2026 Open Source Modelling and Simulation of Energy Systems (OSMSES)

March 23-25, 2026, Karlsruhe, Germany

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PROCEEDINGS

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IEEE IES Technical Committee on Smart Grids (TC-SG)
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2026 Open Source Modelling and Simulation of Energy System (OSMSES)

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Message from the Organizers

Simulation is an essential tool to manage the complexity of modern energy systems and to define effective solutions for planning, designing and operating energy systems. Energy systems are expected to include electricity, gas, and heat networks - to maximize the use of all available forms of energy - and to include storage capacity. The distributed nature of new resources (generation and storage) and the participation of loads in energy management require fast, reactive control and protection. In this context, it is expected that the monitoring and control of modern energy systems will be characterized by the distribution of functions. At the same time, a large use of communication media is envisioned. The interactions between continuous dynamics and discrete events are becoming more relevant due to the increasing number of controllable devices (e.g., power electronic converters in power grids) and the use of networked control systems. In addition, power systems are increasingly driven by market competition, and the impact on system operation should also be considered. In this context, several research groups have developed modelling and simulation solutions to address these challenges, and they have disseminated their software using an open-source approach. The workshop will address all aspects related to the use and development of open source tools for power and energy systems modelling and simulation. The main objective of the workshop is to foster discussion on these topics among experts from academia, industry and utilities.

The 2026 Open Source Modelling and Simulation of Energy Systems (OSMSES) workshop brings together component and system manufacturers, power grid operators, energy suppliers, and research institutions. OSMSES 2026 is the fourth edition, the first three took place in 2022 and 2023 in Aachen, Germany as well as in 2024 in Vienna, Austria. The proceedings of all previous events are available in IEEE Xplore.

Out of all the submitted papers, 33 papers were accepted and been carefully selected during a quality-controlled review process supported by the OSMSES 2026 program committee. In addition to that, 5 tutorials as well as two keynote presentations about the usage of open source for the modelling and summation of energy systems are included in the final program. They will be presented in 10 different sessions during the workshop.

Moreover, we want to express our special thanks to IEEE, especially the IEEE Industrial Electronics Society (IES), IEEE Germany Section, and the IEEE Power and Energy Society (PES) Austria Section Chapter for supporting OSMSES 2026 and we thank the technical program committee for their excellent service, most importantly, we thank the authors and presenters for their thoughtful contributions to the advancement of this important field.

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Conference Organizers

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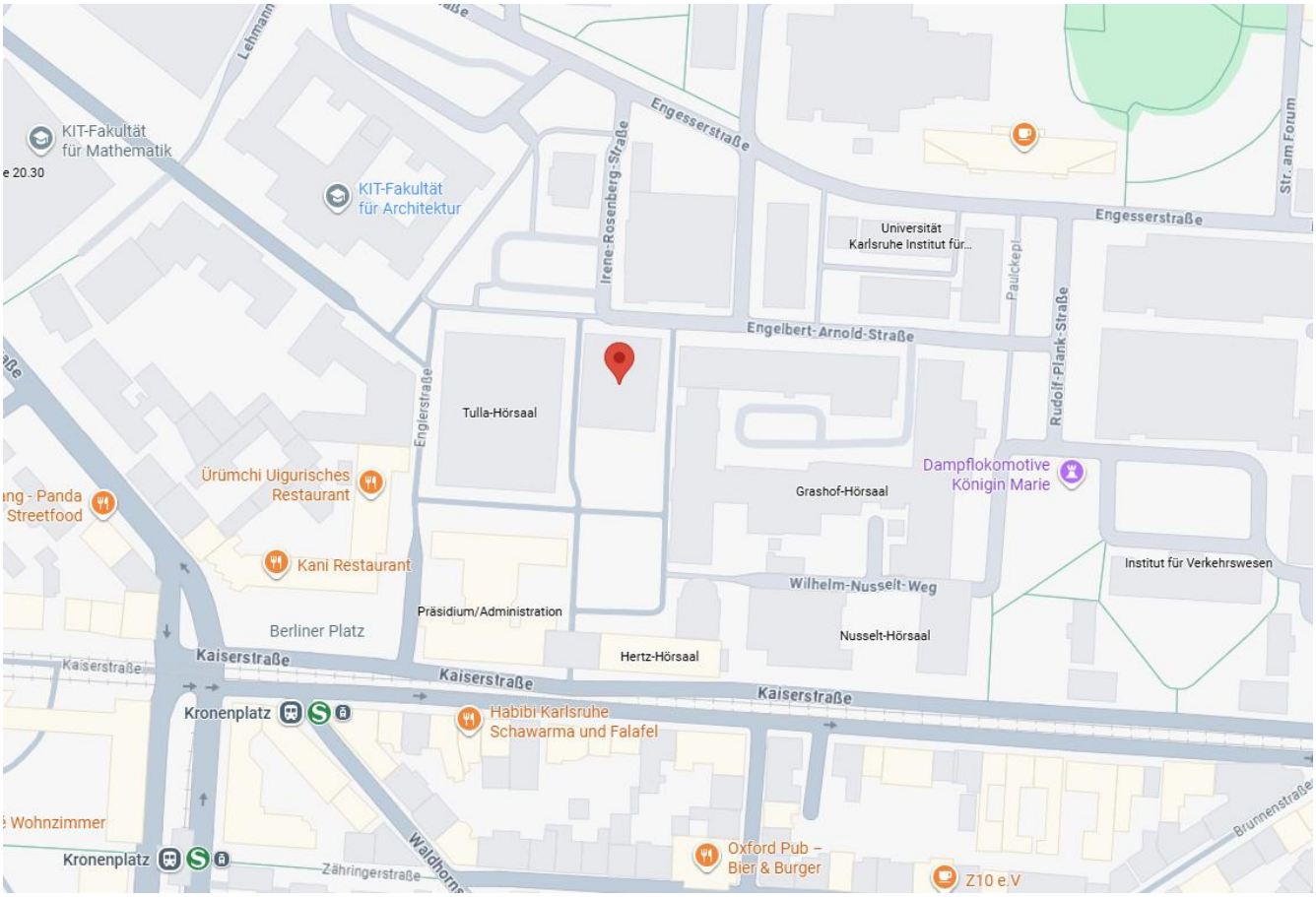
Karlsruhe Institute of Technology (Campus South)

Adolf-Würth-Building
Building 11.30
Engelbert-Arnold-Straße 2
76131 Karlsruhe, Germany



Keynote 1

Long-term Energy Infrastructure Planning with Integrated, Transparent Energy System Models

Speaker

Massimo Moser (TransnetBW, Germany)

Abstract

Energy system models are frequently used in various contexts to minimize the costs of pathways to climate neutrality. By taking all key energy sectors into account as part of an integrated approach, the tool aims to optimize capacity expansion (power plants, transmission lines, and storage) as well as hourly dispatch planning for various target years in each region under consideration. Due to these unique features, energy system models have the potential to contribute to improved and cost-efficient planning of European energy infrastructure. In this presentation, we present insights into PyPSA-TSO, a powerful energy system planning tool based on the open-source tool PyPSA.

Bio

Massimo Moser received the Diploma degree in Environmental Engineering from the University of Trento, Italy, and the Karlsruhe Institute of Technology, Germany. From 2009 to 2020, he was a Research Associate with the German Aerospace Center (DLR), Institute of Networked Energy Systems in Stuttgart, where his work focused on simulation and optimization of renewable energy systems. Between 2010 and 2015, he pursued his Ph.D. studies at the University of Stuttgart, conducting techno-economic assessments of solar-driven seawater desalination. Since 2020, he has been with TransnetBW, Stuttgart, where he serves as a team leader of the strategic asset management division. His professional interests include integrated energy system modelling, technology evaluation, and strategic infrastructure planning.

Keynote 2

Open-Source Energy System Models for Real-World Grid Planning

Speaker

Martha Frysztacki (Open Energy Transition, Germany)

Abstract

Open-source energy system models are gaining traction in grid planning yet remain only partially embedded in real-world operational and decision-making processes. Key barriers include challenges in tool selection, limited transparency on model capabilities, constrained data availability (particularly for NGOs, think tanks, and the research community), and concerns around governance and security in regulated applications. Addressing these gaps requires improved comparability, reproducibility, and reliability in applied settings. Tools such as the Open Model Tracker and solver benchmarking platforms enable transparent evaluation of models and optimisation approaches. For system operators, version-controlled data and open development practices are critical to ensure auditability, traceability, and integration into established planning processes, while open data expands access and scrutiny. Embedding open models in high-impact planning processes can enhance transparency and stakeholder trust, but depends on robust governance frameworks, including quality assurance, security standards, and clear decision rights. Together, these elements support the credible adoption of open models in industry and policy contexts.

Bio

Martha Frysztacki is co-founder of the non-profit organisation Open Energy Transition (OET), founded in 2023, where she serves as Head of Energy System Modelling. She oversees multiple modelling teams and advises on projects supporting the adoption of open-source approaches in grid planning and policy processes. Her work focuses on advancing transparent, reproducible, and policy-relevant energy modelling, particularly in collaboration with regulators, transmission system operators, and other institutions shaping the energy transition. She holds a PhD in energy system modelling from the Karlsruhe Institute of Technology, completed at the Institute for Automation and Applied Informatics under the supervision of Prof. Tom Brown and Prof. Veit Hagenmeyer, with a focus on spatial resolution in electricity system optimization models. During her doctoral work, she contributed to the development of the open-source framework PyPSA, which forms a core foundation of OET's work today.

Tutorial 1

Integrating Reinforcement Learning into Distributed Co-Simulation Environments for Energy Systems

Speaker

Pietro Rando Mazzarino (Politecnico di Torino, Italy)

Abstract

This tutorial introduces a HELICS-based software framework that integrates distributed co-simulation with Reinforcement Learning (RL) to enable realistic, multidomain experimentation across power systems, buildings, and thermal or gas networks. By embedding RL agents as native co-simulation components, the platform supports natural interaction with physics- and rule-based models, hybrid modelling strategies, and Gymnasium-compatible online or offline training. The session provides conceptual background, an overview of the architecture, and a live demonstration showing how to configure, train, and evaluate RL agents within complex energy system scenarios, concluding with open challenges and future research directions.

Bio

Pietro Rando Mazzarino is a postdoctoral researcher in computer science at the Interuniversity Department of Regional and Urban Studies and Planning, Politecnico di Torino, Italy. He obtained his PhD in Computer and Control Engineering in July 2025 with a thesis entitled “Modelling and Co-simulation of Urban Energy Systems: A Holistic Approach for Planning and Management.” During his doctoral studies, he spent an extended research period at Tsinghua University, where he deepened his expertise in intelligent building system control, with a particular focus on reinforcement learning. His research focuses on urban energy modelling and control, leveraging co-simulation as a core technology and applying machine learning methods to design and test advanced control strategies. He is particularly interested in the development of automated tools for modelling and simulation in the energy domain, including power grids, district heating networks, buildings, and distributed energy resources. In the last four years he has been assistant professor on a master course (for a total of 30 hours per year and same amount of tutoring with students) called “IoT and Cloud for sustainable communities”, the role was mainly to cover the practical part of the exam covering programming in Python, different standard communication protocols and software architecture following the students in the creation of independent IoT projects.

Tutorial 2

PYORPS: Automated Underground Cable Routing for Distribution Grid Planning

Speaker

Martin Hofmann (THM – University of Applied Sciences in Giessen, Germany)

Abstract

This tutorial introduces PYORPS (Python for Optimal Routes in Power Systems), an open source tool that applies high resolution raster geodata and least cost path methods to automate underground cable routing in distribution grids, capturing terrain dependent construction costs and environmental constraints. The session covers the fundamentals of raster based cost modelling and search space optimisation and features two hands on case studies: selecting an optimal point of common coupling for utility scale PV plants and integrating PYORPS into automated grid expansion workflows. Participants learn how to configure datasets, tune routing parameters, and balance accuracy with computation time, using exclusively open source data and tools.

Bios

Martin Hofmann is a Research Associate at THM – University of Applied Sciences in Giessen, Germany (since 2019), and a Doctoral Candidate at Tampere University, Finland (since 2024). His work focuses on automated power systems planning, distribution grid optimization, and the integration of high-resolution geodata into grid-planning workflows. Since 2024, he has also been a Consultant for Electrical Power Engineering and Smart Grids at TransMIT and, since 2023, a Lecturer at the Institute for Energy Economics and Energy Technology. He holds B.Eng. (2016) and M.Sc. (2018) degrees in Electrical Engineering and Information Technology from Hochschule Darmstadt. In 2024, he and his colleagues received two first prizes at the Hessian Award for Energy for their contributions to automated grid-planning methodologies and innovative education concepts. He is the developer of PYORPS and has published on automated routing, evaluation of new line connections, and rooftop PV potential assessment. His expertise includes automated planning strategies, path-finding algorithms, GIS-power-system integration, high-resolution geodata processing, and Python-based modelling. He also serves as a reviewer for Electric Power Systems Research.

Tutorial 3

Cairn Open, an Open-Source Optimization Tool for Dimensioning and Managing Complex Energy Systems

Speaker

Pimprenelle Parmentier (CEA Grenoble, France)

Mathieu Vallée (CEA Grenoble, France)

Abstract

Cairn is an open-source optimization tool (based on MILP solvers) used by researchers and engineers to optimize a wide range of energy systems, including electricity, hydrogen, and heat technologies. Some of the tool's key features include its ability to optimize environmental criteria, as well as its graphical user interface, which makes it easy to share and communicate studies. This tutorial is dedicated to learning how to use Cairn Open to carry out an optimization study and answer questions related to an energy system. The tutorial will combine theoretical concepts with hands-on practical work based on a demonstration case. In particular, the course will focus on modeling the case study, setting parameters, running the optimization, and retrieving and analyzing the results.

Bios

Pimprenelle Parmentier is a research engineer at CEA since 2021, specialized in Operation Research. Pimprenelle co-leads the development of Cairn at CEA since 2025 and is one of the key people behind the release of Cairn Open in July 2025. In the past 4 years, Pimprenelle has participated in several industrial and EU projects involving the Cairn tools. She also regularly provides Cairn training.

Mathieu Vallée is a researcher and senior expert at CEA LITEN, investigating simulation, optimization and AI methods for Multi-Energy Systems. He is the author of more than 50 scientific papers, 3 patents, and coordinated several research projects. HE currently co-leads PEPR TASE HyMES, a five-years French project, related to Hybrid physics/AI models for Multi-Energy Systems. Mathieu is also strongly involved in the International Energy Agency (IEA) TCP on District Heating and Cooling (IEA DHC). Before joining CEA LITEN in 2014, Mathieu obtained in PhD from Ecole des Mines (St-Etienne) in 2009 and served as a postdoctoral student at the Technical University of Vienna.

Tutorial 4

Co-Simulation of Energy Systems using PROOF

Speaker

Richard Lutz (Karlsruher Institute of Technology, Germany)

Jannik Sidler (Karlsruher Institute of Technology, Germany)

Michael Maier (Karlsruher Institute of Technology, Germany)

Jianlei Liu (Karlsruher Institute of Technology, Germany)

Thorsten Schlachter (Karlsruher Institute of Technology, Germany)

Veit Hagenmeyer (Karlsruher Institute of Technology, Germany)

Abstract

Efficient automation of complex workflows and co-simulations is crucial for implementing and executing distributed multi-domain energy systems. The PROcess Orchestration Framework (PROOF) is an open-source co-simulation tool providing the foundation for streamlining automation of computational scientific workflows and co-simulations across multiple disciplines. Through its web-based graphical user interface (UI), PROOF enables researchers to integrate models, design scenarios, and execute simulations in the form of workflows. This tutorial will provide attendees with an overview of PROOF, along with practical experience in building and running co-simulations or workflows via the PROOF UI. Attendees will not only learn the fundamentals of PROOF but also gain hands-on experience using the PROOF UI to build their own co-simulation participants.

Bios

Jannik Sidler received the B.Sc. degree in computer science from University of Siegen and the M.Sc. degree in computer science from Karlsruhe Institute of Technology (KIT). He is currently a research fellow and doctoral candidate at the Institute for Automation and Applied Informatics of KIT. His research interests include software engineering and semantic data models.

Michael Maier received the B.Sc. and M.Sc. degree in mathematics from Karlsruhe Institute of Technology (KIT). For several years he worked in a startup developing a sensor system for Autonomous Driving Applications. Currently he is a research fellow and doctoral candidate at the Institute for Automation and Applied Informatics of KIT. His research interests include software engineering and the execution and automation of co-simulations.

Jianlei Liu received the B.Sc. degree in software engineering from Beijing Institute of Technology, Beijing, China, and the B.Sc. and M.Sc. degrees in mechanical engineering, as well as the Ph.D. degree in informatics from the Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany. He is currently a Postdoctoral Researcher at the Institute for Automation and Applied Informatics of KIT. His research interests include execution and automation of co-simulations and scientific workflows for energy systems.

Thorsten Schlachter received a degree in computer science from the University of Karlsruhe (TH) and a doctorate in mechanical engineering from Karlsruhe Institute of Technology (KIT), Germany. He heads the Web-Based Information Systems research group at the Institute for Automation and Applied Informatics of KIT and is a lecturer at the Karlsruhe Cooperative State University. His research interests include the processing of energy and environmental data, its public availability, and its use in scientific workflows and co-simulations.

Veit Hagenmeyer received the Ph.D. degree from Université Paris XI, Paris, France, in 2002. He is currently the Professor of Energy Informatics with the Faculty of Informatics, and the Director of the Institute for Automation and Applied Informatics, Karlsruhe Institute of Technology, Karlsruhe, Germany. His research interests include modeling, optimization and control of sector-integrated energy systems, machine-learning based forecasting of uncertain demand and production in energy systems mainly driven by renewables, and integrated cyber-security of such systems.

Tutorial 5

MTRESS – Model Template for Renewable Energy Supply Systems

Speaker

Julius Ellermann (DLR Institute for Networked Energy Systems, Germany)

Patrik Schönfeldt (DLR Institute for Networked Energy Systems, Germany)

Abstract

MTRESS (Model Template for Renewable Energy Supply Systems) is an open-source tool. Based on the community driven open source tool oemof.solph, MTRESS allows for easy and fast creation of energy systems and their optimization with the included, pre-build, technologies commonly used in energy systems. These technologies are for example Heat Pumps, Electrolysers and Storages (Battery, Heat or Gas). Additionally, Energy flows can be enriched with qualities (temperature levels and pressures), for more realistic models. Moreover, the underlying omeof.solph model remains accessible, allowing for detailed customization to the use case.

Bios

Julius Ellermann studied Data Science at the Leipzig University. At the DLR Institute for Networked Energy Systems, he contributes to the development of MTRESS and explores new fields for the usage of the software.

Patrick Schönfeldt studied Physics at KIT. After his Ph.D., he moved to the DLR Institute for Networked Energy Systems to simulate and optimize integrated energy systems, mostly with a focus on heat supply at the district scale. He is the creator of MTRESS and the current spokesperson of the oemof association.

Reviewers

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Yifei Lu
Zhiyu Pan

Overview Program

Monday, March 23, 2026

Session: Welcome and Opening (13:00-13:15)

Chair: Veit Hagenmeyer

13:00-13:15	Welcome addresses and logistics by the workshop chair Veit Hagenmeyer

Session: Tutorial 1 (13:15-14:45)

13:15-14:15	Pietro Rando Mazzarino	Integrating Reinforcement Learning into Distributed Co-Simulation Environments for Energy Systems
	Martin Hofmann	PYORPS: Automated Underground Cable Routing for Distribution Grid Planning
	Pimprenelle Parmentier and Mathieu Vallée	Cairn Open, an Open-Source Optimization Tool for Dimensioning and Managing Complex Energy Systems

Session: Tutorial 2 (14:45-16:15)

14:45-16:15	Jianlei Liu, Richard Lutz, Jannik Sidler, Michael Maier, Thorsten Schlachter and Veit Hagenmeyer	Co-Simulation of Energy Systems using PROOF
	Julius Ellermann and Patrik Schönfeldt	MTRESS – Model Template for Renewable Energy Supply Systems

Coffee Break (16:15-16:30)

Session: Paper Session 1 (16:30-17:45)

Chair: Wolfgang Süß

16:30-17:45	*Paper Session 1: Energy System Planning*	
1	João Almeida, Zenaida Mourão, Adrian Galvez and Tiago Soares	Decarbonisation of Seaports Using OSeMOSYS: A Case Study of the Port of Sines
2	Felix Clemens Alexander Auer, Diego Alejandro Tejada-Arango and Sonja Wogrin	Uncovering Hidden Biases in Hydropower: Why Detailed Inflow Data is Crucial for Energy System Optimization Models
3	Daniel Jung, Saikrishna Vallabhaneni, Frank Schuldt and Karsten von Maydell	A Seamless Workflow from Open-Source Planning Models to Industry-Standard Stability Simulations
4	Yiwen Pan, Andrea Benigni and Thiemo Pesch	Towards PowerMarketSim – A Tight and Com-

		pact Unit Commitment Formulation for Europe's 15-Minute Day-Ahead Electricity Market
5	Adrian Carrillo-Galvez, Rui Rodrigues, João Almeida, Pedro Costa, Tiago Soares and Zenaida Mourão	Simulation-Based Assessment of Decarbonization Alternatives in Container Terminals

End of Day 1 (17:45)

Overview Program

Tuesday, March 24, 2026

Session: Keynote Session 1 (09:00-09:45)

Chair: Veit Hagenmeyer

09:00-09:45	Massimo Moser	Long-term energy infrastructure planning with integrated, transparent energy system models

Session: Paper Session 2 (09:45-10:30)

Chair: Hüseyin K. Çakmak

09:45-10:30	*Paper Session 2: Co-Simulation & Interoperability 1*	
1	Alexandra Bach, Jitpanu Maneeratpongsuk and Antonelle Monti	VILLASnode API Gateway demonstrated for FMU and OpenDSSCo-Simulation of IEEE13bus System
2	Sebastian Eichhorn, Darlene Dullius, Anurag Mohapatra and Reinaldo Tonkoski	From Co-Simulation to Composition: A Data-Driven Transformer with OLTC for Scalable Open-Source Power System Modeling
3	Erfan Tajalli-Ardekani, Haozhen Cheng, Alexander Kocher, Jovana Kovačević, Simon Waczowicz, Hüseyin K. Çakmak, Giovanni Delibra, Alessandro Corsini and Veit Hagenmeyer	GIS-AWBEM: GIS-based Automated White-Box Building Energy Modeling

Coffee Break (10:30-10:45)

Session: Paper Session 3 (10:45-12:30)

Chair: Alexander Kocher

10:45-12:30	*Paper Session 3: Co-Simulation & Interoperability 2*	
1	Sara Ferrero, Daniele Salvatore Schiera, Francesco Demetrio Minuto and Andrea Lanzini	Enhancing pandapipes for Dynamic Simulation of District Heating Networks
2	Eike Schulte, Jan Sören Schwarz, Malte Stomberg, Sharaf Alsharif, Danila Valko and Jirapa Kamsamrong	mosaiks are made of tesserae: GUI design for a co-simulation framework
3	Fabio Chini, Davide Canali, Pietro Rando Mazzarino, Daniele Schiera, Luca Barbierato, Lorenzo Bottaccioli, Edoardo Patti and Alessandro Margara	Benchmarking Co-Simulation Orchestration Engines for Integrated Energy Systems: A Comparative Study of Mosaik and HELICS
4	Mohammadreza Taheri, Pietro Rando Mazzarino and Daniele Salvatore Schiera	Towards a Semantic-driven Automation of Modelling and Co-Simulation of Energy Systems
5	Trevor Hardy, Philip Top and Ryan Mast	Co-Simulation Distributed Time Management in HELICS

6	Philipp Schmurr, Nan Liu, Andreas Schmidt, Hüseyin K. Çakmak, Alexander Kocher, Kai Baumgarten and Veit Hagenmeyer	Generating RSCAD FX Models for Real-Time EMT-Simulation using Component Graphs and PyAPI-RTS
7	Corinna Seiwerth and Reinhard German	A Standardized Data Schema for Co-Simulation of Open-Source Power Flow Simulators

Lunch Break (12:30-13:30)

Session: Keynote Session 2 (13:30-14:15)

Chair: Andrea Benigni

13:30-14:15	Martha Frysztacki	Open-Source Energy System Models for Real-World Grid Planning

Session: Paper Session 4 (14:15-15:30)

Chair: Edmund Widl

14:15-15:30	*Paper Session 4: Power System and Grids*	
1	Rabia Eda Patoğlu and Mustafa Alparslan Zehir	An Open-Source Analysis Methodology for Battery SupportedIslanded Operation in Residential Distribution Networks
2	Marc Hunkemöller, Dirk Witthaut, Lars Schewe, Joost van Dijk, Mikhail Farber and Nico Westerbeck	A GPU-based Newton--Raphson Algorithm for Power Flow under Topology Changes
3	Ramon Zambetti, Marco Rossi and Giacomo Viganò	OptiFlex.py – An open-source tool for electricity distribution planning with local flexibility
4	Arsen Askar, Andreas Abart and Gerald Steinmaurer	Open Distribution System Model
5	Eric Lupascu, Xiao Li and Benjamin Schäfer	Predicting Power grid frequency dynamics with invertible Koopman-based architectures

Coffee Break (15:30-15:45)

Session: Paper Session 5 (15:45-17:30)

Chair: Thiemo Pesch

15:45-17:30	*Paper Session 5: Software, High-Performance Computing, and Other Applications 1*	
1	Isabella Pizzuti and Giovanni Delibra	pyRES: An Open-Source Python Package for Renewable Energy Community Design
2	Kai Heussen, Jawad Kazmi, Narges Mehran, Artjoms Obushevs, Terence O'Donnell and Thomas I. Strasser	Towards Reproducible Test Annotation for Cyber-Physical Energy Systems using Ontology-driven Dataspaces
3	Henrik Wagner, Carsten Wegkamp, Constantin von Lützow, Marcel Lüdecke, Michel Meinert, Eike Niehs, Finnja Oestereich, Julien Essers, Lukas Ebbert and Bernd Engel	Extending eELib: Enhancing the Open-Source Model Library for Prosumer Power Systems and Energy Management Strategies

4	Georgii Tishenin, Armin Teskeredzic and Antonello Monti	Evaluating Time Step Effects in Shifted-Frequency Analysis for Converter-Dominated Power Systems
5	Xuanhao Mu, Jianlei Liu, Gökhan Demirel, Thorsten Schlachter and Veit Hagenmeyer	The Model-Build-Manifest: A Dependency Injection pattern for Structural Coupling in Sector-Coupled Energy Systems
6	Florian Strebl, Catalin Gavriluta and Qianwen Xu	From Image Generation to Power Systems – Learning the Representation of System Transients
7	Blerant Ramadani and Vangel Fustic	Physics-Informed Digital Twin for Pre-Deployment Validation of LSTM-Based Wind Power Forecasting Models

Event 1: "Historische Führung KIT-CS" (17:45-19:00)

Conference Dinner (19:00-21:30)

End of Day 2 (21:30)

Overview Program

Wednesday, March 25, 2026

Session: Paper Session 6 (09:00-10:30)

Chair: Thomas I. Strasser

09:00-10:30	*Paper Session 6: Software, High-Performance Computing, and Other Applications 2*	
1	Mahamat Habib Bechir, Filipe Tadeu Oliveira and Hermano Bernardo	Temporal Resolution Matters: Assessing Its Impact on Variable Renewable Integration in Open-Source Long-Term Energy Planning Models
2	Edmund Widl, Marc Dünser and Jort Groen	A Framework for Digital Twin Runtime and Lifecycle Management
3	Seyede Zahra Tajalli, Kai Heussen, Sridevi Krishnamurthi, Marcos Blanco, Jorge Na'Jera, A' Ngel Herna'Ndez, Gabriella Ferruzzi and Raffaele Liberatore	Toward Reproducible and Automated Benchmarking on the Case of Renewable Energy Communities
4	Jianlei Liu, Xuanhao Mu, Jannik Sidler, Richard Lutz, Jakob Geiges, Michael Maier, Thorsten Schlachter and Veit Hagenmeyer	Tackling Heterogeneity with Containerized Wrappers and Synchronization Methods for Multi-Domain Energy Systems
5	Yifei Lu, Junjie Zhang, Marcel Zimmer, Thiemo Pesch and Andrea Benigni	Benchmark Test Grids for Coupled Power and Gas Systems Studies
6	Antonio De Padova, Daniele Salvatore Schiera, Francesco Demetrio Minuto, Claudio Carbone, Alessandro Agostini and Andrea Lanzini	Energy Transition Scenarios for Sardinia Island: Exploring Alternative Options for Decarbonization

Coffee Break (10:30-10:45)

Bus-ride to KIT-Campus North (11:00-11:30)

Event 2 "Energy Lab Tour KIT-Campus North" (11:30-13:00)

Lunch Casino KIT-Campus North (13:00-14:00)

Bus-ride back to KIT-Campus South (14:00-14:30)

End of Day 3 and the Workshop (14:30)