

- ICAESE 2024 -

International Conference on Advanced Energy and Structural Engineering



December 16 & 17, 2024 -
Brussels



Site Tour & Taxis - Gare Maritime
Picardstraat 11, 1000 Brussels



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Conference Chairs



PhD. Samir Khatir

Technical Manager at Belgian
Technology Center for Cooling &
Heating (Brussels, Belgium)



Prof. François Vallée

Electrical Power Engineering Lab,
Power Systems & Markets Rese-
arch Group at UMONS (Belgium)



Prof. Jean-Michel Nunzi

(Honorary chairman)
Queen's University (Canada)



PhD. Cuong Le Thanh

Director of the CEATS center, Ho
Chi Minh City Open university
(Vietnam)

Head of Organization Committee



Mr. Werner Neuville

General Manager at Belgian
Technology Center for Cooling &
Heating (Brussels, Belgium)



Ms. Alyson Milan

Operations & Communications
Manager at Belgian Technology
Center for Cooling & Heating
(Brussels, Belgium)

Members of the Organization Committee

- Prof. Said Mahmoudi (Belgium)
- Dr. Erica Magagnini (Italy)
- Dr. Brahim Benaissa (Japan)
- Dr. Seyyed Ahmad Hosseini (Belgium)



Political Overview



Marie-Christine Marghem

Ancienne ministre fédérale de l'Énergie, de l'Environnement et du Développement durable, Députée et Bourgmestre de Tournai

Her battles

Energy

As Minister of Energy, I worked to extend our nuclear fleet in Belgium and develop long-term nuclear technologies. Despite the limitations of the government agreement, I succeeded in extending the Doel 1 and

2 reactors and installing more than 1,500 megawatts of offshore wind turbines with reduced subsidies. I remain committed to ensuring our country's energy independence with a renewable nuclear mix.

Environment

I have worked actively to reduce greenhouse gas emissions and promote a healthier environment. Belgium is committed to reducing these emissions in line with the Paris Agreement, and to achieving carbon neutrality by 2050. I have also supported the circular economy by reducing waste and promoting the reuse of materials. In addition, I have worked for more sustainable product standards, notably by encouraging repairability of household appliances, and I have contributed to a European CO₂ emissions trading scheme to reward virtuous companies and reduce emissions.

Scientific Committee

- Prof. Bernard De Baets (Belgium)
- Prof. Nicholas Fantuzzi (Italy)
- Prof. Damien Ernst (Belgium)
- Prof. Amir H. Gandomi (Australia)
- Prof. Mohamed Kamel Riahi (UAE)
- Prof. R. Venkata Rao (India)
- Prof. Mohamad Noori (USA)
- Prof. Jerome Soto (France)
- Prof. Mohamed A. Eltaher (Saudi Arabia)
- Prof. Yusuf Sahin (Turkey)
- Prof. Abdeldjebar Hazzab (Canada)
- Prof. Lemnaouar Zedam (Belgium)
- Prof. Enes Sukic (Belgrade)
- Prof. Naima Khatir (Algeria)
- Prof. Amine Ammar (France)
- Prof. Idir Belaidi (Algeria)
- Prof. Emad Ghandourah (Saudi Arabia)
- Prof. Bui Tien Thanh (Vietnam)
- Prof. Mohammed El Ganaoui (France)
- Dr. Wael A. Altabey (China)
- Prof. Khatir Tawfiq (Algeria)
- Prof. Md Shahiduzzaman (Japan)
- Prof. Mashhour Alazwari (Saudi Arabia)
- Prof. Khaled LOUBAR (France)
- Prof. Seyedali Mirjalili (Australia)
- Prof. Si Mohammed Ait El Fqih (Morocco)
- Prof. Mahmoudi Saïd (Belgium)
- Prof. Samir Tiachacht (Algeria)
- Prof. Mohammed El Ganaoui (France)
- Prof. Abdelrachid Hamrani (USA)
- Prof. Sana Kordoghli (Tunisia)
- Prof. R-Ali Jafari-Talookolaei (Iran)
- Dr. Bilal Mokrani (USA)
- Dr. Dhanraj Rajaraman (Belgium)
- Dr. Sana Kordoghli (Tunisia)
- Dr. Boualem Merainani (France)
- Dr. Marwa Ourak (France)
- Dr. Bendin Kouider (Luxembourg)
- Dr. Duong Huong Nguyen (Vietnam)
- Dr. Loubna HADHOUM (France)
- Prof. Christophe Caucheteur (Belgium)
- Prof. M. Reza Nikoo (Oman)
- Prof. Amir H. Gandomi (Australia)



Keynote Speakers



Prof. Christophe Caucheteur (UMons, Belgium)

Title : Opportunities of wind turbine monitoring with optical fiber sensors

» Google Scholar : https://scholar.google.com/citations?user=UI3_OtwAAAAJ&hl=en



Prof. Jean-Michel Nunzi (Queen's University, Canada)

Title : Advanced material for PV manufacturing

» Google Scholar : <https://scholar.google.fr/citations?user=4dUUrE4AAAAJ&hl=fr>



Prof. Damien Ernst (ULiège, Belgium)

Title : Remote Renewable Energy Hubs as Key Infrastructure for Enabling the Energy Transition

» Google Scholar : <https://scholar.google.com/citations?user=91ZxYSsAAAAJ&hl=en>



Prof. M. Reza Nikoo (Sultan Qaboos University, Oman)

Holistic Optimization of Ocean Energy Systems to Pioneer Sustainable Pathways Toward Net-Zero Emissions

» Google Scholar : <https://scholar.google.com/citations?user=tbsw9yAAAAAJ&hl=en>



Conference program - Monday December 16, 2024

Maison de la Poste - Maritime Room

08:00 - 09:45	Registration and welcome with coffee and breakfast - Coffee Lounge Maritime Room
10:00 - 10:15	Opening conference by Walter Van Dael, Werner Neuville, Samir Khatir and François Vallée
10:15 - 10:45	Political overview by Marie-Christine Marghem
10:45 - 11:45	Keynote Speaker 1 : Prof. Christophe Caucheteur - FNRS Research Director at the University of Mons Opportunities of wind turbine monitoring with optical fiber sensors
11:45 - 12:00	Coffee Break - Coffee Lounge Maritime Room
12:00 - 13:00	Keynote Speaker 2 : Prof. M. Reza Nikoo (Online) Holistic Optimization of Ocean Energy Systems to Pioneer Sustainable Pathways Toward Net-Zero Emissions
13:00 - 13:15	Conference Group Photo
13:15 - 14:15	Lunch break - Coffee Lounge Maritime Room
14:15 - 14:40	Speaker 1 : Dr. Smail Semaoui Impact of Desert Environmental Constraints on Photovoltaic System Behaviour: An Experimental Study
14:40 - 15:05	Speaker 2 : Dr. Azri Y. Mounia Enhancing Sustainability and Cost-Effectiveness of Microbial Fuel Cells through Algal Biomass as Photosynthetic Cathodes
15:05 - 15:30	Speaker 3 : S. Ahmad Hosseini Unlocking Wind Energy Potential by Addressing Operational and Structural Challenges
15:30 - 15:55	Speaker 4 : Dr. Belhaouas Nasreddine Evaluating Visual Failures in Monocrystalline and Polycrystalline PV Modules in Northern Algeria: A Study Based on IEC 61215 Standard
15:55 - 16:20	Speaker 5 : Dr. Kamel Abdeladim A realistic case of study for comparison of MEERA data and those measured by SKTM for Adrar region
16:20 - 18:00	Drink and networking - Coffee Lounge Maritime Room



Conference program - Tuesday December 17, 2024

Syntra Brussels - Room 1

08:30 - 10:00	Welcome with coffee and breakfast - Le Pain Quotidien Tour & Taxis
Chair Session Dr. A Katia / Dr. B. Nasreddine	
10:00 - 10:40	Keynote Speaker 3 : Prof. Jean-Michel Nunzi - Queen's University Canada Advanced material for PV manufacturing
10:40 - 11:00	Speaker 1 : Dr. Antoine Dib Hemp Fibers in Italian Industry: a Dual Narrative of Opportunity and Challenges
11:00 - 11:20	Speaker 2 : Dr. Hafdaoui Hichem Evaluation of the Initial Stabilization for New PV Modules According to IEC 61215
11:20 - 11:40	Speaker 3 : Mr. Victor Dachet Remote Renewable Energy Hubs as Key Infrastructure for Enabling the Energy Transition
11:40 - 12:00	Speaker 4 : Dr. Insaf Tou Exploring Bioelectricity Production from Glucose and Acetate by Soil Electroactive Bacteria
12:00 - 12:20	Speaker 5 : Dr. Nadira Medjoui Design and Structural Analysis of a Bifacial Photovoltaic Carport for Urban Renewable Energy Integration
12:20 - 12:40	Speaker 6 : Mr. Karl Willemen Structural Health Monitoring of water based energy transfer systems
12:40 - 13:00	Speaker 7 : Prof Sofi Naima Enhancing Energy Efficiency and Signal Propagation in Smart Infrastructures through Intelligent Reflecting Surfaces (IRS)
13:00 - 13:20	Speaker 8 : Prof. Kahina Rekkal Multicriteria Analysis for the Selection of Solar Panels and Energy Storage Systems
13:30 - 14:30	Lunch and closing conference - Gare Maritime



Conference program - Tuesday December 17, 2024

Syntra Brussels - Room 2

08:30 - 10:00	Welcome with coffee and breakfast - Le Pain Quotidien Tour & Taxis
Chair Session Dr. Smail Semaoui / Dr. Azri Y. Mounia	
10:00 - 10:40	Keynote Speaker 4 : Prof. Erica Magagnini (Italy) Advanced materials for engineering structures based on experimental analysis (online)
10:40 - 11:00	Speaker 1 : Dr. Abdelmoumen O Brahim AI for SHM in composite pipeline
11:00 - 11:20	Speaker 2 : Dr. Imane Radja Advancing Nanocomposites: A Comparative Study of Conductive Polymers and Metallic Oxides
11:20 - 11:40	Speaker 3 : Dr. Ait Sidhom Advanced material based on computational mechanics
11:40 - 12:00	Speaker 4 : Mr. Yassine Bouzid Deploying AI for Real-Time and Image-Based Automated Weld Defect Detection in Pipeline Manufacturing
12:00 - 12:20	Speaker 5 : Prof. Cuong Le Thanh Employing Optimization Algorithms and Machine Learning Techniques to Address Civil Engineering Problems (online)
12:20 - 12:40	Speaker 6 : Dr. Mohamed Bouamama Dynamic behavior of functionally graded beams subjected to moving loads
12:40 - 13:00	Speaker 7 : Mr. Chekaoui Azeddine Advanced material for saving energy in building
13:00 - 13:20	Speaker 8 : Dr. Zeyneb Amara Electrical and Photovoltaic Properties of Porous SiO₂/CIGS multilayer structures
13:30 - 14:30	Lunch and closing conference - Gare Maritime



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