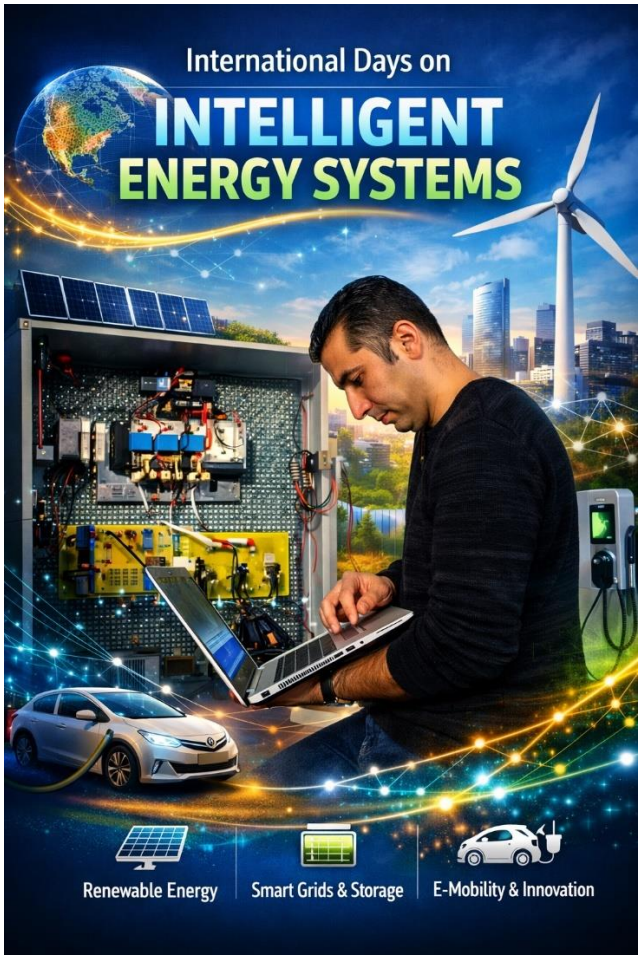
International Days on Intelligent Energy Systems

13-17 April 2026

JUNIA, Lille, France



📘 Program

Site: Junia, Lille, France
Dates : 13–17 April 2026
Durée : 5 Days — 6.5 hours/day
Public cible :

- **Master's students (2nd year)**
- **PhD candidates**
- **Postdoctoral & junior researchers**
- **Junior professors & research engineers**

DAY 1 — Intelligent Power Systems: Concepts, Challenges & Innovation

❖ Morning

09:00 – 09:30 | Opening & Introduction

Prof. Abdel AITOUCHE — Junia
Prof. Dhaker ABBES — Junia

- **Welcome, objectives & program overview**
- **Introduction of participants and research topics**

09:30 – 10:15 | Lecture 1 — From Traditional to Intelligent Power Systems (45 min)

Prof. Christophe SAUDEMONT — Junia

10:30 – 12:00 | Workshop 1 — Innovation Through Co-Creation: Flash Synergy Sessions for PhD Researchers

Prof. Marina PERDIGAO — ISEC Coimbra & Prof. Adelino PEREIRA — ISEC Coimbra

❖ Afternoon

13:30 – 17:00 | Workshop 1 — Innovation Through Co-Creation: Flash Synergy Sessions for PhD Researchers
Prof. Marina PERDIGAO & Prof. Adelino PEREIRA — ISEC Coimbra

DAY 2 — Optimization in Energy Systems

❖ Morning

09:00 – 09:45| Lecture 3 — Optimization in Energy Systems
Dr. João SOARES & Dr. Sergio RAMOS — GECAD Porto

09:45 – 10:30 | Lecture 4 (Part 1) — State of the Art and Emerging Solutions in Power Optimizers for PV Panels
Severus OLTEANU — University POLITEHNICA of Bucharest

10:30 – 10:45 | ☕ Coffee Break & Exchange with Experts (15 min)

10:45 – 11:30 | Lecture 4 (Part 2)— State of the Art and Emerging Solutions in Power Optimizers for PV Panels
Severus OLTEANU — University POLITEHNICA of Bucharest

11:30 – 12:00 | Experts Roundtable (30 min) Moderator: Prof. Mohamed Chaabane (ENIS Sfax)

❖ Afternoon

13:30 – 17:00 | Workshop 2 — Optimization Tools & Practical Applications
Prof. Dhaker ABBES — Junia

- **Practical optimization problems**
- **Case studies**
- **Possible exercise with HOMER Energy Pro**

DAY 3 — Artificial Intelligence for Smart Grids

❖ Morning

09:00 – 09:45 | Lecture 5 — Intelligent Energy Management in Smart Grids
Dr. Khaled ALMAKSOUR — Junia

09:45 – 10:30 | Lecture 6 (Part 1) — Artificial Intelligence for Power Systems
Dr. João SOARES & Dr. Sergio RAMOS — GECAD Porto

10:30 – 10:45 | ☕ Coffee Break & Exchange with Experts (15 min)

10:45 – 11:30 | Lecture 6 (Part 2) — Artificial Intelligence for Power Systems
Dr. João SOARES & Dr. Sergio RAMOS — GECAD Porto

11:30 – 12:00 | Experts Roundtable (30 min) Moderator: Prof. Mohamed Chaabane (ENIS Sfax)

❖ Afternoon

13:30 – 15:30 | Workshop 3 — Forecasting of Consumption and Production
Dr. Khaled ALMAKSOUR — Junia

***15:45 – 17h00* | Technical Visit — Catholic University Smart Grid Demonstrator**

DAY 4 — Advanced Energy Storage Strategies and Intelligent Management

❖ Morning

09:00 – 09:45 | Lecture 7 — Power System Challenges and Emerging Technologies — Dr. Moez BELHOUANE & Dr. Arnaud DAVIGNY (Junia)

09:45 – 10:30 | Lecture 8 — Management and Valorization of Storage in Electrical Networks Prof. Dhaker ABBES — Junia

10:30 – 10:45 | ☕ Coffee Break & Exchange with Experts (15 min)

10:30 – 12:00 | Lecture 9 — The Strategic Role of Storage and Vehicle-to-Grid for Future Microgrids: Analysis & Modeling
Prof. Anna PINNARELLI & Eng. Pasquale VIZZA — University of Calabria

❖ Afternoon

13:30 – 15:30 | Lecture 9 — ML Supporting Energy Management in Commercial & Industrial Facilities: A Novel Framework
Prof. Norma ANGLANI — University of Pavia

15:30 – 17:00 | From Models to Operation: Digital Platforms and Infrastructure for Modern Power Systems, Dr. Razgar Ebrahimy, Senior Researcher, DTU Compute

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DAY 5 — PhD Student Presentations

❖ Morning

09:00 – 12:00 | PhD Student Presentations — Session 1
Co-chaired by academics and industry partners

❖ Afternoon

13:30 – 15:30 | PhD Student Presentations — Session 2
Academic–industry jury

15:30 – 17:00 | Closing Session & Best Presentation Award Ceremony

Lecturers

Email : dhaker.abbes@junia.com

Professor Dhaker ABBES was born in 1984. He earned his Electrical Engineering degree from the National Engineering School of Tunis (ENIT) in 2007, followed by a Master's degree from the National Engineering School of Poitiers, France (ENSIP) in 2008. In 2012, he completed a Ph.D. in Electrical Engineering from Poitiers University, specializing in renewable energy, smart grids, and the optimization of complex energy systems.

Currently, he serves as a Full Professor Team leader, holding the *Habilitation à Diriger des Recherches* (HDR), and as Head of the Master's-Engineer Program at HEI Lille, Junia Grande École d'Ingénieurs, France. Additionally, he is a member of the Electrical Networks Team at the L2EP Laboratory and leads the Smart Control Systems (SCS) Research Team at Junia.

Email : abdel.aitouche@junia.com

Professor Abdel Aitouche is born in Algiers and graduated from Supelec (France) in 1980 in Control and Servo Machines. He joined the company SONELEC in 1980 and then a radio navigation company for 2 years. He joined the Algerian Institute of Petroleum (IAP) from 1983 to 1987 as a teacher in Automation and Electrotechnics. He obtained his PhD from the University of Nancy I in 1990 in the field of Automatics.

He is researcher at the Research Center in Informatics, Signal and Automatic of Lille belongs to University of Lille since 1997 (CRIStAL UMR 9189). Its research concerns the fields of Automatics and more. particularly robust control, fault tolerant control and diagnostics of nonlinear systems. The applications concern renewable energies (PV, Wind, Biodiesel, Fuel cell, Biomass), Diesel engines, vehicle dynamics, pressurized pipes.

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Dr. Khaled Almaksour is an Assistant Professor in the Smart Systems and Energies department at JUNIA School of Engineering in Lille, France, and a member of the Power System team at the Laboratory of Electrical Engineering and Power Electronics of Lille (L2EP). He obtained two master's degrees in electrical engineering from Nantes University in 2009 and Clermont-Ferrand University in 2010. He earned his Ph.D. in Power Systems from Paris-Sud University (Paris XI) in 2014.

Dr. Almaksour's primary research interests focus on smart grids and railway electrical smart grids. He **leads** the Electrical Power Management Lab (EPMlab) at JUNIA and manages a smart-grid demonstrator.

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Norma Anglani graduated (with Hons.) and got her Ph.D. degrees in Electrical Engineering from the University of Pavia, Italy. After graduating she worked for a consulting company in the energy efficiency area. Later, she was a Postdoctoral Fellow with the Energy Analysis Group and with the Energy Efficiency Standards Group, Lawrence Berkeley National Laboratory, Berkeley, CA.Currently, she is associate professor with the Department of Electrical, Computer and Biomedical Eng., University of Pavia (I), where she teaches and does research in the field of energy management, energy planning, modeling of microgrids, decision support systems for microgrids' sizing and efficient compressed air systems. In 2024 she obtained the qualification as full professor.Her main research interests deal with optimal decision support systems to design and run energy models, interlinked with power converters to leverage environmental and economic considerations.

Publications list from Google Scholar : https://scholar.google.com/citations?hl=it&user=p26-ZcUAAAAJ&view_op=list_works

Emai: moez.belhouane@junia.com

Dr. Moez BELHAOUANE received his Ph.D. in Electrical Engineering from the Higher School of Science and Technology of Tunisia and the Polytechnic School of Tunisia in 2011. He is currently a Lecturer and Researcher at JUNIA High School of Science and Engineering and the L2EP Laboratory (Laboratory of Electrical Engineering and Power Electronics), Lille, France.

He has over eight years of experience in modelling and control of HVDC systems and FACTS. His research focuses on advanced control of AC/DC grids integrating renewables, energy storage, and e-mobility, with particular emphasis on converter-driven stability and grid-following and grid-forming inverters, supported by HIL and PHIL experimental validation.

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Arnaud Davigny was born in Lens, France, in 1972. He received a Ph.D. in Electrical Engineering in 2007 from the University of Science and Technology of Lille (USTL). Since 2001, he has been teaching at the Junia School of Engineering, where he currently holds the position of teacher-researcher. His research work focuses mainly on renewable energies, distributed generation, energy storage systems, the integration of electric vehicles into the power grid, power grids, as well as the development of energy management strategies. He is also a member of the Power Networks team of the L2EP laboratory.

Severus Constantin OLTEANU is a Lecturer at the *Politehnica University of Bucharest* (Romania), *Faculty of Automatic Control and Computer Science*, in the department of *Automatic Control and Systems Engineering since* 2017. He received the Ph.D. in Systems Engineering in 2015 from the *University Lille 1*, France. Olteanu has also served as a project-based consultant for various automation engineering companies.

His research interests include linear and nonlinear control systems and fault diagnosis, embedded systems, control in power electronics, renewable energy systems (photovoltaics, hydrogen fuel cells, and wind turbines), and robotics.

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Prof. Marina M. S. Perdigão received the M.Sc. and Ph.D. degrees in electrical engineering from the University of Coimbra. Since 2012 Marina Perdigão has been with the IPC-ISEC as Adjunct Prof., as well as permanent staff member at IT. Her teaching activities have focused on the areas of power electronics mainly. After her PhD she continued her interest in modelling and FEA of complex magnetic components and applications.

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Prof. Adelino Pereira received the M.Sc. and Ph.D. degrees in Electrical Engineering from the Faculty of Engineering of the University of Porto, Portugal. He is Professor at the Electrical Engineering Department of the Polytechnic Institute of Coimbra (IPC/ISEC), Portugal. His research interests include: Power Systems Analysis and Simulation; Power System Reliability; Power Generation Expansion Planning; Distributed Generation; Renewable Energy; Electricity Markets. He is a researcher at INESC Coimbra and at the Research Group on Sustainability, Cities and Urban Intelligence (SUScita), Coimbra.

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Anna Pinnarelli (Italy, 1973) received her degree in Management Engineering from the University of Calabria in 1998 and her Ph.D. in Electrotechnics Engineering in 2002 from the Electrical Engineering Department of the University of Naples, Italy. Since 2022 she is Associate Professor at the Mechanical, Energetic and Management Engineering Department (DIMEG) of University of Calabria, Italy The field of her expertise are in FACTS technology, harmonic analysis, electrical system automation and decentralized control, electrical power systems control and management, smart grid, microgrid, nanogrid technologies and demand response, market model and aggregator framework for energy district, Hydrogen-based storage system, Frequency and Power regulation, Transmission and Distribution network , Multi energy hybrid system, Virtual Storage system, Virtual Power Plant, Renewable Energy community, Local energy Market, E-mobility.

Sérgio Filipe Carvalho Ramos got the MSc (2006) and PhD (2015) in Electrical and Computer Engineering from the University of Lisbon- IST Portugal. He is Coordinator Professor at the School of Engineering (ISEP) of the Polytechnic of Porto (IPP). Since 2021, director of the Bachelor Program in Electrical Engineering- Electrical Power Systems at ISEP/IPP, and deputy director of the Doctoral programme in Electrical Engineering and Computational Systems.

He is a researcher in the GECAD research group. His main research interest includes knowledge discovery in databases, including the application of data mining and forecasting techniques, optimization and scheduling of energy resource management, smart buildings, energy communities, and shared PV generation. He participated in a significant number of national and international R&D projects, collaborating with academia and industry partners and contributing with his expertise mainly in data mining application techniques and renewable energy resource optimization.

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Christophe Saudemont is a lecturer and researcher in electrical engineering, a PhD supervisor, and a professor at JUNIA – Engineering School of Lille, as well as at L2EP (Laboratory of Electrical Engineering and Power Electronics) of the University of Lille, where he is a member of the Power Systems research team. He also serves as Team Leader for the "Energy, Electricity and Smart Grids" thematic area at JUNIA.

His scientific research mainly focuses on smart electrical grids, energy management of electrical systems, the integration of renewable energy sources and multi-energy systems, as well as the control and simulation of complex electrical systems. He regularly collaborates on research projects funded by regional, national, and European programs, addressing the challenges of the energy transition and the evolution of electrical networks.

Prof. João Soares is a distinguished senior researcher at GECAD (ISEP/P.Porto), holding a PhD in Electrical and Computer Engineering from UTAD (2017). He has demonstrated exceptional leadership in securing competitive funding for high-impact research initiatives and has cultivated extensive international collaborations with São Paulo State University (UNESP), Centrale Lille, and the Honda Research Institute Europe. His research focuses on electrical energy systems integrating renewable generation and electric vehicles using artificial intelligence.

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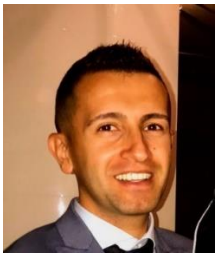

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Dr. Pasquale Vizza is a Researcher in Electrical power system at the University of Calabria.

Graduated in Energy Engineering in 2014 at the University of Calabria, from the same university he obtained the title of PhD in Environmental, Construction and Energy Sciences and Engineering in 2018.

Since 2021 he has been a Type "A" Researcher in Electric Power System. The research activity carried out concerns various aspects of electrical systems, ranging from the electricity market to the management of power flows, as well as aspects concerning transmission and distribution networks.