>Oral</b>	<b>Sergio Bocchini</b> C139 POLYMERS OF INTRINSIC MICROPOROSITY: INNOVATIVE FLUORINE-FREE SOLUTIONS FOR ENERGY APPLICATIONS	<b>Politecnico di Torino</b> <b>Italy</b>
17:25	17:40	<b>Oral</b>	<b>Hamish Andrew Miller</b> C053 THE APPLICATION OF E-FUELS IN ANION EXCHANGE MEMBRANE FUEL CELLS	<b>CNR-ICCOM</b> <b>Italy</b>
17:40	17:55	<b>Oral</b>	<b>Chen Li</b> C166 CHARACTERIZATION OF LI METAL AT ATOMIC RESOLUTION WITH INERT GAS TRANSFER AND CRYO-FIB	<b>Thermo Fisher Scientific</b> <b>Netherlands</b>
<b>Session 5: Li-Ion Battery Materials and Sustainability</b>				
Chair:	<b>Maximilian Fichtner</b>			<b>"Nereo" Room</b>
16:30	16:55	<b>Invited</b>	<b>Alexandre Chagnes</b> C003 INNOVATIVE RECYCLING SOLUTIONS FOR LITHIUM-ION BATTERIES IN ELECTRIC MOBILITY	<b>Université de Lorraine GeoRessources</b> <b>France</b>
16:55	17:10	<b>Oral</b>	<b>Giovanni Ceccio</b> C031 STUDY OF THIN ALL-SOLID-STATE LI-ION BATTERIES (ASSLIB) BY NEUTRON DEPTH PROFILING (NDP) AND ION BEAM ANALYSIS (IBA)	<b>Nuclear Physics Institute of Czech Academy of Science</b> <b>Czech</b>
17:10	17:25	<b>Oral</b>	<b>Matteo Ligorati</b> C117 DEGRADATION OF LITHIUM-ION BATTERIES: A META-ANALYSIS	<b>University of Augsburg</b> <b>Germany</b>
17:25	17:40	<b>Oral</b>	<b>Pier Paolo Prosini</b> C033 PRODUCTION OF LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> : A LABORATORY ANALYSIS AND ITS APPLICABILITY ON INDUSTRIAL SCALE TO OBTAIN A CATHODIC ELECTRODE FOR LI-ION BATTERY	<b>ENEA</b> <b>Italy</b>
<b>Session 6: PLUG-IN Project : Decarbonizing Reforming Technologies, Electrified Routes to Sustainable Hydrogen</b>				
Chair:	<b>Enrico Tronconi</b>			<b>"Doride" Room</b>
16:30	16:45	<b>Oral</b>	<b>Gianluca Landi</b> Design of catalysts for low-temperature steam reforming	<b>CNR-STEMS</b> <b>Italy</b>
16:45	17:00	<b>Oral</b>	<b>Domenico Maccarrone</b> Structured Catalysts for Electrified Membrane Reactors: Lessons Learned in the Plug-in Project	<b>CNR-ITAE</b> <b>Italy</b>

17:00	17:15	<b>Oral</b>	<b>Adolfo Iulianelli</b>	<b>CNR-ITM</b>	Italy
				Membrane reactors for H2 production via biogas/biomethane reforming: from membrane characterization to electrification"	
17:15	17:30	<b>Oral</b>	<b>Matteo Ambrosetti</b>	<b>Politecnico di Milano</b>	Italy
				Multifunctional reactors for the intensification of SMR: direct Joule heating of packed foams and integrated CO2 capture	
17:30	17:45	<b>Oral</b>	<b>Vincenzo Palma</b>	<b>University of Salerno</b>	Italy
				Integrated catalytic membrane reactor electrically heated for dry reforming intensification	
17:45	18:00	<b>Oral</b>	<b>Andrea Nava</b>	<b>Politecnico di Milano</b>	Italy
				C128 NEGATIVE EMISSION "EMERALD HYDROGEN" FROM ELECTRIFIED REFORMING OF BIOGAS WITH CO2 CAPTURE	

18:00 20:00 *Sparkling Talks* "Mosaico" Room

## Tuesday, June 24th

Session 7: **Reforming Technologies: Catalysts & Reactors** "Margherita" Room  
Chair: **Fausto Gallucci**

09:00	09:25	<b>Invited</b>	<b>Stefania Specchia</b>	<b>Politecnico di Torino</b>	Italy
				C173 SCALE-UP OF MONOLITHS AS STRUCTURED CATALYSTS PREPARED BY IN SITU SOLUTION COMBUSTION SYNTHESIS	
09:25	09:40	<b>Oral</b>	<b>Eugenio Meloni</b>	<b>University of Salerno</b>	Italy
				C010 HIGH ACTIVE STRUCTURED CATALYSTS FOR ELECTRIFIED DRY REFORMING OF METHANE	
09:40	09:55	<b>Oral</b>	<b>Leonardo Falbo</b>	<b>NextChem Tech</b>	Italy
				C112 CATALYTIC PARTIAL OXIDATION FOR SYNGAS PRODUCTION AT INDUSTRIAL SCALE	
09:55	10:10	<b>Oral</b>	<b>Gianluca Landi</b>	<b>CNR-STEMS</b>	Italy
				C027 NI NANOMETRIC PARTICLES IN ULTRA-STABLE HIERARCHICALLY POROUS Y ZEOLITE TO DRIVE METHANE STEAM REFORMING AND CO2 HYDROGENATION	
10:10	10:25	<b>Oral</b>	<b>Leonardo Duranti</b>	<b>Tor Vergata University of Rome</b>	Italy
				C029 Carbon Resistant Ru Supported On Sm-Doped CaZrO3 Catalyst For Dry Reforming Of Methane: The Effect Of Ru Loading On Catalytic Activity	
10:25	10:40	<b>Oral</b>	<b>Salvatore Francesco Cannone</b>	<b>Politecnico di Torino</b>	Italy
				C122 ENHANCED BIOGAS REFORMING FOR SUSTAINABLE LIQUID E-FUEL PRODUCTION: A NOVEL FOUR-REACTOR APPROACH	
10:40	10:55	<b>Oral</b>	<b>Matteo Ambrosetti</b>	<b>Politecnico di Milano</b>	Italy
				C143 BIOGAS STEAM REFORMING IN AN ELECTRIFIED THERMALLY CONDUCTIVE CATALYTIC REACTOR	

Session 8: **Materials and Technologies for Water Electrolysis** "Nereo" Room  
Chair: **Vincenzo Baglio**

09:00	09:40	<b>Keynote</b>	<b>Piercarlo Mustarelli</b>	<b>University of Milano Bicocca</b>	Italy
				C214 ANION EXCHANGE MEMBRANES FOR ELECTROLYSIS: STATE-OF-THE-ART AND PERSPECTIVES	
09:40	09:55	<b>Oral</b>	<b>Negin Roshan</b>	<b>La Sapienza University of Rome</b>	Italy
				C049 HYDROGEN PRODUCTION BY A TWO-STEP WATER SPLITTING CYCLE BASED ON INNOVATIVE PEROVSKITES	
09:55	10:10	<b>Oral</b>	<b>Alberto Affranchi</b>	<b>University of Palermo</b>	Italy
				C044 Life cycle assessment of alkaline electrolyser cell equipped with nanowire electrodes	
10:10	10:25	<b>Oral</b>	<b>Yashwant Pratap Kharwar</b>	<b>INL</b>	Portugal
				C147 SYNTHESIS OF HIGH ENTROPY ALLOYS ON DIFFERENT SUBSTRATES FOR WATER ELECTROLYSIS: A CASE STUDY OF THE LASER ANNEALING METHOD	
10:25	10:40	<b>Oral</b>	<b>Waqas Qamar Zaman</b>	<b>Iberian International Nanotechnology Laboratory</b>	Portugal
				C129 IRIIDIUM-INCORPORATED ZIF-67 FOR EFFICIENT OER IN ACIDIC WATER ELECTROLYSIS	
10:40	10:55	<b>Oral</b>	<b>Fatima El Bachraoui</b>	<b>Mohammed VI Polytechnic Uni.</b>	Morocco
				C046 Ionic aspects of water electrolysis	

Session 9: **Thermal Energy Storage** "Doride" Room  
Chair: **Vincenza Brancato**

09:00	09:40	<b>Keynote</b>	<b>Luisa F Cabeza</b>	<b>University of Lleida</b>	Spain
				C100 DEVELOPMENT OF A BIO-INSPIRED THERMAL ENERGY STORAGE TANK USING ARTIFICIAL INTELLIGENCE TO IMPROVE HEAT TRANSFER	

09:40	09:55	<b>Oral</b>	<b>Le Quyen Luu</b>	<b>University of Palermo</b>		<b>Italy</b>	
		C024	LIFE CYCLE ENVIRONMENTAL IMPACTS AND COSTS OF LAB-SCALED INNOVATIVE SOLAR PV CELLS				
09:55	10:10	<b>Oral</b>	<b>Daniela De Cata</b>	<b>Università Campus Bio-Medico di Roma</b>		<b>Italy</b>	
		C057	INTEGRATING THERMAL ENERGY STORAGE IN INNOVATIVE ELECTRIFIED REACTOR DESIGNS FOR HIGHLY ENDOTHERMIC PROCESSES APPLICATIONS				
10:10	10:25	<b>Oral</b>	<b>SSM Shamsi</b>	<b>University of Genova</b>		<b>Italy</b>	
		C069	TECHNO ECONOMIC ASSESSMENT OF A SCO <sub>2</sub> -BASED THERMALLY INTEGRATED-PUMPED THERMAL ENERGY STORAGE (TI-PTES) TO BE COUPLED WITH A COMMERCIAL 50 MW-CSP PLANT				
10:25	10:40	<b>Oral</b>	<b>Ilaria Marotta</b>	<b>CNR-ITAE</b>		<b>Italy</b>	
		C224	Demonstration of sector-coupling based on advanced Thermal Energy Storage: a Model Predictive Control framework for load-shifting and grid-balancing				
11:00	11:30	<i>Coffee &amp; Ice Cream Break</i>					

<b>Session 10: Reactors and Catalysts for Ammonia-to-Hydrogen Conversion</b>						
Chair:	<b>Eugenio Meloni</b>					<b>"Margherita" Room</b>
11:30	11:55	<b>Invited</b>	<b>Fausto Gallucci</b>	<b>Eindhoven University of Technology</b>		<b>Netherlands</b>
		C210	INTENSIFIED AMMONIA CRAKING USING MEMBRANE REACTORS			
11:55	12:10	<b>Oral</b>	<b>Chiara Falchetta</b>	<b>University of Salerno</b>		<b>Italy</b>
		C146	LOW-TEMPERATURE HYDROGEN PRODUCTION VIA CATALYTIC AMMONIA CRACKING			
12:10	12:25	<b>Oral</b>	<b>Minju Thomas</b>	<b>CNR-ITAE</b>		<b>Italy</b>
		C162	MAGNESIUM-DOPED LANTHANUM NICKALATE PEROVSKITES FOR AMMONIA DECOMPOSITION: KINETIC ANALYSIS AT LOW TEMPERATURES			
12:25	12:40	<b>Oral</b>	<b>Salvatore Abate</b>	<b>University of Messina</b>		<b>Italy</b>
		C013	RUTHENIUM-CATALYZED DILUTED AMMONIA DECOMPOSITION: A COMPARATIVE STUDY OF FIXED BED AND MEMBRANE-ENHANCED REACTOR TECHNOLOGIES			
12:40	12:55	<b>Oral</b>	<b>Cecilia Pistolesi</b>	<b>Campus Bio-Medico University of Rome</b>		<b>Italy</b>
		C056	TECHNO-ECONOMIC ANALYSIS OF A GREEN AMMONIA PLANT: DIMENSIONING OF THE ELECTROCHEMICAL AND HYDROGEN STORAGE SYSTEMS FOR THE OPTIMIZATION OF THE LEVELIZED COST OF AMMONIA			

<b>Session 11: Materials and Technologies for Water Electrolysis</b>						
Chair:	<b>Isabella Nicotera</b>					<b>"Nereo" Room</b>
11:30	11:55	<b>Invited</b>	<b>Jorge Torrero</b>	<b>German Aerospace Center (DLR)</b>		<b>Germany</b>
		C165	COST REDUCTION AND CRITICAL RAW MATERIAL SUBSTITUTION IN PEMWE: ADVANCES IN STAINLESS STEEL POROUS TRANSPORT LAYERS AND NOVEL IRIIDIUM CATALYSTS			
11:55	12:10	<b>Oral</b>	<b>Luca Riccio</b>	<b>Parthenope University of Naples</b>		<b>Italy</b>
		C045	Optimisation of SOC cells pattern and predictions of experimental data			
12:10	12:25	<b>Oral</b>	<b>Silvia Lo Conte</b>	<b>Parthenope University of Naples</b>		<b>Italy</b>
		C137	FUEL-ASSISTED STEAM ELECTROLYSIS IN MOLTEN CARBONATE CELLS: FIRST ATTEMPTS			
12:25	12:40	<b>Oral</b>	<b>Simone Mataloni</b>	<b>ENEA</b>		<b>Italy</b>
		C156	SYNGAS CONDITIONING VIA MOLTEN CARBONATE ELECTROLYSIS CELL: AN EXPERIMENTAL STUDY ON WASTE GASIFICATION			
12:40	12:55	<b>Oral</b>	<b>Yuye J. Tong</b>	<b>Georgetown University</b>		<b>USA</b>
		C067	Production of Hydrogen by Electrochemical Direct Steam Methane Reforming Reaction under Mild Conduction			

<b>Session 12: Thermal Energy Storage</b>						
Chair:	<b>Andrea Frazzica</b>					<b>"Doride" Room</b>
11:30	11:45	<b>Oral</b>	<b>Akhil Panicker</b>	<b>Technical University of Denmark</b>		<b>Denmark</b>
		C058	TECHNO-ECONOMIC OPTIMIZATION OF A TWO TANK MOLTEN SALT THERMAL ENERGY STORAGE SYSTEM FOR HIGH TEMPERATURE STEAM GENERATION			
11:45	12:00	<b>Oral</b>	<b>Luisa F Cabeza</b>	<b>University of Lleida</b>		<b>Spain</b>
		C099	VALORIZATION OF NON-EDIBLE ANIMAL FATS FROM FOUR ANIMAL SPECIES FOR THE DEVELOPMENT OF SUSTAINABLE, BIO-BASED PCM			
12:00	12:15	<b>Oral</b>	<b>Vincenza Brancato</b>	<b>CNR-ITAE</b>		<b>Italy</b>
		C234	THERMOCHEMICAL HEAT STORAGE INTEGRATION IN A HYBRID HYDROGEN ENERGY SYSTEM FOR MARITIME DECARBONIZATION: THE NEREHYDES PROJECT			
12:15	12:30	<b>Oral</b>	<b>Salvatore Vasta</b>	<b>CNR-ITAE</b>		<b>Italy</b>
		C064	Thermodynamic evaluation of potential of a sorption storage system for renewables and waste heat integration			
12:30	12:45	<b>Oral</b>	<b>Negin Roshan</b>	<b>La Sapienza University of Rome</b>		<b>Italy</b>
		C034	CHEMICAL AND MORPHOLOGICAL STABILITY OF THERMOCHEMICAL SYSTEMS IN FLUIDIZED BED APPLICATION			

13:00 14:00 Lunch

<b>Session 13:</b>	<b>Hydrogen from Photocatalysis and Solar Energy</b>				
Chair:	<b>Ion Agirre</b>			<b>"Margherita" Room</b>	
14:00	14:40	<b>Keynote</b>	<b>Hermenegildo Garcia</b> <b>CSIC-ITQ</b> C230 PHOTOCATALYTIC CO2 HYDROGENATION TO METHANOL	<b>Spain</b>	
14:40	14:55	<b>Oral</b>	<b>Claudio Maria Pecoraro</b> <b>University of Palermo</b> C025 BIOMASS PHOTOELECTROLYSIS IN PGM-FREE CONTINUOUS FLOW CELLS FOR THE SIMULTANEOUS PRODUCTION OF HYDROGEN AND VALUABLE CHEMICALS	<b>Italy</b>	
14:55	15:10	<b>Oral</b>	<b>Giuseppina Iervolino</b> <b>University of Salerno</b> C080 METAL-ORGANIC GEL DERIVED CeO2 PHOTOCATALYST FOR HYDROGEN PRODUCTION FROM GLUCOSE AQUEOUS SOLUTION	<b>Italy</b>	
15:10	15:25	<b>Oral</b>	<b>Simona Di Micco</b> <b>Parthenope University of Naples</b> C179 TECHNICAL AND ECONOMIC PERSPECTIVES OF THE SONO-PHOTOCATALYSIS PROCESS FOR THE PRODUCTION OF GREEN HYDROGEN	<b>Italy</b>	
15:25	15:40	<b>Oral</b>	<b>Claudio Ampelli</b> <b>University of Messina</b> C094 A SCALABLE ARTIFICIAL LEAF DEVICE FOR CONTINUOUS SOLAR-TO-HYDROGEN PRODUCTION	<b>Italy</b>	
15:40	15:55	<b>Oral</b>	<b>Ana Primo</b> <b>Consejo Superior de Investigaciones Científicas (CSIC) - Instituto de Tecnología Química (ITQ)</b> C231 LASER-INDUCED MXENE QUANTUM DOTS FOR PHOTOCATALYTIC HYDROGEN GENERATION	<b>Spain</b>	

<b>Session 14:</b>	<b>Materials and Technologies for Water Electrolysis</b>				
Chair:	<b>Jorge Torrero</b>			<b>"Nereo" Room</b>	
14:00	14:25	<b>Invited</b>	<b>Iñaki Requena Leal</b> <b>University of Castilla - La Mancha</b> C050 EDEN® TECHNOLOGY AS A SUSTAINABLE PATH TO DECARBONIZATION	<b>Spain</b>	
14:25	14:50	<b>Invited</b>	<b>Isabella Nicotera</b> <b>University of Calabria</b> C116 P-TERPHENYL PIPERIDINIUM ANION EXCHANGE MEMBRANES: A BREAKTHROUGH IN ALKALINE STABILITY AND IONIC CONDUCTIVITY FOR ENERGY DEVICES	<b>Italy</b>	
14:50	15:05	<b>Oral</b>	<b>Vincenzo Baglio</b> <b>CNR-ITAE</b> C111 ANION EXCHANGE MEMBRANES BASED ON POLYSULFONE FOR FUEL CELLS AND ELECTROLYZERS	<b>Italy</b>	
15:05	15:20	<b>Oral</b>	<b>Mariangela Latino</b> <b>CNR-IPCF</b> C097 HYDROGEN PRODUCTION: PIONEERING SUSTAINABLE ENERGY SOLUTIONS	<b>Italy</b>	
15:20	15:35	<b>Oral</b>	<b>Rosalba Passalacqua</b> <b>University of Messina &amp; INSTM CASPE</b> C167 ADVANCED PbO2 ANODES FOR ELECTROCHEMICAL PRODUCTION OF BIO-BASED MALEIC ACID	<b>Italy</b>	
15:35	15:50	<b>Oral</b>	<b>Simone Panfiglio</b> <b>University of Messina - NAVTEC</b> C101 ADDITIVE MANUFACTURING OF A DUAL-SIDE NAFION MEMBRANE FRAME FOR ENHANCED MEA FABRICATION IN PEMWE APPLICATIONS	<b>Italy</b>	
15:50	16:05	<b>Oral</b>	<b>Mario Pagliaro</b> <b>CNR-ISMN</b> C211 CytroCell@PIL: A New Citrus Nanocellulose-Polymeric Ionic Liquid Composite for Enhanced Anion Exchange Membranes	<b>Italy</b>	

<b>Session 15:</b>	<b>TES Cluster Session</b>				
Chair:	<b>Sara Attanà</b>			<b>"Doride" Room</b>	
14:00	14:15	<b>Oral</b>	<b>Guillermo Andrés Nieto</b> <b>Veolia</b> C226 THUMBS UP PROJECT - BALANCING THE GRID ONE BUILDING AT A TIME: OPTIMIZING THERMAL STORAGE STRATEGIES	<b>SPAIN</b>	
14:15	14:30	<b>Oral</b>	<b>Sergio Bobbo</b> <b>CNR-ITC</b> C225 ECHO PROJECT - THERMAL ENERGY STORAGES POTENTIALITIES AND CONSTRAINTS	<b>Italy</b>	
14:30	14:45	<b>Oral</b>	<b>Ilaria Marotta</b> <b>CNR-ITAE</b> C066 Flexibility potential of novel technologies: a Model Predictive Control framework for advanced Thermal Energy Storage	<b>Italy</b>	
14:45	15:00	<b>Oral</b>	<b>Daniel Carbonell</b> <b>Warrant Hub - Tinexta Group</b> C229 PHASE CHANGE SLURRY ENERGY STORAGE FOR COOLING LOAD SHIFTING	<b>Italy</b>	

20:00 00:00 Gala Dinner

**Wednesday, June 25th**

<b>Session 16: Post-Lithium Battery Materials and Designs</b>				
Chair:	<b>Alessandra Di Blasi</b>			<b>"Margherita" Room</b>
09:00	09:40	<b>Keynote</b>	<b>Matthias Schulz</b> cerenergy® - A SODIUM BATTERY TECHNOLOGY FOR GRID SCALE ENERGY STORAGE	<b>IKTS</b> <b>Germany</b>
09:40	09:55	<b>Oral</b>	<b>Santosh Kumar Myana</b> Synthesis and thermal Analyses of NaI-MX <sub>3</sub> (M = Al, Ga; X = Cl, Br) catholyte mixtures for low-temperature molten Sodium batteries	<b>University of Messina</b> <b>Italy</b>
09:55	10:10	<b>Oral</b>	<b>Matteo Milanesi</b> Development of an eco-friendly by-layer gel-polymer electrolyte for rechargeable Zinc-Air batteries	<b>Politecnico di Torino</b> <b>Italy</b>
10:10	10:25	<b>Oral</b>	<b>Alessandro Piovano</b> An overview on recycled or biosourced polymer binders/electrolytes for next-generation sustainable batteries	<b>Politecnico di Torino</b> <b>Italy</b>
10:25	10:40	<b>Oral</b>	<b>Serena Tombolesi</b> THE KEY ROLE OF POLYMERIC BINDER TO IMPLEMENT SILICON ANODES IN NEXT-GENERATION LITHIUM-ION BATTERIES	<b>University of Bologna</b> <b>Italy</b>
10:40	10:55	<b>Oral</b>	<b>Daniele Versaci</b> ENHANCING SCALABILITY AND SUSTAINABILITY OF NEXT-GEN LIBS ANODE THROUGH OPTIMIZED DUAL-BINDER DESIGN	<b>Politecnico di Torino</b> <b>Italy</b>
<b>Session 17: Catalysis for Sustainable Fuels and Chemicals</b>				
Chair:	<b>Valerie Meille</b>			<b>"Nereo" Room</b>
09:00	09:25	<b>Invited</b>	<b>Giuseppe Bonura</b> ONE-POT HYDROGENATION OF CO <sub>2</sub> TO DME: HOW FAR TO DEVELOP A SUITABLE HYBRID CATALYST?	<b>CNR-ITAE</b> <b>Italy</b>
09:25	09:40	<b>Oral</b>	<b>Antonio D'Ambrosio</b> Optimization of a Multi-step Process for Direct Dimethyl-ether Synthesis	<b>Università Campus Bio-Medico di Roma</b> <b>Italy</b>
09:40	09:55	<b>Oral</b>	<b>Laura Chianese</b> COPPER-BASED CATALYSTS FOR THE CO <sub>2</sub> HYDROGENATION TO METHANOL IN MILD CONDITIONS	<b>University of Salerno</b> <b>Italy</b>
09:55	10:20	<b>Invited</b>	<b>Renata Migliaccio</b> CATALYTIC PYROLYSIS OF OLIVE STONE IN A SPOUTED BED REACTOR TO PRODUCE POTENTIAL ALTERNATIVE BIO-FUELS	<b>CNR-STEMS</b> <b>Italy</b>
10:20	10:45	<b>Invited</b>	<b>Flavio Manenti</b> BIOGAS TO BIOMETHANOL: A DISTRIBUTED BIOREFINERY CONCEPT	<b>Politecnico di Milano</b> <b>Italy</b>
<b>Session 18: Hydrogen economy in EU demonstration project: Hy2Market</b>				
Chair:	<b>Dirk Koppert &amp; Francesco Sergi</b>			<b>"Doride" Room</b>
09:00	09:40	<b>Keynote</b>	<b>Dirk Koppert</b> Hy2market - Creating the hydrogen market for Europe. An overview of how 10 European regions work together on integrating hydrogen solutions in over 15 pilot and investment projects across the total value chain	<b>New Energy Coalition</b> <b>Netherlands</b>
09:40	09:55	<b>Oral</b>	<b>Philipp Wolf-Zöllner</b> CATALYTIC METHANATION OF CO? FROM INTEGRATED STEELWORKS: DEMONSTRATION AND UPSCALING OF A 20 KW PILOT PLANT	<b>Montanuniversität Leoben</b> <b>Austria</b>
09:55	10:10	<b>Oral</b>	<b>Nikolaos Ntavos</b> VALORIZATION OF URBAN SEWAGE SLUDGE AND USED COOKING OILS INTO BIO-HYDROGEN FOR SUSTAINABLE TRANSPORT APPLICATIONS	<b>CLUBE</b> <b>Greece</b>
10:10	10:25	<b>Oral</b>	<b>Inês Silva</b> HYTAGUS VALLEY: GREEN H <sub>2</sub> MOBILITY DEMONSTRATION IN THE MÉDIO TEJO REGION, PORTUGAL	<b>IRRADIARE</b> <b>Portugal</b>
10:25	10:40	<b>Oral</b>	<b>Cian Moran</b> HY2MARKET – COST, BENEFITS, AND REGIONAL SUITABILITY OF LIQUID HYDROGEN FOR THE NORTHERN NETHERLANDS	<b>HYE Transstore</b> <b>UK</b>
10:40	10:55	<b>Oral</b>	<b>Christoph Markowitsch</b> INVESTIGATION OF PROCESS ROUTES FOR THE UTILISATION OF BIOMASS AS BIOFUEL PLATFORM	<b>LEOBEN</b> <b>Austria</b>
10:55	11:10	<b>Oral</b>	<b>Gioacchino Musicò</b> OPTIMAL DESIGN AND MANAGEMENT METHODOLOGY FOR HYDROGEN PRODUCTION AND STORAGE: GREEN AND LOW CARBON CASE STUDIES	<b>CNR-ITAE</b> <b>Italy</b>
11:00	11:30	<i>Coffee &amp; Ice Cream Break</i>		

<b>Session 19: Post-Lithium Battery Materials and Designs</b>				
Chair:	<b>Matthias Schulz</b>			<b>"Margherita" Room</b>
11:30	11:55	<b>Invited</b>	<b>Claudio Gerbaldi</b> C183 AN OVERVIEW OF POLYMER-BASED ELECTROLYTES WITH HIGH IONIC MOBILITY FOR ADVANCED LI-SOLID STATE BATTERY	<b>Politecnico di Torino</b> <b>Italy</b>
11:55	12:10	<b>Oral</b>	<b>Thierry Djenizian</b> C022 BIORESORBABLE AND WIRELESS RECHARGEABLE IMPLANTED NA-ION BATTERY FOR TRANSIENT MEDICAL DEVICES	<b>School of Mines-Saint-Etienne</b> <b>France</b>
12:10	12:25	<b>Oral</b>	<b>Emanuele La Mazza</b> C236 Harnessing Biomass for Sodium-Ion Storage: an Electrospun Freestanding Porous Composite Anode	<b>CNR-ITAE</b> <b>Italy</b>
12:25	12:40	<b>Oral</b>	<b>Ivan Mastronardo</b> C093 SYNTHESIS OF NEW POLYETHYLENE OXIDE BASED ELECTROLYTES FOR SODIUM ION BATTERIES	<b>CNR-ITAE/University of Messina</b> <b>Italy</b>
12:40	12:55	<b>Oral</b>	<b>Leone Frusteri</b> C075 IRON-NICKEL CATHODES AND NASICON IONIC CONDUCTORS: REVOLUTIONIZING PLANAR ZEBRA BATTERIES FOR HIGH-PERFORMANCE ENERGY STORAGE	<b>CNR-ITAE</b> <b>Italy</b>
<b>Session 20: Catalysis for Sustainable Fuels and Chemicals</b>				
Chair:	<b>Gianpiero Groppi</b>			<b>"Nereo" Room</b>
11:30	11:55	<b>Invited</b>	<b>Eugenio Meloni</b> C098 DOUBLE-SKIN HIGH SELECTIVE MEMBRANE FOR AN INTENSIFIED PROPANE DEHYDROGENATION PROCESS	<b>University of Salerno</b> <b>Italy</b>
11:55	12:10	<b>Oral</b>	<b>Elisa Avruscio</b> C089 SYNGAS UPGRADING THROUGH CARBON MEMBRANE SEPARATION: A NOVEL APPROACH TO BIOMASS-TO-BIOFUEL PROCESSES	<b>CNR-ITM</b> <b>Italy</b>
12:10	12:25	<b>Oral</b>	<b>Olga Muccioli</b> C148 ELECTRIFIED STRUCTURED CATALYSTS FOR HIGH SELECTIVE DEHYDROGENATION OF PROPANE TO PROPYLENE	<b>University of Salerno</b> <b>Italy</b>
12:25	12:40	<b>Oral</b>	<b>Alessandra Di Nardo</b> C102 INNOVATIVE HYDROGEN PRODUCTION PROCESS: BORATE-BOOSTED ALCOHOL CONVERSION	<b>CNR-STEMS</b> <b>Italy</b>
13:00	14:00	<i>Lunch</i>		
<b>14:00</b>	<b>14:30</b>	<b>Young Researcher Awards</b>		<b>"Margherita" Room</b>
<b>Session 21: Catalytic Hydrogen Production: Methane Pyrolysis and Beyond</b>				
Chair:	<b>Gianluca Landi</b>			<b>"Margherita" Room</b>
14:30	14:55	<b>Invited</b>	<b>Robert Obenaus-Emler</b> C065 How to produce large quantities of hydrogen for industrial applications? By methane pyrolysis!	<b>Montanuniversität Leoben</b> <b>Austria</b>
14:55	15:10	<b>Oral</b>	<b>Stefano Scognamiglio</b> C115 TUNING H <sub>2</sub> /SYNGAS PRODUCTION BY TUNING THE REDOX PROPERTIES OF LA <sub>0.6</sub> Sr <sub>0.4</sub> MXM' <sub>1-X</sub> (M,M'=Fe, Mn, Co)O <sub>3</sub> AS OXYGEN CARRIERS FOR CHEMICAL LOOPING REFORMING OF BIOMETHANE	<b>Politecnico di Torino</b> <b>Italy</b>
15:10	15:25	<b>Oral</b>	<b>Marco Orsenigo</b> C120 METHANE PYROLYSIS OVER IRON CATALYST IN FLUIDIZED BED REACTOR: THE EFFECT OF C BUILD-UP ON CATALYST STRUCTURE AND REACTOR STUDY	<b>Politecnico di Milano</b> <b>Italy</b>
15:25	15:40	<b>Oral</b>	<b>Emilia Saraceno</b> C125 CATALYTIC OBSIC FOAM FOR THE HYDROGASIFICATION OF PLASTIC WASTE	<b>University of Salerno</b> <b>Italy</b>
<b>Session 22: Materials and Acoustic Innovations for Green Energy</b>				
Chair:	<b>Kerstin Forsberg</b>			<b>"Nereo" Room</b>
14:30	14:45	<b>Oral</b>	<b>Saeed Danaee Barforooshi</b> C168 THERMOMECHANICAL BEHAVIOR OF NI-TI SMA CANTILEVER BEAMS UNDER CYCLIC BENDING	<b>Tor Vergata University of Rome</b> <b>Italy</b>
14:45	15:00	<b>Oral</b>	<b>Lovrenc Novak</b> C133 OSCILLATING HYDROPOWER ENERGY HARVESTER – COMPARISON OF LABORATORY RESULTS WITH CFD	<b>University of Ljubljana</b> <b>Slovenia</b>
15:00	15:15	<b>Oral</b>	<b>Liangyuan Wei</b> C164 Optimization of efficiency and temperature uniformity in induction heating with 3D workpieces	<b>Eindhoven University of Technology</b> <b>Netherlands</b>
15:15	15:30	<b>Oral</b>	<b>Martina Varriale</b> C188 Nonlinear acoustics in hydrogen generation through cavitation	<b>Federico II University of Naples</b> <b>Italy</b>

15:30	15:45	<b>Oral</b> C178	<b>Leandro Maio</b> Automated sonoreactor: from concept to design	<b>University of Manchester</b>	<b>UK</b>
15:45	16:00	<b>Oral</b> C006	<b>Kerstin Forsberg</b> Sustainable Recycling of Magnet Materials	<b>KTH Royal Institute of Technology</b>	<b>Sweden</b>

**Session 23: Sustainable Battery Technologies**  
Chair: **Claudio Gerbaldi** **"Doride" Room**

14:30	14:45	<b>Oral</b> C202	<b>Andrea Jouve</b> SUSTAINABLE BLOCK COPOLYMER ELECTROLYTES FOR NEXT-GENERATION BATTERIES	<b>Politecnico di Torino</b>	<b>Italy</b>
14:45	15:00	<b>Oral</b> C035	<b>Rocco Cancelliere</b> DIVERSE RECYCLING PATHWAYS FOR ADVANCING SUSTAINABLE BATTERY TECHNOLOGY	<b>ENEA</b>	<b>Italy</b>
15:00	15:15	<b>Oral</b> C008	<b>Maria Montanino</b> GRAVURE PRINTING AS SUSTAINABLE INDUSTRIAL METHODOLOGY FOR BATTERIES MANUFACTURING	<b>ENEA</b>	<b>Italy</b>
15:15	15:30	<b>Oral</b> C207	<b>Giovanni Lucà Trombetta</b> AGEING MODELLING DEVELOPMENT THROUGH LOW COST EX-SITU DIAGNOSIS	<b>CNR-ITAE</b>	<b>Italy</b>
15:30	15:45	<b>Oral</b> C012	<b>Francesco Lufrano</b> PROOF OF CONCEPT OF FLEXIBLE SOLID-STATE SUPERCAPACITORS BASED ON CARBON GEL AND MANGANESE DIOXIDE ELECTRODES	<b>CNR-ITAE</b>	<b>Italy</b>

18:00 21:00 *Poster Session & Wine Tasting at Castle of Lipari*

**Thursday, June 26th**

**Session 24: Hydrogen and Clean Energy: Insights from the IAGE Community**  
Chair: **Adolfo Iulianelli** **"Margherita" Room**

09:00	09:15	<b>Oral</b> C078	<b>Adolfo Iulianelli</b> THE INTERNATIONAL ASSOCIATION FOR GREEN ENERGY IN THE ITALIAN SCENARIO: OPPORTUNITIES AND PERSPECTIVES	<b>CNR-ITM</b>	<b>Italy</b>
09:15	09:40	<b>Invited</b> C055	<b>Vincenzo Palma</b> HYDROGEN PRODUCTION FROM METHANOL STEAM REFORMING OVER CeO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> BASED CATALYSTS	<b>University of Salerno</b>	<b>Italy</b>
09:40	10:05	<b>Invited</b> C187	<b>Alessandra Beretta</b> H <sub>2</sub> -SCAVENGING AS A STRATEGY TO BOOST THE KINETICS OF AMMONIA CRACKING ON Ru-BASED CATALYSTS	<b>Politecnico di Milano</b>	<b>Italy</b>
10:05	10:30	<b>Invited</b> C088	<b>Adele Brunetti</b> INNOVATIVE BEA ZEOLITE MEMBRANE REACTOR FOR EFFICIENT CONVERSION OF METHANOL-TO-DIMETHYL ETHER	<b>CNR-ITM</b>	<b>Italy</b>
10:30	10:45	<b>Oral</b> C192	<b>Alessandra Ceci</b> ENERGY ABSORPTION AND COMPRESSIVE MECHANICAL CHARACTERIZATION OF ALUMINUM ALLOY CELLULAR STRUCTURES FOR LITHIUM-ION CELLS COOLING AND PROTECTION	<b>Tor Vergata University of Rome</b>	<b>Italy</b>
10:45	11:00	<b>Oral</b> C174	<b>Sohaib Raza</b> DESIGN AND MANAGEMENT OF A HYDROGEN-BASED ELECTRICAL ENERGY STORAGE SYSTEM FOR SMALL-MEDIUM SIZED RESIDENTIAL UTILITIES	<b>Parthenope University of Naples</b>	<b>Italy</b>

**Session 25: Smart Energy Systems and Decarbonization**  
Chair: **Laura Andaloro** **"Nereo" Room**

09:00	09:25	<b>Invited</b> C193	<b>Antonio Comi</b> ANALYSIS OF THE PERFORMANCES OF ELECTRIC VEHICLE BATTERIES: A SYSTEMATIC LITERATURE REVIEW	<b>Tor Vergata University of Rome</b>	<b>Italy</b>
09:25	09:40	<b>Oral</b> C016	<b>Lorenza Di Pilla</b> NON-RESIDENTIAL URBAN DISTRICTS IN THE MEDITERRANEAN AREA: ENERGY MODELLING, SIMULATION AND RENOVATION ASSESSMENT IN A POSITIVE ENERGY DISTRICT PERSPECTIVE	<b>University of Palermo</b>	<b>Italy</b>
09:40	10:05	<b>Invited</b> C038	<b>Matteo Spiller</b> OPTIMAL SIZING OF BESS IN A MICROGRID: THE CASE STUDY OF LIPARI ISLAND	<b>Politecnico di Milano</b>	<b>Italy</b>
10:05	10:20	<b>Oral</b> C039	<b>Mirco Pozzoli</b> SMART GRIDS ON SMALL ISLAND: THE LIPARI STUDY CASE	<b>Turner MCS</b>	<b>Italy</b>
10:20	10:35	<b>Oral</b> C076	<b>Natale Alessi</b> ENHANCING RENEWABLE ENERGY COMMUNITIES WITH HYDROGEN VALLEYS: A SYNERGISTIC APPROACH	<b>CNR-ITAE</b>	<b>Italy</b>

<b>Session 26: Next-Gen Energy Storage in the RdS Project</b>				
Chair:	<b>Alessandra Di Blasi</b>			<b>"Doride" Room</b>
09:00	09:40	<b>Keynote</b>	<b>Alessandra Di Blasi, Omar Perego, Margherita Moreno, Raffaele Liberatore, Vincenzo Antonucci</b>	<b>Italy</b>
		C200	ENERGY STORAGE INITIATIVES IN ITALY: HIGHLIGHT ON RICERCA DI SISTEMA PROJECTS ACTIVITY	
09:40	09:55	<b>Oral</b>	<b>Davide Aloisio</b> <b>CNR-ITAE</b>	<b>Italy</b>
		C215	EXPERIMENTAL CAMPAIGN ADDRESSED TO INVESTIGATION OF LITHIUM BATTERY AGEING PHENOMENA	
09:55	10:10	<b>Oral</b>	<b>Julia Amici</b> <b>Politecnico di Torino</b>	<b>Italy</b>
		C085	SUSTAINABLE ENERGY STORAGE: EXPLORING BIORENEWABLE ORGANOGELS FOR LITHIUM-O2 BATTERY ELECTROLYTES	
10:10	10:25	<b>Oral</b>	<b>Concetta Busacca</b> <b>CNR-ITAE</b>	<b>Italy</b>
		C073	DEVELOPMENT OF CATHODE MATERIALS WITH A NASICON-TYPE STRUCTURE FOR USE IN SODIUM-ION BATTERIES	
10:25	10:40	<b>Oral</b>	<b>Benedetta Brancato</b> <b>CNR-ITAE</b>	<b>Italy</b>
		C081	DEVELOPMENT OF SODIUM HALIDE-BASED EUTECTICS TO PRODUCE LOW TEMPERATURE BATTERIES FOR STATIONARY APPLICATIONS	
11:00	11:30	<i>Coffee &amp; Ice Cream Break</i>		
<b>Session 27: CO<sub>2</sub> Methanation and Biogas Upgrading: Innovative Processes</b>				
Chair:	<b>Matteo Ambrosetti</b>			<b>"Margherita" Room</b>
11:30	11:55	<b>Invited</b>	<b>Domenico Ferrero</b> <b>Politecnico di Torino</b>	<b>Italy</b>
		C155	COMPARATIVE ANALYSIS OF SEQUENTIAL AND INTEGRATED CO <sub>2</sub> CAPTURE AND CONVERSION PROCESSES FOR BIOGAS VALORIZATION: THE MULTITool PROJECT	
11:55	12:10	<b>Oral</b>	<b>Marco Facchino</b> <b>Campus Bio-Medico University of Rome</b>	<b>Italy</b>
		C106	THE LIFE CYCLE IMPLICATIONS OF THE CATALYST SYNTHESIS METHOD ON CO <sub>2</sub> METHANATION	
12:10	12:25	<b>Oral</b>	<b>Alessandro Guzzini</b> <b>University of Bologna</b>	<b>Italy</b>
		C119	FAST FLUIDISED BED REACTOR FOR CO <sub>2</sub> SABATIER METHANATION	
12:25	12:40	<b>Oral</b>	<b>Stefania Mottola</b> <b>University of Salerno</b>	<b>Italy</b>
		C092	SUSTAINABLE PRODUCTION OF A NEW CATALYST FOR THE METHANATION REACTION THROUGH SUPERCRITICAL IMPREGNATION	
12:40	12:55	<b>Oral</b>	<b>Liberato Cafiero</b> <b>University of Salerno</b>	<b>Italy</b>
		C105	HIGH ENERGY EFFICIENCY NON-THERMAL PLASMA ASSISTED CO <sub>2</sub> METHANATION	
<b>Session 28: Smart Energy Systems and Decarbonization</b>				
Chair:	<b>Concetta Busacca</b>			<b>"Nereo" Room</b>
11:30	11:45	<b>Oral</b>	<b>Lorenzo Ilardi</b> <b>University of Palermo</b>	<b>Italy</b>
		C048	A MULTICRITERIA FRAMEWORK FOR POSITIVE ENERGY DISTRICTS: APPLICATION TO CASE STUDIES	
11:45	12:00	<b>Oral</b>	<b>Stijn Cousin</b> <b>Vrije Universiteit Brussel</b>	<b>Belgium</b>
		C096	THE ROLE OF HYBRID ENERGY STORAGE SYSTEMS IN DECARBONISING LOCAL MULTI-ENERGY SYSTEMS	
12:00	12:15	<b>Oral</b>	<b>Francesco Piraino</b> <b>University of Calabria</b>	<b>Italy</b>
		C195	Optimized layout design of hydrogen refueling stations for heavy-duty vehicles	
12:15	12:30	<b>Oral</b>	<b>Antonio Comi</b> <b>Tor Vergata University of Rome</b>	<b>Italy</b>
		C181	ELECTRIC VEHICLES FOR SUPPORTING GRID NEEDS: EVIDENCE FROM A MEDIUM-SIZE CITY	
<b>Session 29: Mission Project: Multivector Integrated Intelligent Microgrids</b>				
Chair:	<b>Francesco Sergi</b>			<b>"Doride" Room</b>
11:30	12:10	<b>Keynote</b>	<b>Francesco Sergi</b> <b>CNR-ITAE</b>	<b>Italy</b>
		C237	Mission project: innovative multivector grids meet energy flexibility services	
12:10	12:25	<b>Oral</b>	<b>Giovanni Brunaccini</b> <b>CNR-ITAE</b>	<b>Italy</b>
		C208	AN AGENT-BASED CASE STUDY FOR FLEXIBILITY MANAGEMENT IN MULTI CARRIER ENERGY MICROGRIDS	
12:25	12:40	<b>Oral</b>	<b>Pietro Carmine</b> <b>Ricerca sul Sistema Energetico - RSE SpA</b>	<b>Italy</b>
		C217	MISSION Project: Inverter-Based Fault Management in MV/LV Hybrid AC/DC Test Facility. Studies and Real-Time Simulations	

12:40 12:55 **Oral** **Salvatore Fabozzi** **ENEA** **Italy**  
 C222 WHITE-BOX MODELING FOR THERMAL AND ELECTRICAL LOAD FORECASTING: A CASE STUDY ON ENEA BUILDINGS WITHIN THE MISSION INNOVATION PROJECT

13:00 14:00 *Lunch*

14:00 14:30 **Closing Ceremony** **"Margherita" Room**

## POSTER SESSION

C004	Sabrina Campagna Zignani	GREEN HYDROGEN PRODUCTION FROM ALKALINE WATER ELECTROLYSIS BY HIGH-ENTROPY MATERIALS
C007	Cristina Italiano	SUSTAINABLE CO2 VALORIZATION THROUGH POWER-TO-X PATHWAYS
C009	Angelo Mondello	Non-precious group metal (non PMG) semiconductors for tandem photoelectrolysis applications
C011	Riccardo Dollenz	Recovered Pt/C Catalyst by Sulfite Complex Route for Fuel Cell Applications
C017	Ilenia Belviso	HYDROGEN VALLEYS IN ITALY: STRATEGIC ROLE, INFRASTRUCTURE CHALLENGES, POLICY INITIATIVES AND A CRITICAL ANALYSIS FOR A SUSTAINABLE ENERGY TRANSITION
C023	Carmelo Lo Vecchio	Direct alcohol water electrolysis (DAWE) cell investigated by in-house PtRu/C anode catalysts for hydrogen production on the cathode side
C028	Elisabetta Di Bartolomeo	INFLUENCE OF THE SYNTHETIC ROUTE ON THE ELECTROCHEMICAL PROPERTIES OF LaNiO3 AS ELECTROCATALYST FOR THE OXYGEN EVOLUTION REACTION
C036	Mariangela Latino	DEVELOPMENT OF NANOSTRUCTURED PLATINUM-BASED ELECTRODES DEPOSITED BY SPUTTERING FOR GREEN HYDROGEN PRODUCTION
C041	Alessandra Palella	PUSHING THE DECARBONIZATION OF THE STEELMAKING SECTOR THROUGH THE USE OF CLEAN HYDROGEN FOR THE IRON ORE DIRECT REDUCTION
C052	Sonia Longo	THE POSITIVE ENERGY DISTRICTS CONCEPT IN THE EU: ITALIAN AND EUROPEAN CASE-STUDIES ASSESSMENT
C072	Lorenzo De Paola	HYDROGASIFICATION OF TENNIS BALL WASTES: SPERIMENTAL EVALUATION IN A LAB-SCALE SEMI-BATCH REACTOR
C074	Vaishna Priya Kallupadi	HIGHLY SULFONATED PEEK MEMBRANES WITH TUNED PHYSICO-CHEMICAL PROPERTIES FOR PEM FUEL CELLS AND ELECTROCHEMICAL H2 PURIFICATION
C079	Lorenzo Simeone	HIGH POROSITY CARBONS DERIVED BY THERMOSETTING RESINS WASTE FOR HYDROGEN STORAGE: THE ECOSTORE-H2 PROJECT
C084	Yong Joon Park	CATHODE MODIFICATION FOR ALL-SOLID-STATE BATTERIES USING THE SUBLIMATED SULFUR VAPOR REACTION
C087	Daniele Versaci	IMPROVED CAPACITY AND LIFETIME OF LNMO CATHODES THROUGH LFP BLENDING IN LITHIUM-ION BATTERIES
C090	Natale Alessi	SAFETY, EFFICIENCY, AND COMPETITIVENESS OF HYDROGEN IN HEAVY-DUTY VEHICLES
C091	Zulma Liliana Moreno Botello	INFLUENCE OF PRE-TREATMENT ON PHYSICO-CHEMICAL AND ELECTROCHEMICAL PROPERTIES OF PIPERION MEMBRANES FOR AEMFC APPLICATIONS
C095	Orazio Di Blasi	Advancements in Vanadium Redox Flow Batteries: Utilizing Biomass-Derived Carbon Materials for Enhanced Sustainability and Efficiency
C108	Gabriel Marino	ACTIVATION OF TRIPLY PERIODIC MINIMAL SURFACE (TPMS) STRUCTURES WITH 4wt% Ru/La2Ce2O7 CATALYST FOR AMMONIA SYNTHESIS
C123	Giuseppe Spazzafumo	Definition of green hydrogen refuelling station layouts starting from biogas
C124	Beatrice Bulzacca	Digital Twin for Green Hydrogen Electrolysis Plants
C126	Matteo Ambrosetti	ELECTRIFIED SORPTION ENHANCED STEAM METHANE REFORMING: A DUAL STEP PROCESS FOR CO2-FREE HYDROGEN PRODUCTION
C131	Salvatore Fici	HYDROGEN INJECTION TO RETROFIT EXISTING NATURAL GAS GRID
C132	Eva Castillejos López	CO2 METHANATION USING Ni/C3N4 DOPED WITH Ba AND Mg
C134	Anastasia Macario	DEVELOPMENT OF ELECTROSPUN NICKEL/MICROPOROUS MATERIAL CATALYSTS FOR METHANATION REACTION
C135	Patrizia Frontera	INCLUSION OF INORGANIC HYDRATES SALTS IN POLYMERIC MATRIX BY ELECTROSPINNING
C138	Ana Belén Dongil	FORMIC ACID AS HYDROGEN SOURCE FOR ANISOLE HDO USING ReOX SUPPORTED CATALYSTS. TECHNOECONOMIC ANALYSIS
C140	Luna Iacobini	COMPOSITE ANION EXCHANGE MEMBRANES ADDED WITH FUNCTIONALIZED GRAPHENE OXIDE FOR WATER ELECTROLYZER APPLICATIONS
C151	Adolfo Iulianelli	SYNTHESIS OF COMPOSITE MATERIALS BASED ON CARBON NANOFIBERS BY ELECTROSPINNING TECHNIQUE FOR NA-ION BATTERIES CATHODE PREPARATION
C153	Adolfo Iulianelli	PROMISING CATHODE MATERIALS FOR SODIUM ION BATTERIES
C158	Stefano Trocino	SERGIO: "SUSTAINABLE PHOTOELECTROCHEMICAL HYDROGEN EVOLUTION"
C159	Carmine Arnese	HYDROGEN PRODUCTION IN A CRITICAL RAW MATERIAL-FREE TANDEM PHOTOELECTROCHEMICAL CELL
C161	Antonino Salvatore Aricò	NOVEL COST-EFFECTIVE ELECTROLYSIS TECHNOLOGY FED WITH DIFFERENT TYPES OF WATER FOR CLEAN HYDROGEN PRODUCTION - NETH2

C163	Saveria Santangelo	LAYERED HIGH-ENTROPY SODIUM OXIDES AS CATHODE MATERIAL WITH SUPERIOR PERFORMANCE IN SODIUM ION BATTERIES
C171	Michele Di Agosto	PHYTOREMEDIATION-AGRI-VOLTAIC SYSTEMS FOR HEAVY METALS SOILS DECONTAMINATION: A REVIEW
C172	Giovanni Ceccio	NASICON SOLID-ELECTROLYTE MODIFICATION AND ANALYSIS USING ION AND NEUTRON BEAMS
C175	Ana Belén Dongil	MACHINE LEARNING ANALYSIS USING RANDOM FOREST ALGORITHM FOR CATALYTIC CO <sub>2</sub> METHANATION OVER Ru-X/C <sub>3</sub> N <sub>4</sub> -Y
C176	Sonia Longo	ECO-PROFILES OF SODIUM-ION CELLS: A LIFE CYCLE ASSESSMENT CASE STUDY
C180	Nicolas Iannotta	GASDS SUITE: A GENERALIZED FIRST-PRINCIPLES KINETIC-BASED MULTI-SCALE DYNAMIC DIGITAL TWIN FOR THERMAL TREATMENT OF SOLID FUELS
C186	Antonio Gentile	REVOLUTIONARY MAX/OXIDE NANOCOMPOSITE ANODES FOR LITHIUM BATTERIES
C189	Fabrizio Rainone	DESIGN, EXPERIMENTAL IMPLEMENTATION AND NUMERICAL MODELING OF A COMPACT REACTOR-HEAT EXCHANGER SYSTEM FOR OPEN-CYCLE THERMOCHEMICAL ENERGY STORAGE
C198	HT Lopes de Arantes	EVALUATION OF H <sub>2</sub> STORAGE KINETICS BY PENTAMETALLIC HEA
C199	Claudia D'Urso	High-Efficiency Photoelectrolysis via Electrospun $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> and CuO Electrodes
C201	Salih Mohamed Osman	INTEGRATION OF CARBON NANO-ONIONS PRODUCED VIA UNDERWATER ARC DISCHARGE IN ZEBRA BATTERIES FOR ENHANCED CONDUCTIVITY AND SODIUM WETTABILITY
C213	Vincenzo Baglio	RECYCLED Pt-ELECTROCATALYST SUPPORTED ON POSIDONIA OCEANICA BIOCARBON FOR ENVIRONMENTAL-FRIENDLY OXYGEN REDUCTION REACTION
C218	Alberto Brunetti	LIFE CYCLE ASSESSMENT OF ACOUSTIC-BASED FAULT DETECTION SYSTEMS FOR WIND SYSTEM
C220	Jose Antonio Moreno-Banda	STRUCTURAL STABILITY ON GERMANIUM NANOWIRES AND THEIR REVERSIBILITY FOR LITHIUM STORAGE
C221	Jose Antonio Moreno-Banda	ELECTRONIC AND MECHANICAL PROPERTIES OF Na PASSIVATED Ge NANOWIRES FOR ENERGY STORAGE
C227	Sabrina Campagna Zignani	EFFECT OF EXTERNAL PRESSURE AND PTL THICKNESS ON AEM ELECTROLYSIS PERFORMANCE
C228	Maria Chiesa	THE HYDRA PROJECT: EVALUATING BENEFITS AND RISKS OF A FUTURE HYDROGEN ECONOMY
C232	Concetta Busacca	ADVANCING ELECTRODE MATERIALS FOR AQUEOUS ORGANIC REDOX FLOW BATTERIES: A SUSTAINABLE APPROACH TO ENERGY STORAGE
C233	Laura Andaloro	DEVELOPMENT OF AN OXYGEN AND HYDROGEN FUEL CELL STACK FOR MARINE APPLICATIONS
C235	Serena Todaro	STABILITY AND CATALYTIC EFFICIENCY OF ZEOLITE CATALYSTS IN THE CONVERSION OF DIMETHYL ETHER TO LIGHT OLEFINS