ICREC 2025

2025 10TH INTERNATIONAL CONFERENCE ON RENEWABLE ENERGY AND CONSERVATION

FLORENCE, ITALY NOVEMBER 21-23, 2025

2025 10th International Conference on

Renewable Energy and Conservation

PROGRAM

Florence, Italy | November 21-23, 2025

Technical Supported by

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WELCOME MESSAGE

On behalf of the Organizing Committee, we warmly invite you to join us at the 10th International Conference on Renewable Energy and Conservation (ICREC 2025), set for November 2025 in the vibrant city of Florence. Since the first ICREC in 2017, the conference has steadily grown from a visionary meeting into a key gathering for related experts worldwide and in the greater Italy region.

Under the overarching theme "Renewable Energy and Conservation," ICREC 2025 will serve as a rigorous platform for the dissemination of pioneering research and the exchange of insights into the latest technological breakthroughs. The programme will feature illuminating keynote presentations, academic panel discussions. Beyond these sessions, the conference environment is designed to stimulate intellectual exchange, catalyse new collaborations, and inspire innovative thinking.

This year's program will consist of 4 keynote speeches from Prof. Gianfranco Chicco (IEEE Fellow, Politecnico di Torino, Torino, Italy), Prof. Belkacem OULD BOUAMAMA (University of Lille, France), Prof. Raffaele Carli (Polytechnic of Bari, Italy) and Prof. João Soares (Polytechnic of Porto, Portugal), and another 6 parallel sessions.

Last but not least, our deepest gratitude goes to the Advisory Board, Organizing Committee, International Scientific Committee, institutions, and volunteer who have directly and indirectly supported the success of this seminar. Wish you a very productive conference with exciting and encouraging discussions and exchange of knowledge so that together we can anticipate a future of ground-breaking knowledge, research, and technology.

We anticipate a highly productive and enriching conference and look forward to welcoming you to Florence for an engaging scholarly experience.

Conference Organizing Committee

GENERAL INFORMATION

◆ Conference Venue

NILHOTEL

Address: Via Eugenio Barsanti 27 a/b – 50127, Florence

Phone: (+39) 055 795540 | Email: info@nilhotel.it

Website: www.nilhotel.it

◆ Onsite Registration

Arrive at the registration desk→ Inform the staff of your paper ID→ Sign-in→ Claim your conference kit.

◆ Devices Provided by the Organizer

Oral/Special Session: Laptops (with MS-Office & Adobe Reader) / Projectors & Screen / Laser Sticks

◆ Materials Provided by the Presenter

Oral Session: Slides (pptx or pdf version). Format 16:9 is preferred.

◆ Duration of Each Presentation

Keynote Speech: 35min, including Q&A.

Oral Session: 15min, including Q&A.

◆NOTICE

• Please wear your delegate badge (name tag) for all the conference activities. Lending your participant card to others is not allowed.

• Please take good care of your valuables at any time during the conference. The conference organizer does not assume any responsibility for the loss of personal belongings of the participants during conference day.

• Accommodation is not provided. Delegates are suggested make early reservation.

• Please show the badge and meal coupons when dining.

CONFERENCE COMMITTEE

(in no particular order)

Conference General Chairs
Pierluigi Siano, University of Salerno, Italy
Belkacem Ouldbouamama, University of Lille, France

Conference General Co-Chair
Gianfranco Chicco, Politecnico di Torino, Italy
Raffaele Carli, Polytechnic of Bari, Italy

Conference Advisory Chair
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Conference Program Chairs
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Swapna Rekha PANDA, UPL University of Sustainable Technology, India
Yuri N. Skiba, UNAM University, Mexico
Ibrahim Sultan, Federation University, Australia
Teerawat Sema, Chulalongkorn university, Thailand
Gaydaa AlZohbi, Prince Mohammad Bin Fahd university, KSA
Gökay Bayrak, Bursa Technical University, Turkey
Haitao Wu, Inner Mongolia University of Technology, China
Sathaporn Chuepeng, Kasetsart University, Thailand
Eugen Rusu, Dunarea de Jos University of Galati, Romania
Liliana Rusu, 'Dunarea de Jos' University of Galati, Romania
Paulo Cesar Ribas, Molde University College, Norway
Bassim H. Hameed, Qatar University, Qatar
D. Karmakar, National Institute of Technology Karnataka, India
Mustafa Sahin, Middle East Technical University, Turkey

PROGRAM AT A GLANCE

ICREC 2025	ICREC 2025 Program At A Glance	
	November 21 | Friday (UTC +1)	
13:00~17:00	Onsite Registration for ALL offline attendees	Lobby (NILHOTEL)

ICREC 2025	November 22 | Saturday (UTC +1) | Venue: Plenary Hall (Floor -1)	
09:00~09:10	**Opening Ceremony** Conference General Chair | Pierluigi Siano, University of Salerno, Italy	
09:10~09:45	**Keynote 1: Management of Household Appliances: Smart Control and Interactions with the User** Gianfranco Chicco (Fellow, IEEE), Politecnico di Torino, Torino, Italy	
09:45~10:20	**Keynote 2: How to use Bond graphs for Multiphysics Modelling and Online Diagnosis of Holistic Green H2 Production?** Belkacem OULD BOUAMAMA, University of Lille, France	
10:20~10:50	Group Photo and Coffee Break	
10:50~11:25	**Keynote 3: Control Techniques for Energy-Efficient and Sustainable Agriculture: A Focus on Vertical Farms** Raffaele Carli, Polytechnic of Bari, Italy	
11:25~12:00	**Keynote 4: Scalable and Explainable AI-driven Optimization for Complex Energy Problems** João Soares, Polytechnic of Porto, Portugal	
12:00~13:30	Lunch (Davide: Floor -1)	
13:30~15:30	Oral Session 1 *(Conference Room: Ester)*	**Session Title: Solar Energy Technologies and Applications** *Session Chair: Prof. Jeark A. Principe, University of the Philippines Diliman, Philippines* ER023、ER069、ER016、ER062、ER024、ER015、ER063、ER094
	Oral Session 2 *(Conference Room: Rut)*	**Session Title: Wind, Marine, and Geothermal Energy Systems** *Session Chair: Assoc. Prof. Azeddine Houari, IREENA - Nantes University, France* ER022、ER052、ER068、ER047、ER048、ER014、ER006、ER096
	Oral Session 3 *(Conference Room: Miriam)*	**Session Title: Smart Grids and Power System Optimization** *Session Chair: Asst. Prof. Marco Raffaele Rapizza, Ricerca sul Sistema Energetico –RSE S.p.A., Italy* ER018、ER060、ER066、ER003-A、ER031、ER072、ER077、ER090

15:30~15:45	Coffee Break	
15:45~18:30	Oral Session 4 *(Conference Room: Ester)*	**Session Title: Renewable Energy in Action: Building Sustainable Communities** *Session Chair: Prof. Sérgio Ramos, ISEP/GECAD/P.Porto, Portugal* ER055、ER067、ER084、ER045、ER085-A、ER054-A、ER026、ER005、ER028
	Oral Session 5 *(Conference Room: Rut)*	**Session Title: Advanced Energy Storage and Thermal Management** *Session Chair: Asst. Prof. Lingala Syam Sundar, Prince Mohammad Bin Fahd University, Saudi Arabia* ER019、ER083、ER051、ER032、ER079、ER049、ER046、ER021
	Oral Session 6 *(Conference Room: Miriam) & ZOOM ID: 856 5264 3024*	**Session Title: Building Energy Efficiency and Sustainable Design** *Session Chair: Prof. Paulo Cesar Ribas, Molde University College, Norway* ER037、ER061-A、ER086、ER057-A、ER088 (online)、ER017 (online)、ER050 (online)、ER034 (online)、ER089 (online)、ER091、ER093
18:30~20:30	Dinner (Davide: Floor -1)	

ICREC 2025	ICREC 2025 Program At A Glance
	November 23 | Sunday (UTC +1)
08:00~18:00	**One Day Tour (Page 22)**

KEYNOTE SPEAKERS

Prof. Gianfranco Chicco (Fellow, IEEE), Politecnico di Torino, Torino, Italy

Biography: Gianfranco Chicco holds a Ph.D. in Electrotechnics Engineering and is a Full Professor of Electrical Energy Systems at Politecnico di Torino, Italy. He received the title of Doctor Honoris Causa from the Universities Politehnica of Bucharest and "Gheorghe Asachi" of Iasi (Romania) in 2017 and 2018, respectively. He is a Fellow of the IEEE and the past Chair of the IEEE Italy Section. He is listed in the "Top 2% Scientists" ranking prepared by Stanford University. He is the Scientific Responsible of the research group on Power and Energy Systems at Politecnico di Torino, and the Responsible of the Torino unit of the Italian Consortium ENSIEL. He is the Editor-in-Chief of Sustainable Energy Grids and Networks. He is a past Subject Editor of Energy and a past Editor of the IEEE Transactions on Smart Grid, IEEE Transactions on Sustainable Energy, and IEEE Open Access Journal of Power and Energy. He was the Conference Chair of WESC 2006, IEEE PES ISGT Europe 2017, UPEC 2020, IEEE Eurocon 2023, SEST 2024, and a co-Chair of IEEE SmartGridComm 2024. His research topics include Data Analytics Applied to Smart Grids, Power System Analysis, Distribution System Analysis, Electrical Load Management, Energy Efficiency, Multi-Energy System Operation, and Power Quality.

Talk Title: Management of Household Appliances: Smart Control and Interactions with the User

Talk Abstract: In today's context of progressively increasing electrification also for the final energy uses, consumers have more opportunities for managing their demand and provide services to the grid or to energy communities. The growing availability of digital services enables sending information to the consumers in real-time and providing commands to some appliances prepared to receive these commands. In parallel to the increasing demand management possibilities, it is necessary to understand the consumers' preferences to participate in the control of the appliances. This understanding requires asking the consumers to provide information about their usage of the appliances. For example, knowing the starting time of usage of the larger appliances that depend on the users' action in a household prepares the field to identify the typical patterns of the individual appliances (based on measurements taken from real cases) and form a collective typical load patterns of each individual appliance during time. Based on the information on the individual appliances, the collective typical load pattern is then found from random extraction of the starting times that consider the probability distributions of the timings found from the questionnaire, together with the measured power curve of the corresponding appliances. The presentation will address the aspects indicated above, also recalling some results of the ongoing European project EU-DREAM, aimed at promoting innovation of digital tools and providing enhanced digital services to the consumers.

KEYNOTE SPEAKERS

Prof. Belkacem OULD BOUAMAMA, University of Lille, France

Biography: Belkacem OULD BOUAMAMA is full Professor in automatic control at Graduate School of Engineering Polytech Lille (France), where he has been Director of the Research for 15 years. He is in charge of a diagnosis and prognosis research team at the CRIStAL laboratory of the National Center for Scientific Research (CRIStAL, CNRS) in Lille, where his research activities concern Integrated Design for Supervision of System Engineering based on Bond Graph theory. Their industrial applications are mainly, renewable energies and green hydrogen. He has authored and co-authored more 65 peer-reviewed journals, 180 conference papers and 20 books and book chapters. He has given more than 20 invited talks and tutorials and keynotes around the globe. More details are given in https://pro.univ-lille.fr/belkacem-ould-bouamama/

Talk Title: How to use Bond graphs for Multiphysics Modelling and Online Diagnosis of Holistic Green H2 Production?

Talk Abstract: Green hydrogen production undoubtedly the most promising energy vector of the future because it is captured by renewable and inexhaustible sources, such as wind and/or solar energy, and can be stored over the long term in high-pressure cylinders by an electrolyzer to then produce electricity by fuel cells or other valorizations without emitting any pollutants. Improving its energy efficiency, performance, and the implementation of control and safety systems requires the development of accurate mathematical models. This task remains a scientific challenge due to the complexity of this process, mainly due to the occurrence of several nonlinear Multiphysics phenomena (electrical, electro-chemical, mechanical, thermal...). The plenary presentation exposes a part of the scientific results developed in the framework of academic and applicative projects. It will be shown how a powerful graphical bond graph tool as unified language and applied to real green H2 production platform, can be used not only for modelling using specific software's but also improving its safety mixing physics and IA based methods.

KEYNOTE SPEAKERS

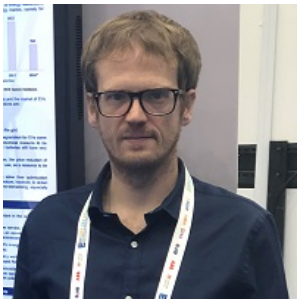
Prof. Raffaele Carli, Polytechnic of Bari, Italy

Biography: Raffaele Carli received his Laurea degree in Electronic Engineering with honours in 2002 and his Ph.D. in Electrical and Information Engineering in 2016, both from Politecnico di Bari, Italy. From 2003 to 2004, he was a Reserve Officer with Italian Navy. From 2004 to 2012, he worked as System and Control Engineer and Technical Manager for a multinational company in the space and defense sector. Currently, he is an Associate Professor in Systems and Control Engineering at Politecnico di Bari, where he is the technical lead for the Decision and Control Laboratory (http://dclab.poliba.it/), coordinated by prof. Mariagrazia Dotoli, within the Department of Electric and Information Engineering . He has held national qualifications as a Full Professor since 2023. Since 2022, he has served as Vice-Coordinator of the National PhD program in Autonomous Systems (http://dausy.poliba.it/phd/). He serves on the editorial board of IEEE journals as an Associate Editor for IEEE Transactions on Automation Science and Engineering (awarded Best Associate Editor in 2023 and 2024) and IEEE Transactions on Systems, Man, and Cybernetics. He is also an active member of the conference editorial boards of various events sponsored by IFAC and IEEE, including those sponsored by the IEEE Control Systems Society (CSS), IEEE Robotics and Automation Society (RAS), and IEEE Systems, Man, and Cybernetics Society (SMCS). His organizational roles include positions on the committees of several IEEE conferences (IEEE CASE 2017, CASE 2020, SMC 2023, CASE 2024, ICIEA 2026). He also served as the General Co-chair of 7th International Conference on Renewable Energy and Conservation (ICREC 2022) and General Chair of the 2025 IFAC Workshop on Smart Energy Systems for Efficient and Sustainable Smart Grids and Smart Cities. He currently is General Co-chair of the IEEE International Congress on Smart Agriculture and Sustainable Systems Engineering (SmartAgri&SuSY 2025), December 5-9, Marrakech, Morocco. An IEEE Senior Member since 2022, he currently serves as the Mentorship Subcommittee Chair within the IEEE SMCS for the 2023-2025 term and the Secretary of the IEEE Italy Section Chapter CS23 of the CSS for the 2025-2026 term.

Talk Title: Control Techniques for Energy-Efficient and Sustainable Agriculture: A Focus on Vertical Farms

Talk Abstract: The growing global demand for sustainable food production and the scarcity of arable land are accelerating the adoption of controlled-environment agriculture, with vertical farms (VFs) emerging as an innovative solution. However, their high energy consumption poses significant challenges to both sustainability and economic feasibility. This talk presents advanced decision and control techniques designed to optimize crop growth conditions while reducing energy costs and enabling participation in demand response programs. In particular, it introduces a novel control framework integrating vertical farm operation with dynamic energy market participation through centralized and decentralized receding horizon control strategies. Experimental and simulation results highlight the benefits in terms of cost reduction, scalability, and environmental sustainability, demonstrating the potential of control-based optimization to enable efficient and resilient agricultural systems.

KEYNOTE SPEAKERS



Prof. João Soares, Polytechnic of Porto, Portugal

Biography: Prof. João Soares is a distinguished senior research at GECAD (ISEP/P. Porto), holding a PhD in Electrical and Computer Engineering from UTAD, which he earned in 2017. Since completing his doctorate, he has demonstrated exceptional leadership in securing competitive funding for numerous high-impact research initiatives. Prof. Soares has cultivated extensive international collaborations, particularly with São Paulo State University (UNESP) and Centrale Lille, where his work has centered on the operation and planning of electrical energy systems integrating renewable generation and electric vehicles using artificial intelligence. His research partnerships extend to prominent institutions such as the Honda Research Institute Europe, fostering strong ties between academia and private industry. Additionally, he has collaborated with leading universities in India, where he has actively contributed to research initiatives and academic competitions. Since 2019, his role as a visiting professor at a prestigious Centrale Lille in France has further enriched his global research and teaching activities. With a remarkable track record in project leadership, he has participated in over 30 national and international research projects, serving as Principal Investigator in nine of them, including initiatives under the Horizon/H2020 framework. His leadership has driven significant advancements in energy resource management, particularly in the areas of local energy markets and electric vehicle integration. Recently, he secured five private contracts for R&D projects focused on energy communities and electric mobility, underscoring his ability to bridge academic research with industry needs. Prof. Soares has authored over 250 scientific publications with over 6,000 citations and achieving an h-index of 42. His contributions to the scientific community extend beyond research; he has taken on editorial responsibilities, co-leading 16 special issues in high-impact journals and reviewing over 350 manuscripts. As an educator, he has delivered courses on cutting-edge topics such as AI, electric mobility and smart grids at ISEP, UNESP, and Centrale Lille.

Talk Title: Scalable and Explainable AI-driven Optimization for Complex Energy Problems

Talk Abstract: Modern energy systems present large-scale, nonlinear challenges and operate under high uncertainty, making classical optimization approaches insufficient due to scalability and runtime constraints. This talk explores how AI, specifically, Computational Intelligence and Evolutionary Computation techniques, delivers robust, high-quality solutions even with limited time or data. Real-world case studies highlight the value of hybrid solutions and the impact of fair, statistically-sound comparisons. The keynote highlights how to choose, configure, and responsibly deploy AI-powered solutions in modern energy settings, supported by guidelines and freely available resources for experimentation and deployment.

ORAL SESSIONS

ICREC 2025	Oral Session 1: Solar Energy Technologies and Applications Session Chair: Prof. Jeark A. Principe, University of the Philippines Diliman, Philippines November 22 (Saturday) 13:30-15:30 | Conference Room: Ester (Floor -1)	
Time	Paper ID	Speech Title & Presenter
13:30-13:45	ER023	3D Urban Morphology and Solar Energy Performance: A Dual Analysis of Photovoltaic and Daylight Potential *Karim Abdelhady, American University in Cairo, Egypt*
13:45-14:00	ER069	Designing Deployment Scenarios for Photovoltaic Systems: Integrating Macro-Regional Potential into Territorial Energy Planning *Joyce Arthllan Oliveira de Sousa, Université Savoie Mont Blanc, France*
14:00-14:15	ER016	Performance Evaluation and Technical Study of Stand-alone Solar PV System Operating in Saharan Regions *BOUCHAKOUR Abdelhak, Unite de Recherche Appliquee en Energies Renouvelables, URAER, Centre de Developpement des Energies Renouvelables, CDER, 47133, Ghardaïa, Algeria*
14:15-14:30	ER062	Baffle Design Optimization in Solar Air Collectors: A Combined Numerical and Experimental Study *Abdessalam Otmani, National Higher School of Technology and Engineering, Algeria*
14:30-14:45	ER024	Concentrated Solar Thermal Energy Storage Assessment by Hybrid Computational Fluid Dynamics and Machine Learning Modeling *José Luis Torres-Madroñero, Universidad Pontificia Bolivariana, Medellín 050031, Colombia*
14:45-15:00	ER015	Geospatial Assessment of Optimal Sites for Solar-Powered Irrigation Systems in the Philippines *Jeark A. Principe, University of the Philippines Diliman, Philippines*
15:00-15:15	ER063	Machine Learning-Driven Optimization of Building-Integrated Photovoltaic (BIPV) Shading Operation *Burcu Çiğdem Yılmaz, Center for Energy and Sustainable Development (CESD), Kadir Has University, Turkiye*
15:15-15:30	ER094	Economic and Technical Assessment of Solar Power Plants for Large-Scale Energy Consumers *FURKAN DINCER, Faculty of Engineering and Architecture Kahramanmaras Sutcu Imam University, TÜRKİYE*

ORAL SESSIONS

ICREC 2025	Oral Session 2: Wind, Marine, and Geothermal Energy Systems Session Chair: Assoc. Prof. Azeddine Houari, IREENA - Nantes University, France November 22 (Saturday) 13:30-15:30 | Conference Room: Rut (Floor -1)	
Time	Paper ID	Speech Title & Presenter
13:30-13:45	ER022	Renewable Energy Suitability in High- and Low-Density 3D Morphologies: An Urban Wind Energy- Based Case Study *May Haggag, The American University in Cairo, Egypt*
13:45-14:00	ER052	Impact of System Order in Model-Free Control of Floating Offshore Wind Turbines: A Comparative Study *Azeddine Houari, IREENA - Nantes University, France*
14:00-14:15	ER068	Ocean Energy: Challenges and Opportunities Under a Sustainable Analysis *Paulo Cesar Ribas, Molde University College, Norway*
14:15-14:30	ER047	Analysis and testing of a simplified Bladeless Wind Turbines generator model *Mohamed Mahran Kasem, Nile University, Egypt*
14:30-14:45	ER048	Wind Resource Assessment Using the MCP Method *Hafida DAAOU Nedjari, Centre de Développement des Energies Renouvelables, CDER, Algeria*
14:45-15:00	ER014	Virtual Sensing of Transition Piece Stress in Floating Offshore Wind Turbines *Sandra Seijo Fernández, Ibermática Innovation Institute (i3b), Spain*
15:00-15:15	ER006	Frequency Response Modeling for Variable Speed Pumped Storage Units and Analysis of Excitation Constraints on Frequency Regulation Performance *Qiuling Yang, Changhong Deng, Wuhan University, China*
15:15-15:30	ER096	Harnessing Highway Wind: Vertical Axis Wind Turbines for Sustainable EV Charging *Soham Kashinath Pawar, Department of Mechanical Engineering, VIT Pune, India*

ORAL SESSIONS

ICREC 2025	Oral Session 3: Smart Grids and Power System Optimization Session Chair: Asst. Prof. Marco Raffaele Rapizza, Ricerca sul Sistema Energetico – RSE S.p.A., Italy November 22 (Saturday) 13:30-15:30 | Conference Room: Miriam (Floor -1)	
Time	Paper ID	Speech Title & Presenter
13:30-13:45	ER018	Optimal Sizing of Ultra-fast Services for Frequency Regulation in a Multi-area Power System *Marco Raffaele Rapizza, Ricerca sul Sistema Energetico – RSE S.p.A., Italy*
13:45-14:00	ER060	A Heuristic Perturbation Approach Algorithm for the Scheduling Optimization of a Battery Swapping Station (BSS) Integrated with Photovoltaic *Jacopo C. Alberizzi, Free University of Bozen - Bolzano, Italy*
14:00-14:15	ER066	Comparative Analysis of Single-Phase and Three-Phase Inverter Configurations for Voltage Drop Mitigation in Solar-Powered Nanogrid LED Street Lighting Systems *Atthapol Ngaopitakkul, King Mongkut 's Institute of Technology Ladkrabang, Thailand*
14:15-14:30	ER003-A	Evaluating the Impact of a Multi-Objective Trading Decision Optimizer (MO-TDO) on P2P Energy Markets Performances *Amin Zakhirehkar Sahih, UNSW Canberra, Australia*
14:30-14:45	ER031	Hierarchical Microgrid Control for Energy Management and Thermal Comfort *Nicolas Langlois, ESIGELEC, France*
14:45-15:00	ER072	Characteristic Evaluation of Integrated Additional Parallel Generator on Distribution Network *Suntiti Yoomak, King Mongkut 's Institute of Technology Ladkrabang, Thailand*
15:00-15:15	ER077	Real-Time MPC-Based ESS Control with ZIP Load Modeling for CVR *Sungsoo Choi, Korea Electrotechnology Research Institute (KERI), South Korea*
15:15-15:30	ER090	Decentralized Energy Accounting in Hybrid Renewable Microgrids Using Blockchain and Smart Meter *Alhussein Bagayogo, Sidi Mohamed Ben Abdellah University of Fez, Morocco*

ORAL SESSIONS

ICREC 2025	Oral Session 4: Renewable Energy in Action: Building Sustainable Communities Session Chair: Prof. Sérgio Ramos, ISEP/GECAD/P.Porto, Portugal November 22 (Saturday) 15:45-18:00 | Conference Room: Ester (Floor -1)	
Time	Paper ID	Speech Title & Presenter
15:45-16:00	ER055	Functional-based conceptual framework for renewable energy communities design *Felipe Mendoza, EAFIT University, Colombia*
16:00-16:15	ER067	A Methodological Approach for the Techno-Economic Assessment of CO_2toCH_4 Technology: Insights from the LIFE CO_2toCH_4 Project *Styliani Konstantinidi, Public Power Corporation, Greece*
16:15-16:30	ER084	A two-layer Real-time Energy Management System for Rural Electrification in Morocco *Imane Hammou ou Ali, R&D and Industrial Integration Department, Moroccan Agency for Sustainable Energy, Rabat, Morocco*
16:30-16:45	ER045	Virtual Energy Sharing: Collective Self-Consumption and Allocation Coefficients in Solar Communities *Sérgio Ramos, ISEP/GECAD/P.Porto, Portugal*
16:45-17:00	ER085-A	Energy Characterization and Renewable Solutions for Sustainable Tourism in Island Communities: The Case of San Andrés, Colombia *María Angélica González Carmona, Institución Universitaria de Barranquilla (IUB), Colombia*
17:00-17:15	ER054-A	Enhancing the Kinetic and Thermodynamic Performance of Cashew Nutshell Press Cake Briquettes Using Geo-Sourced Materials as Binders: A Thermogravimetric Approach *Francisco Renato Pinto, International Institute for Water and Environmental Engineering (2iE), Burkina-Faso*
17:15-17:30	ER026	Design and material study of a less road surface area occupying z-Piezoelectric Energy Harvester *Eladi Paul Braineard, IIIT Sri City, Andhra Pradesh, India*
17:30-17:45	ER005	Hydrogen Internal Combustion Engines (HICEs): Bridging the Gap to a Sustainable Transportation Future *Gaydaa Alzohbi, Deparmtent of mechanical engineering- Prince Mohammad Bin Fahd University, Saudi Arabia*

17:45-18:00	ER028	A Feasible Small-Scale Waste-to-Energy Solution for Sustainable Development on Vietnamese Islands: The Cases of Con Dao and Ly Son *Thai Minh Thi NGUYEN, LARIS, University of Angers, France*

ORAL SESSIONS

ICREC 2025	Oral Session 5: Advanced Energy Storage and Thermal Management Session Chair: Asst. Prof. Lingala Syam Sundar, Prince Mohammad Bin Fahd University, Saudi Arabia November 22 (Saturday) 15:45-17:45 | Conference Room: Rut (Floor -1)	
Time	Paper ID	Speech Title & Presenter
15:45-16:00	ER019	Machine Learning-Based Prediction of Remaining Discharge Energy in Li-Ion Batteries Under a Real-World Condition *Basak Gok, Gebze Technical University, Türkiye*
16:00-16:15	ER083	Optics Designs to Improve Radiative Cooling for Enhancing Energy Harvesting of IoT Devices *Asuncion Santamaria, Universidad Politecnica de Madrid, Spain*
16:15-16:30	ER051	Fins-Enhanced Phase Change Material-Based Thermal Management System for Li-Ion Batteries: Experimental and Numerical Investigation *Rajan Kumar, Dr B R Ambedkar National Institute of Technology, India*
16:30-16:45	ER032	Study and Design of a Hybrid Energy System Based on Fuel Cell and Gas Generator Set *Khaled Touafek, Unit of Applied Research in Renewable Energies, CDER Ghardaia, Algeria*
16:45-17:00	ER079	Experimental and Artificial Neural Network Analysis of Laminar Convective Heat Transfer of CuO/Water Nanofluid in a Microchannel *Lingala Syam Sundar, Prince Mohammad Bin Fahd University, Saudi Arabia*
17:00-17:15	ER049	Thermal analysis of In-built storage air heater for solar drying uses *Amel boulemtafes Boukadoum, Centre de Développement des Energies Renouvelables, CDER, Algeria*
17:15-17:30	ER046	Performance Study of a Binary Fluid Polygeneration Plant *Tangellapalli Srinivas, Dr B R Ambedkar National Institute of Technology, India*
17:30-17:45	ER021	Experimental Framework for Sustainable Wall Systems Using Thermoplastic-Stabilized Earth Blocks to Promote Low-Energy Housing Awareness *Hady Abdeltawab Helail Abdeltawab, The American University in Cairo (AUC), Egypt*

ORAL SESSIONS

ICREC 2025	Oral Session 6: Building Energy Efficiency and Sustainable Design Session Chair: Prof. Paulo Cesar Ribas, Molde University College, Norway November 22 (Saturday) 15:45-18:30 | Conference Room: Miriam (Floor -1) ZOOM ID: 856 5264 3024 or Link: https://us02web.zoom.us/j/85652643024	
Time	Paper ID	Speech Title & Presenter
15:45-16:00	ER037	Enhancing Passive Thermal Performance of a Building in Hot Arid Climates via Grey Wolf Optimizer and EnergyPlus *M. K. Cherier, Unite de Recherche Appliquee en Energies Renouvelables, URAER, Centre de Developpement des Energies Renouvelables, CDER, 47133, Ghardaïa, Algeria*
16:00-16:15	ER061-A	Performance Enhancement of Passive Cooling Strategies in Semi-Arid Environments *Soumia OUKACI, National Center for Integrated Studies and Research in Building, Algeria*
16:15-16:30	ER086	Economic and Environmental Assessment of Energy Efficiency Improvements in an Educational Building *Santipont Ananwattanaporn, King Mongkut's Institute of Technology Ladkrabang, Thailand*
16:30-16:45	ER057-A	Thermal and Visual Comfort Monitoring in prototype Smart Building *Lotfi DERRADJI, National Center of Studies and Integrated Research on Building Engineering (CNERIB), Algeria*
16:45-17:00	ER088 (Online)	From China to Europe: An Integrated Policy-Energy Framework for Urban Taxi Electrification and Its Environmental, Economic, and Operational Benefits *Hechu Wang, Geely University of China, China*
17:00-17:15	ER017 (Online)	Contribution to Smart Grid Reliability: A Comprehensive Dynamic Model and PLL Control Strategy for Voltage/Frequency/Phase Variability Management *EL MEHDI BOUREZZA, Laboratory of Engineering Sciences for Energy (LABSIP), National School of Applied Sciences, Chouaib Doukkali University, Morocco*
17:15-17:30	ER050 (Online)	Monitoring Framework Design in Renewable Energy Systems *Juan Pablo Giraldo-Pérez, EAFIT University, Colombia*
17:30-17:45	ER034 (Online)	Extended analysis of BESS technologies: ELECTRE III decision-making process using OpenAI API tool *Maria Cristea, Technical University of Cluj-Napoca, Romania*

17:45-18:00	ER089 (Online)	Techno-Economic Modeling of Geothermal Levelized Cost of Energy (LCOE) and Machine Learning Approximation Model Development *Mounir Benaija, Université de Reims Champagne Ardenne, France*
18:00-18:15	ER091	Reducing Idle Energy Consumption in Training and Laboratory Workstations Through OS (Windows 11) Power Policy-Based Smart Scheduling (SD 7 & 12) *Raymond Gabriel Terte Viado, Pamantasan ng Lunsod ng Muntinlupa, Philippines*
18:15-18:30	ER093	Assessment of Building Envelope Influence on Energy Consumption in Retrofitted Buildings *Santipont Ananwattanaporn, Bangkok University, Thailand*

One Day Tour Information

2025 10th International Conference on Renewable Energy and Conservation
November 21-23, 2025

ONE-DAY TOUR on Nov. 23

Pisa

The Piazza dei Miracoli is a breathtaking square holding Pisa's most important medieval monuments. Its superstar is the Leaning Tower, a beautiful bell tower famous worldwide for its accidental and dramatic tilt.

Chianti Classico

Chianti is Tuscany's iconic wine region, where scenic vineyards produce world-famous Sangiovese-based reds — best enjoyed with Italian food!

San Gimignano is a fairy-tale hilltop town where time stopped in the Middle Ages. Come for the towers, stay for the views, wine, and world-class gelato!

Siena is medieval magic frozen in time. Come for the art, stay for the drama of the Palio, and soak up the soul of Tuscany!

Tentative Itinerary

8:00: Start from Florance
9:30: The Piazza dei Miracoli
11:30 | Chianti, enjoy lunch and wine tour
14:30 | San Gimignano
16:00: Siena
18:00: Back to Florance

✓ The fee includes pick-up, lunch, tickets for tour guide.
✓ Registration closes at 5:00 PM, November 10.

Tour Registration

Full Name:	Passport No.:
Sex: M / F	Date of Birth: DD/MM/YY
One day Tour	150 USD / Person
E-mail:	
Online Payment Link	https://confsys.iconf.org/awxpay
Please fill in the E-mail and Confirmation Number after paying	
E-mail:	Order Number:

Delegate List

ICREC 2025	ICREC 2025 Delegate List	
1	Hamees Abdeltawab Helail Abdeltawab	Future University in Egypt, Egypt
2	Lander San Millán Langa	Ibermática Innovation Institute (i3b), Spain
3	Yuya Nakamoto	Oita university, Japan
4	James Thompson	Graec Energy Pty. Ltd., Italy
5	Mariangeles Palacios	Revana Studio, Italy
6	Saad Benbrahim	Moroccan Agency for Sustainable Energy, Morocco; Research Team AMIPS Ecole Mohammadia d ' Ingenieurs Mohammed V University in Rabat, Morocco
7	Thanh Phong TRAN	GREAH, University of Le Havre Nomandy, France

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