CONFERENCE PROGRAM

ICACER 2026

2026 11TH INTERNATIONAL CONFERENCE ON ADVANCES ON CLEAN ENERGY RESEARCH

ICEEEP

2026 10TH INTERNATIONAL CONFERENCE ON ENERGY ECONOMICS AND ENERGY POLICY

April 2026

4/10-4/12

Porto, Portugal

CONFERENCES PROGRAM

ICACER 2026

2026 11th International Conference on Advances on Clean Energy Research

ICEEEP 2026

2026 10th International Conference on Energy Economics and Energy Policy

April 10-12, 2026 (UTC+1) | Porto, Portugal

CO-SPONSORED BY

TECHNICAL SUPPORTED BY

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TABLE OF CONTENTS

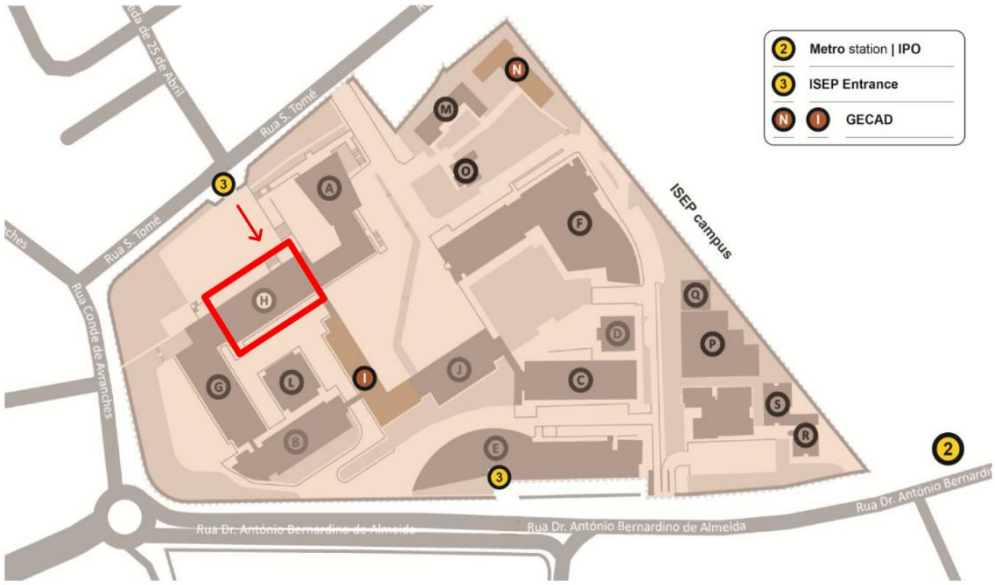
Conference Venue 03
General Information 06
Welcome Message 07
Conference Committee 08
Agenda Overview 11
Introduction of Keynote Speakers 13
Parallel Sessions
Onsite Session 1: Clean Energy Systems: AI Forecasting, Control, and Optimization 16
Onsite Session 2: Material Innovations and Thermal Efficiency Strategies for Sustainable Energy Technologies 17
Onsite Session 3: Integrated Energy Systems: Reliability, Flexibility, and Resilience 18
Onsite Session 4: Low-Carbon Technologies and Carbon Management: Maritime, Power, and Industrial Perspectives 19
Onsite Session 5: Policy, Inclusivity, and Resilience in the Energy Transition 20
Onsite Session 6: Energy Markets, Pricing Mechanisms, and Economic Policy 21
Online Session 1: Clean Energy Resource Assessment and Sustainable Transition Strategies 22
Online Session 2: AI-Driven Optimization and Advanced Control for Smart Microgrids 23
Delegate List 24
NOTE

CONFERENCE VENUE

GECAD, School of Engineering (ISEP) of the Polytechnic of Porto

Address: Rua Dr. António Bernardino de Almeida, 431, 4249-015 Porto, Portugal

GECAD is located in building N and on the 4th floor of building I; both buildings are marked in brown in the following diagram.
The event will take place in building H (red color) located on the 1st floor.



How to get to GECAD / ISEP

Porto is a modern European city that is served by an international airport, railways, and a public transportation system that includes bus services and subway lines. Porto was elected Best European Destination in 2012, 2014, and 2017.
GECAD is located at the School of Engineering of the Polytechnic of Porto (ISEP/IPP). It is located in the main university area of Porto, ten minutes away from the city center by subway. The campus is easily accessible by public transportation: It is just across from the IPO subway station (Yellow Line | D-line), and it is also served by buses.
If you are driving, the entrance to our parking lot is on Rua de S. Tomé.

Figure 1 Entrance of Rua São Tomé (Parking).

Figure 2 Entrance of Rua Dr. António Bernardino de Almeida

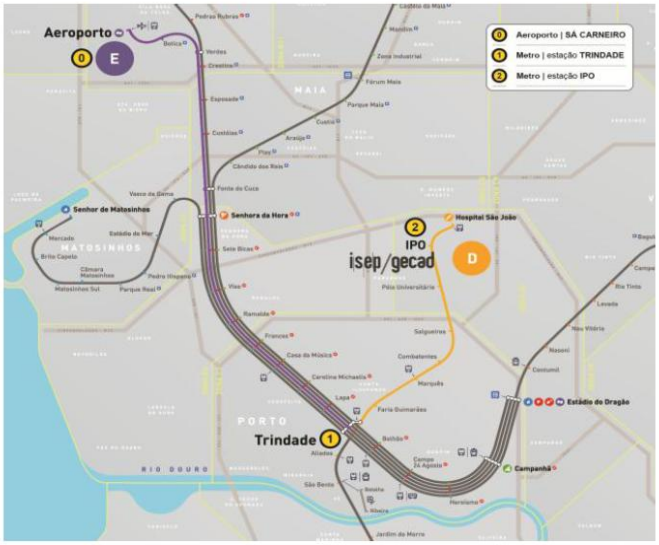
PUBLIC TRANSPORTATION

AIRPORT – PORTO - FRANCISCO SÁ CARNEIRO | https://www.aeroportoporto.pt/en/opo/home

SUBWAY (METRO DO PORTO) 6AM TO 1AM | http://www.metrodoporto.pt

You can purchase the title in vending machines at several Metro stations (or Lojas Andante)*

* Alternative of single tickets: Andante Tour 1 (24 consecutive hours after 1st validation) ~€7.50; Andante Tour 3 (72 hours) ~ €16.00.



Dias Úteis Mondays to Fridays			Sábados Saturdays			Domingos e Feriados Sundays & Holidays		
Horas	›	T.M.E.	Horas	›	T.M.E.	Horas	›	T.M.E.
06 - 07	›	07'	06 - 09	›	07'	06 - 00	›	07'
07 - 21	›	04'	09 - 21	›	05'	00 - 01	›	08'
21 - 01	›	08'	21 - 01	›	08'			

Metro						
	Line	**From:**	**To:**	**Time**	**Zone**	**Price**
Airport - City center	E+D[1]	Airport	Aliados or São Bento	~36"	Z4	~€2.25
Airport – ISEP	E+D[1]	Airport	IPO	~43"	Z4	~€2.25
City center - ISEP	D	Aliados or São Bento	ISEP	~20"	Z2	~€1.40

BUS (STCP LINES) | http://www.stcp.pt

Bus						
	Bus	**From:**	**To:**	**Time**	**Zone**	**Price[2]**
Airport - City center	602	Airport	Cordoaria	~44"	Z4	~€2.50
Airport – ISEP	604	Airport	Hospital São João	~44"	Z4	~€2.50
City center - ISEP	300	Aliados	ISEP	~35"	Z3	~€2.50
City center - ISEP	301	Cordoaria	ISEP	~35"	Z3	~€2.50

TRAIN (CP RAILWAYS) | http://www.cp.pt

TAXI | http://www.raditaxis.pt | Tel.: +351-225 073 900

Taxis are available 24 hours a day throughout the city at taxi ranks. You can hail them in the street or call a taxi company. They take up to 4 passengers. Every taxi has a meter indicating the cost of your journey to be paid at the end of the trip. The receipt is compulsory. Tariff charges are posted on the window of the rear door, on the left side of the taxi. A supplement is payable for baggage exceeding 55 x 35 x 20 cm.

Estimated prices and distances: Porto Airport to the city center (Av. dos Aliados)– 15.3 km – 20' – ~€20

OTHER TRANSPORTATION AVAILABLE

Uber	https://uberportugal.pt/portugal/	Bolt	https://bolt.eu/pt-pt/

INFORMATION ON NEARBY HOTELS

14 **Ibis Porto São João Hotel - 2*| http://www.ibis.com 10" walking time**

7 **Eurostars Oporto Hotel - 4* | http://www.eurostarsoporto.com/ 14" walking time**

5 **Axis Hotel - 4* | https://www.axishoteis.com/pt/axis-porto.html 28" walking time**

These are the hotels closest to ISEP. The D subway line directly connects the city center and ISEP (Pólo Universitário) in about 15 minutes.

GENERAL INFORMATION

Onsite Registration

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

Devices Provided by the Organizer

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.

Official language: English.

Duration of Each Presentation

Keynote Speech: 40min, including 5 min Q&A.

Invited Speech: 20min, including 5 min Q&A.

Oral Session: 15min, including 3 min 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.

※ **UTC+1. Time in Porto, Portugal. Please be aware of time difference between this and your region/country.**

Online Presentation Tips

zoom

Zoom Download

Meeting ID	Meeting Link
832 2721 6853	**https://us02web.zoom.us/j/83227216853**

Note:

- **Participants who are going to do an online presentation are required to join the rehearsal in ZOOM on Friday, April 10. Duration: 3min apiece. Feel free to leave after you finish the test.**
- **We recommend to install the Zoom platform beforehand. New users can login the Zoom meeting without registration.**
- **Please set your display name before joining the online meeting. For instance,**
  Author/Presenter: Paper ID_Name < RE001_Lily >
  Delegate: Delegate_Name < Delegate_Lily >

WELCOME MESSAGE

We are pleased to welcome you to attend the 2026 11th International Conference on Advances on Clean Energy Research (ICACER 2026), along with 2026 10th International Conference on Energy Economics and Energy Policy (ICEEEP 2026), which will be held in Porto, Portugal during April 10-12, 2026.

This event will provide a unique opportunity for international scholars, researchers and practitioners working in a wide variety of scientific areas with a common interest in Advances on Clean Energy Research & Energy Economics and Energy Policy.

The conference will include discussions on topics such as Clean Energy Systems: AI Forecasting, Control, and Optimization; Material Innovations and Thermal Efficiency Strategies for Sustainable Energy Technologies; Integrated Energy Systems: Reliability, Flexibility, and Resilience; Low-Carbon Technologies and Carbon Management: Maritime, Power, and Industrial Perspectives; Policy, Inclusivity, and Resilience in the Energy Transition; Energy Markets, Pricing Mechanisms, and Economic Policy; Clean Energy Resource Assessment and Sustainable Transition Strategies; AI-Driven Optimization and Advanced Control for Smart Microgrids. The conference will be composed of 6 onsite sessions and 2 online sessions. In addition, 3 keynote speeches will be delivered by *Prof. Ghanim Putrus* (Northumbria University, UK), *Prof. Belkacem Ouldbouamama* (University of Lille, France), *Prof. Helena Nadais* (University of Aveiro, Portugal).

We would like to deeply express our heartfelt appreciation to all our delegates, keynote speakers, invited speakers, session chairs, international reviewers as well as all the committee members involved in the technical evaluation of conference papers and in the conference organization for your time, effort, and great contributions. Apart from that, we'd like to extend our thanks to all the authors and external reviewers for your contribution. It is your high competence, enthusiasm, valuable time and expertise that have enabled us to prepare the final program with high quality and make the conference a great success.

I wish to thank all attendees for participating in the conference and hope you have a fruitful and memorable experience at ICACER 2026 & ICEEEP 2026!

Finally, we wish you a very successful conference! Hope you will enjoy your stay in Porto, Portugal!

With Warmest Regards,

Conference Organizing Committee

ICACER & ICEEEP 2026

CONFERENCE COMMITTEE 2026

Conference Organizing Committees

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Zita Vale, Polytechnic of Porto, School of Engineering, GECAD, Portugal (Senior Member, IEEE)
Ghanim Putrus, Northumbria University, UK

Conference General Chairs

João Soares, Polytechnic of Porto, School of Engineering, GECAD, Portugal (Senior Member, IEEE)
Sérgio Ramos, Polytechnic of Porto, School of Engineering, GECAD, Portugal

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Rohitha Weerasinghe, University of Bedfordshire, UK

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Gaydaa Al Zohbi, Prince Mohammad Bin Fahd University, Saudi Arabia
Atil Emre Cosgun, Aksaray University, Turkey
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Ashwani Kumar Aggarwal, Sant Longowal Institute of Engineering and Technology, India
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Atil Emre Cosgun, Aksaray University, Turkey
Laveet Kumar, Mehran University of Eng. & Technology, Pakistan
Ashwani Kumar Aggarwal, Sant Longowal Institute of Engineering and Technology, India

AGENDA OVERVIEW

April 10 | Friday (UTC+1)		
13:00-17:00	**Onsite Registration**	**Sala de Events | GECAD / ISEP | 1F**
9:00-10:30	**Online Pre-test Session in Zoom**	**Zoom ID: 832 2721 6853**
Zoom Test Timetable		
9:00-10:00	RE061-A-IS RE025 RE024 RE026 RE045 RE027 RE422-A RE031 RE043 RE042 RE018 RE029 RE030 RE046 RE059 RE035 RE053 RE054	
10:00-10:30	Alternative time for participants who are unavailable at allocated time. Other online participants, includes but not limited to plenary speaker, keynote speaker, session chair, committee member, Delegates.	

- Participants who are going to do an online presentation are required to join the rehearsal in Zoom on Friday, April 10, 2026. Duration: 3min apiece. Feel free to leave after you finish the test.
- We will test control panel including screen sharing, audio, video and "Raise Hand" feature, etc. Please get your presentation slides and computer equipment prepared beforehand.

April 11 | Saturday (UTC+1)		
< H202, GECAD | 1F >		
Chairman: **Prof. João Soares, Polytechnic of Porto,** School of Engineering, GECAD, Portugal		
09:00-9:10	Opening Remarks	**Prof. Sérgio Ramos,** Polytechnic of Porto, School of Engineering, GECAD, Portugal
09:10-09:50	<Keynote Speech I>	Can We Maintain Sustainable, Secure and Affordable Energy and Transport Systems? **Prof. Ghanim Putrus,** Northumbria University, UK
09:50-10:30	<Keynote Speech II>	Hybrid Bond Graph-Convolutional Neural Network (BG-CNN) for Online Diagnosis **Prof. Belkacem Ouldbouamama,** University of Lille, France
10:30-11:00	**Group Photo & Morning Coffee Break**	
11:00-11:40	<Keynote Speech III>	From Wastewater Treatment to Wastewater Biorefineries: Energy and Valuable Organic Products Recovery through Anaerobic Processes **Prof. Helena Nadais,** University of Aveiro, Portugal
11:40-12:20	<Keynote Speech IV>	Achievements and Results of EV4EU Project **Prof. Hugo Morais**, University of Lisbon, Portugal
12:20-13:30	**Lunch Time**	**Sala de Eventos**

Time	Venue	Onsite Parallel Sessions
13:30-15:30	**<H207 | 1F>**	**Onsite Session 1:** Clean Energy Systems: AI Forecasting, Control, and Optimization *Chairperson:* RE011 RE017-A RE051 RE433 RE437 RE445 RE449-A RE060
	<H202 | 1F>	**Onsite Session 2:** Material Innovations and Thermal Efficiency Strategies for Sustainable Energy Technologies *Chairperson:* RE001-A RE023 RE039-A RE413 RE055 RE062 RE4008-A
	<G201 | 1F>	**Onsite Session 3:** Integrated Energy Systems: Reliability, Flexibility, and Resilience *Chairperson: Assoc. Prof. Aynur Pala, Istanbul Okan University, Türkiye* RE049 RE418 RE416 RE444 RE020 RE050 RE435

15:30-16:00	Afternoon Coffee Break	
16:00-18:00	**<H207 | 1F>**	**Onsite Session 4:** Low-Carbon Technologies and Carbon Management: Maritime, Power, and Industrial Perspectives *Chairperson:* RE009 RE052 RE028 RE041 RE033 RE036 RE038 RE048
	<H202 | 1F>	**Onsite Session 5:** Policy, Inclusivity, and Resilience in the Energy Transition *Chairperson:* RE4001 RE432 RE442-A RE4003 RE428-A RE4010 RE4012 RE4011
	<G201 | 1F>	**Onsite Session 6:** Energy Markets, Pricing Mechanisms, and Economic Policy *Chairperson: Prof. Belayet Hossain, Thompson Rivers University, British Columbia, Canada* RE4004 RE403 RE404 RE417 RE434-A RE034 RE4006
18:00-20:00	**Dinner Time**	**TBA**

April 12 | Sunday (UTC+1)		
Venue	**Time**	**Online Parallel Sessions**
ZOOM ID: <832 2721 6853>	**9:00-11:35**	**Online Session 1:** Clean Energy Resource Assessment and Sustainable Transition Strategies *Chairperson:* Invited Talk- Imane Belyamani RE025 RE024 RE026 RE045 RE027 RE422-A RE031 RE043 RE042
	13:00-15:00	**Online Session 2:** AI-Driven Optimization and Advanced Control for Smart Microgrids *Chairperson:* RE018 RE029 RE030 RE046 RE059 RE035 RE053 RE054

Note

* Online Meeting conference room will be open 30 mins before scheduled time. Please enter your room 10-15 minutes early.
*All online attendees are required to join the pre-test on Friday, April 10 Start from 9:00 (UTC+1).
*A paper not presented or presented by a non-author without prior written approval by the Conference TPC will be removed from the final conference proceedings.

INTRODUCTION OF KEYNOTE SPEAKER (UTC+1)

09:10-09:50
April 11 (Saturday), 2026 **< H202 | 1F >**

Prof. Ghanim Putrus

Northumbria University, UK

Speech Title: Can we maintain sustainable, secure and affordable energy and transport systems?

Abstract: Electrical power and transport systems evolved throughout the past century to provide adequate electricity supply and transport that our civilization now rely on. Given the concerns about the security of energy supply and climate change, the challenge now is how to maintain sustainable, reliable and affordable energy and transport systems. Renewable energy generation and electric transport are seen as the way forward to provide sustainable green energy and transport systems. However, the integration of these two systems is not without challenges. This talk will give an overview of the challenges due to increased deployment of renewable energy sources and electric vehicles and the need for a smart integration of the two systems together with the electricity grid. It will also cover opportunities that emerging technologies provide not only to meet these challenges but also to foster new operational and business models that will help maintain reliable and affordable electricity and transport systems as well as improve their efficiency and lower their environmental impacts.

Ghanim Putrus is Emeritus Professor at the Department of Engineering, Physics and Mathematics, Northumbria University, Newcastle upon Tyne, UK. He has over 40 years of research experience in Electrical Engineering with over 230 publications, including one patent, 5 book chapters and neuromas invited talks at national and international events. He has led several research projects (funded by EU, EPSRC, Innovate UK and industry) and has often provided consultancy for industry in the area of energy and electrical power engineering, with focus on the integration of renewable energy generation and electric transport. Professor Putrus is Visiting Professor at the China-EU Institute for Clean and Renewable Energy (ICARE), Huazhong University of Science & Technology, Wuhan, China, 2011-to-date. He is also Associate Editor for Elsevier Renewable Energy journal and serves on the editorial board for the World Electric Vehicle Journal and Energies journal in addition to the technical/steering committees for several international conferences. He has been actively involved in the Institution of Engineering Technology (IET) and has organised several conferences and professional events. He was Chairman of the IET Northumbria Network (2004/2005) and served on the executive committee of the IET Power Trading and Control Professional Network (2001-2010). Main research interests are application of power electronics in power systems, renewable energy systems, electric vehicles and their integration into the electricity grid (smart grids).

INTRODUCTION OF KEYNOTE SPEAKER (UTC+1)

09:50-10:30
April 11 (Saturday), 2026 **< H202 | 1F >**

Prof. Belkacem Ouldbouamama

University of Lille, France

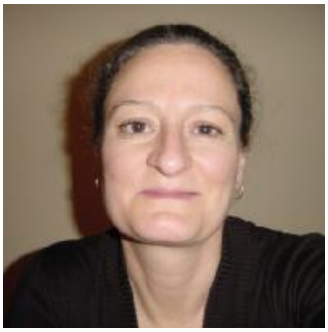
Speech Title: Hybrid Bond Graph-Convolutional Neural Network (BG-CNN) for Online Diagnosis

Abstract: In recent years, there has been a lot of interest in Fault Detection and Isolation (FDI) for systems. Model-based methods and Machine Learning (ML)-based approaches have been extensively developed to detect and identify specific faults by taking into consideration, respectively, the mathematical description of the monitored process and the statistical model constructed from historical data. The current data-driven FDI techniques generally emphasize accuracy and rarely draw attention to the lack of readily accessible labeled data in the industry. This conference aims to develop a hybrid fault diagnosis method by combining the well-established graphical technique of Bond-Graph (BG) with the powerful pattern recognition ability of Convolutional Neural Network (CNN) to improve the overall fault isolation performance. A new formalism named BG-CNN method is proposed, which can utilize the residuals generated from the BG model in a CNN for improved fault isolation with a minimal number of labeled data.

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/

INTRODUCTION OF KEYNOTE SPEAKER (UTC+1)

11:00-11:40 April 11 (Saturday), 2026	< H202 | 1F >



Prof. Helena Nadais

University of Aveiro, Portugal

Speech Title: From Wastewater Treatment to Wastewater Biorefineries: Energy and Valuable Organic Products Recovery through Anaerobic Processes

Abstract: The transition towards a circular economy is reshaping the role of wastewater treatment plants (WWTPs), shifting their function from pollution removal facilities to resource recovery systems. Municipal wastewater contains significant amounts of organic matter, nutrients and energy that can be recovered and reused. The extractable energy embedded in wastewater organic matter has been estimated at 2.4kWh per m^3, which is typically four to eight times higher than the energy required for conventional treatment (approximately 0.3–0.6 kWh per m^3), highlighting the potential for WWTPs to become energy-neutral or even energy-positive facilities. Anaerobic processes are key technologies enabling this transition, as they convert organic matter into renewable energy and valuable biochemical intermediates. Beyond methane production through anaerobic digestion, controlled anaerobic fermentation processes can generate volatile fatty acids and other platform compounds, which can be used as carbon sources for nutrient removal or as precursors for bio-based materials. This keynote will discuss the role of anaerobic technologies in the development of circular wastewater biorefineries, addressing energy balances in WWTPs, emerging opportunities and bottlenecks for liquid and gaseous product recovery, and the importance of microbial community engineering to enhance resource recovery. The presentation will conclude by highlighting research and engineering challenges necessary to fully realize the circular economy potential of wastewater systems.

Helena Nadais is a Chemical Engineer and Assistant Professor at the University of Aveiro, specializing in environmental sciences with a particular focus on water and wastewater treatment processes. Her academic background includes a Master Degree in Chemical Engineering, specializing in Processes and Industry, from Lisbon Technical University and a PhD in Applied Environmental Sciences from the University of Aveiro. Her doctoral research pioneered new methodologies for treating industrial wastewater with an emphasis on energy recovery. Helena Nadais has been a faculty member since 2003, teaching and doing extensive research in the treatment and valorization of water and industrial effluents. She is recognized for her scholarly contributions with an H-index of 19, and she has authored 39 publications in WoS-indexed journals. Her professional engagements include leading and participating in numerous national and international research projects, fostering industry-academia collaborations, and enhancing the application of sustainable practices in environmental management. Helena Nadais is currently involved as scientific researcher in several national and international research projects focusing on material and energy recovery from wastes.

INTRODUCTION OF KEYNOTE SPEAKER (UTC+1)

11:40-12:20 April 11 (Saturday), 2026	< H202 | 1F >

Prof. Hugo Morais

University of Lisbon, Portugal

Speech Title: Achievements and Results of EV4EU Project

Abstract: This presentation highlights the main achievements and results of the EV4EU project, which aims to accelerate the integration of electric vehicles (EVs) into the power system through smart, secure, and scalable solutions. The project has developed advanced tools and methodologies to enable efficient EV charging management, grid-friendly operation, and seamless interoperability across diverse stakeholders, including system operators, aggregators, and end-users. Key innovations include the implementation of bidirectional charging (V2G/V2X), the integration of EVs into flexibility markets, and the deployment of interoperable communication frameworks based on open standards.

Hugo Morais is a senior researcher at the Portuguese R&D Institute INESC-ID and an Associate Professor at Instituto Superior Técnico, University of Lisbon. With a background in Electrical Engineering (specializing in Power Systems) and a Ph.D. in Electrical and Computer Engineering (2012), he has contributed to over 40 academic and industrial research projects, ranging from national, to French and European funded initiatives. At INESC ID he is the coordinator of four ongoing Horizon Europe projects and is actively involved in the other four.

His research primarily focuses on advancing smart grid technologies and tools. He has been actively involved in the development of strategies for electric mobility integration in power systems.

Hugo Morais (IEEE Senior Member, 2018) has received 26 awards and authored over 250 scientific papers, including more than 100 published in international peer-reviewed journals, with more than 8,000 citations. He also serves as an editor for several leading scientific journals, including Energies, Electricity Journal, and Frontiers in Energy Research.

ONSITE SESSION 1 (UTC+1)

April 11 (Saturday) 13:30-15:30	**< H207 | 1F >**
Onsite Session 1: Clean Energy Systems: AI Forecasting, Control, and Optimization Chairperson:	
13:30-13:45 RE011	Forecast-Based Operation Strategies for PV-Battery Storage Systems in Malta Enhancing Lifetime, Economics, and Grid Integration ***Assia Mahrouch,*** *University of Malta, Malta*
13:45-14:00 RE017-A	Development of Hybrid Renewable Energy Systems Based on Artificial Intelligence Technologies ***Giedrius Gecevičius,*** *Kauno kolegija Higher Education Institution, Lithuania*
14:00-14:15 RE051	Long-Horizon FCS-MPC for SEPIC with Modular Architecture ***Benjamín Moya Giachetti,*** *Universidad de Talca, Chile*
14:15-14:30 RE433	Short Term Solar Irradiance Forecasting in Mauritius Using MLP Model ***Yogesh Beeharry,*** *University of Mauritius, Mauritius*
14:30-14:45 RE437	Interpretable Short-Term Power Production Forecasting Using Explainable Boosting Machines with Uncertainty Quantification ***Devanand Yadav,*** *Institut für Elektrische Energietechnik und Energiesysteme TU Clausthal, Germany*
14:45-15:00 RE445	Latent Space Representation of Electricity Market Curves: Maintaining Structural Integrity ***Martin Výboh,*** *Kempelen Institute of Intelligent Technologies, Slovakia*
15:00-15:15 RE449-A	Model-Predictive-Control-Based Demand Response for A Large Wastewater Treatment Plant ***Hyunook Kim,*** *University of Seoul, South Korea*
15:15-15:30 RE060	Smart Control and Real-Time Optimization of Renewable Hybrid Energy Systems Using Advanced MATLAB Simulation *TBA, Yango University, China*

ONSITE SESSION 2 (UTC+1)

April 11 (Saturday) 13:30-15:15	**< H202| 1F >**
Onsite Session 2: Material Innovations and Thermal Efficiency Strategies for Sustainable Energy Technologies Chairperson:	
13:30-13:45 RE001-A	Sustainable Recycling of Spent Lead-Acid Batteries into Perovskite Thin Films via Inkjet Printing for Solar Energy ***Ahmed Mourtada Elseman,*** *Central Metallurgical Research and Development Institute (CMRDI), Egypt*
13:45-14:00 RE023	High-Performance Thermal Insulation of Glass Surfaces Using Multifunctional Silica Aerogel Nanocoatings ***Ekin Su Eskiizmirliler,*** *Ege University, Türkiye*
14:00-14:15 RE039-A	Performance Enhancement of Monocrystalline Silicon Solar Cells Using RF-Sputtered Aluminum Oxide Antireflection Coatings ***Faisal Alresheedi,*** *Qassim University, Saudi Arabia*
14:15-14:30 RE413	An Optimized Energy Efficient Jet impingement Cooling Approach for Heat Transfer Enhancement over a Pin Fin Surface ***Magdalena Szymkiewicz,*** *Cracow University of Technology, Poland*
14:30-14:45 RE055	Numerical Investigation on Micro Fiber Composite Piezoelectric at Low Electric Field ***Mohamed AbdulAziz Arab,*** *Technological University of Dublin, Ireland*
14:45-15:00 RE062	Performance Evaluation of Water-Based Thermal Energy Storage for Solar Thermal Power Plants with Organic Rankine Cycle ***Rohitha Weerasinghe,*** *University of Bedfordshire, UK*
15:00-15:15 RE4008-A	Sustainable Development Goals Applied to the Maritime Transportation Sector: Setting Sail for the Future ***Cátia Sousa,*** *Lusofona University, Intrepid Lab Lisboa, Portugal & CETRAD, Porto, Portugal*

ONSITE SESSION 3 (UTC+1)

April 11 (Saturday) 13:30-15:15	**< G201 | 1F >**
Onsite Session 3: Integrated Energy Systems: Reliability, Flexibility, and Resilience Chairperson:	
13:30-13:45 RE049	Impact of Electrolyzer Operational Flexibility and Battery Storage in Local Energy Community ***Pratik Mochi,*** *Norwegian University of Science and Technology, Norway*
13:45-14:00 RE418	A Comparative Study of Energy Management Optimization Strategies in Residential, Utility and Mobility Domains ***Joost Halkes,*** *University of Applied Sciences Utrecht; Utrecht University, Netherlands*
14:00-14:15 RE416	Scaling EV Demand and PV Availability for Cost-effective Net Zero and Positive Energy Districts ***João P. Cardoso,*** *INEGI (and student at FEUP), Portugal*
14:15-14:30 RE444	Capacity and Time-Based Cost Trend Analysis of Onshore Wind Power Projects Using Correlation and Regression Modeling ***Jaepil SEO,*** *KEPCO E&C, South Korea*
14:30-14:45 RE020	Reliability Analysis of High-Capacity Offshore Wind Turbines with Large-Diameter Monopile Foundations ***Young-Jin Kim, Dong-Hyawn Kim,*** *Kunsan National University/Research Center for Giant Wind Turbine System, Republic of Korea*
14:45-15:00 RE050	Mechanical Performance of AeroMINE-inspired Wind Turbine for Power Generation: A CFD Study ***La Wonn Eain,*** *Thammasat University, Thailand*
15:00-15:15 RE435	Vulnerability Of Cross-Border Electricity Transmission: Evaluating the Price Impact of Baltic Desynchronization and Offshore Interconnection Outages ***Iskandar Mammadzada,*** *Tallinn University of Technology, Estonia*

ONSITE SESSION 4 (UTC+1)

April 11 (Saturday) 16:00-18:00	**< H207 | 1F >**
Onsite Session 4: Low-Carbon Technologies and Carbon Management: Maritime, Power, and Industrial Perspectives Chairperson:	
16:00-16:15 RE009	Structural and Safety Assessment of LNG Tank Location and Support Loads in Dual-Fuel Vessel Conversions ***Florin Barbu,*** *"Dunarea de Jos" University of Galati, Romania*
16:15-16:30 RE052	LCOE Comparison Analysis of a CCGT Plant with and without Carbon Capture ***IGNACIO MARTIN,*** *Universidad de Oviedo, España*
16:30-16:45 RE028	Investigation on Carbon Dioxide Mineralization Using Mussel Shell Residues for Sustainable Construction Material Production ***Chinnathan Areeprasert,*** *Kasetsart University, Thailand*
16:45-17:00 RE041	Energy, Exergy, and CFD-supported Temperature Analysis of Shaft Energy Loss in an Off-gas-driven Gamma-type Stirling Engine ***Chootrakul Siripaiboon,*** *Sukhothai Thammathirat Open University, Thailand*
17:00-17:15 RE033	Auxiliary Engine Retrofitting and Container Ships: Regulatory Requirements and Decarbonization Potential During Berthing as a Roadmap to Net Zero ***Carmen Luisa Vasquez Stanescu,*** *Universidade de Évora, Portugal*
17:15-17:30 RE036	Cargo Ship Traffic Emissions in the Portuguese Mainland Exclusive Economic Zone ***Crismeire Isbaex,*** *MED—Mediterranean Institute for Agriculture, Environment and Development & CHANGE—Global Change and Sustainability Institute, Institute for Advanced Research and Training, University of Évora, P.O. Box 94, 7002-544 Évora, Portugal*
17:30-17:45 RE038	The Use of Sentinel-2 Data to Assess Carbon Stocks in the Port Landscape of Sines, Portugal ***Lucas de Aquino Marinho,*** *MED—Mediterranean Institute for Agriculture, Environment and Development & CHANGE—Global Change and Sustainability Institute, Institute for Advanced Research and Training, University of Évora, P.O. Box 94, 7002-544 Évora, Portugal*
17:45-18:00 RE048	Environmental Stress Effects on SF_6 Emissions and Reliability in Transmission Gas-Insulated Switchgear ***Majdi M. Alomari,*** *Australian University, Kuwait*

ONSITE SESSION 5 (UTC+1)

April 11 (Saturday) 16:00-18:00	**< H202| 1F >**
Onsite Session 5: Policy, Inclusivity, and Resilience in the Energy Transition Chairperson:	
16:00-16:15 RE4001	Policy-Driven Pathways for Hybrid Renewable Energy Systems (HRES) to Enhance ***Anshu Prakash Murdan,*** *University of Mauritius, Mauritius*
16:15-16:30 RE432	Agent-Based Modeling as an Integrative Framework for Household Energy Transition ***Boban Pavlović,*** *University of Belgrade, Serbia*
16:30-16:45 RE442-A	Household Energy Vulnerability to Temperature Extremes: Evidence from Spain ***Amaia de Ayala,*** *University of the Basque Country (UPV/EHU) and Basque Centre for Climate Change (BC3), Spain*
16:45-17:00 RE4003	Bridging Ambition and Inclusion: Rethinking Renewable Energy Transition in Sub-Saharan Africa ***Vishwamitra Oree,*** *University of Mauritius, Mauritius*
17:00-17:15 RE428-A	Gender-Inclusive Energy Transition in Senegal: Causal Impacts of Access, Renewable, and Efficiency Policies (1996–2022) ***Abraham Josaphat Miflinso YEHOUENOU,*** *RWTH Aachen University, Germany*
17:15-17:30 RE4010	Analyzing Factors for Rooftop Solar Deployment: A Study of South Delhi ***Pooja Sharma,*** *Shrutika Chawdhary,*
17:30-17:45 RE4012	Leveraging Nigeria's Petroleum Industry Act for Renewable Energy Transition and Climate Impact Reduction in Sub-Saharan Africa: A Fiscal Reform Perspective ***Omoefe Siakpere,*** *Aix-Marseille University, Faculty of Law and Politics Science, France*
17:45-18:00 RE4011	Relative Energy Transition Under Persistent Fossil Fuel Dominance: Structural Evidence from 2006–2024 ***Bahia BOUCHAFAA,*** *Ecole Nationale Polytechnique, LRSE, Algeria*

ONSITE SESSION 6 (UTC+1)

April 11 (Saturday) 16:00-17:45	**< G201 | 1F >**
Onsite Session 6: Energy Markets, Pricing Mechanisms, and Economic Policy Chairperson:	
16:00-16:15 RE4004	Who Has the King of Twin Transition Age? Thermal Coal-Natural Gas, Thermal to Met Coal Price Spillovers and Steel Making Dynamics ***Aynur Pala,*** *Istanbul Okan University, Türkiye*
16:15-16:30 RE403	Climate Policy Optimization for Oil-Exporting Economies: A DSGE Approach to Oman's Environmental Transformation ***Mohamed Chakroun,*** *German University of Technology in Oman, Oman*
16:30-16:45 RE404	Factors Influencing Air Pollution in Canada: The Role of Government Environmental Expenditure and Climate Change ***Belayet Hossain,*** *Thompson Rivers University, British Columbia, Canada*
16:45-17:00 RE417	Qualitative Evaluation of Energy Community Policy Mix of EU Member States ***Narmin Eynizada,*** *Tallinn University of Technology, Estonia*
17:00-17:15 RE434-A	Asymmetric Effects of Oil Prices on the Non-Oil Trade Balance in Saudi Arabia: Insights from the Two-Step NARDL and Autometrics ***Majed Almozaini,*** *KAPSARC – King Abdullah Petroleum Studies and Research Center, Saudi Arabia*
17:15-17:30 RE034	Impact of New Nuclear on Electricity Markets Spot Price Formation and Hydropower Profitability in High-Renewable Electricity Markets ***Carlo Maino,*** *HES-SO, Switzerland*
17:30-17:45 RE4006	Are Grid Owners Underpaid? A Multi-Model Approach to Allowed Equity Returns ***Alexander Heiss,*** *Technische Universität München, Germany*

ONLINE SESSION 1 (UTC+1)

April 12 (Sunday) **9:00-11:35**	**ZOOM ID: <832 2721 6853>**
Online Session 1: Clean Energy Resource Assessment and Sustainable Transition Strategies **Chairperson**:	
9:00-9:20 Invited Talk	Sustainable Recycling of WEEE Plastics through Ultrasound-Assisted Extraction of Brominated Flame Retardants ***Imane Belyamani,*** *Zayed University, UAE*
9:20-9:35 RE025	Assessing FPSO Solutions for Offshore Operations in the Barents Sea in the Context of the Transition to Clean Energy ***Alexandra Bujor,*** *"Dunarea de Jos" University of Galati, Romania*
9:35-9:50 RE024	Autonomous HVAC Duct Isolation Under Fire Exposure Using Thermally Responsive Actuation *Sawsan Dagher, Abu Dhabi Polytechnic, UAE* ***Sawsan Dagher,*** *Abu Dhabi Polytechnic, UAE*
9:50-10:05 RE026	An integrated analysis of renewable energy resources in the Constanta region on the Black Sea coast ***Victor-Ionut Popa,*** *"Dunarea de Jos" University of Galati, Romania*
10:05-10:20 RE045	Evaluating Energy-Efficient LED Lighting in University Buildings: An Empirical Assessment of User Perception and Sustainability Outcomes ***Manar Fawzi Bani Mfarrej,*** *Zayed University, UAE*
10:20-10:35 RE027	Wind and Wave Energy Resources in the Black Sea: A 40-Year Assessment ***Lavinia Crețu,*** *"Dunarea de Jos" University of Galati, Romania*
10:35-10:50 RE422-A	Beyond Universal Convergence: Multiple Pathways in Global Energy Development ***Quinn Zheng,*** *Imperial College London, United Kingdom*
10:50-11:05 RE031	Assessing Wind-Wave Climate and Maritime Traffic to Support Offshore Renewable Energy Planning on the Atlantic Coast of Western Europe ***Alina Mihalcea,*** *"Dunarea de Jos" University of Galati, Romania*
11:05-11:20 RE043	Development of a Low-Energy Mineral Carbonation Pathway for Permanent CO_2 Removal ***Maisa El Gamal,*** *Zayed University, United Arab Emirates*
11:20-11:35 RE042	Sustainable Energy Integration through Floating Solar at Romania's Existing Hydropower Infrastructure ***Marius Manolache,*** *"Dunarea de Jos" University of Galati, Romania*

ONLINE SESSION 2 (UTC+1)

April 12 (Sunday) **13:00-15:00**	**ZOOM ID: <832 2721 6853>**
Online Session 2: Clean Energy Resource Assessment and Sustainable Transition Strategies **Chairperson**:	
13:00-13:15 RE018	Multi-Agent Reinforcement Learning for Blockchain-Based Peer-to-Peer Energy Trading in Smart Microgrids with Power System Stability ***W. D. J. I. Senarathna,*** *NSBM Green University, Sri Lanka*
13:15-13:30 RE029	Comparative Analysis of Dimensionality Reduction Techniques for Short-Term Load Forecasting: PCA, UMAP, and XGBoost ***Alfredo Candela Esclapez,*** *Universidad Miguel Hernández de Elche, Spain*
13:30-13:45 RE030	AI for Net Zero: Testing LLMs in Building Energy Modeling ***Luis Aarón Martínez,*** *Departament of Energy and Fluid Sciences, Central American University "José Simeón Cañas", San Salvador, El Salvador*
13:45-14:00 RE046	Intelligent Coordination of PV, BESS, and D-STATCOM Using Genetic Algorithm for Cost Minimization in AC Microgrids ***Daniel Sanin-Villa,*** *Industry, Materials, and Energy Area, School of Applied Sciences and Engineering, EAFIT University, Medellín 050022, Colombia*
14:00-14:15 RE059	Savonius Vertical Wind Turbine: Design, Construction and Power Estimation for Renewable Energy in Peru ***Doris Ortiz Untiveros,*** *Continental University, Peru*
14:15-14:30 RE035	Wind Farms End-of-Life Strategies: a study for Uruguay ***Franciele Weschenfelder,*** *UTEC, Uruguay*
14:30-14:45 RE053	Integral Backstepping Control for Voltage Regulation in Buck Converters with Constant Power Loads and Disturbance Rejection ***Juan Peñaloza,*** *Universidad Nacional de San Luis, Argentina*
14:45-15:00 RE054	Optimal Integration and Operation of DG, BESS, and D-STATCOMs in Isolated Distribution Systems ***Jhony Andrés Guzmán-Henao,*** *Instituto Tecnológico Metropolitano, Colombia*

Delegate List

Daniel Els, Stellenbosch University, South Africa

Venkata Sai Mukesh Kalepalli, SRM University AP, India

Nilay Gizli, Ege University, Türkiye

Dejan Ivezić, University of Belgrade, Serbia

Marija Živković, University of Belgrade, Serbia

Li Guigen, Defense Innovation Institute, Chinese Academy of Military Science, China

Yinliang Liu, Defense Innovation Institute, Chinese Academy of Military Science, China

Meng Binbin, Defense Innovation Institute, Chinese Academy of Military Science, China

Wu Weitao, Defense Innovation Institute, Chinese Academy of Military Science, China

Yi Biyi, Defense Innovation Institute, Chinese Academy of Military Science, China

Zhao Yangfan, Defense Innovation Institute, Chinese Academy of Military Science, China

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