

3rd Training Event of DiTArtIS Project Combined with Sessions of AIE Workshop Program

Monday 20.5

Nissi auditorium, Ankkuri building

9.00	Start and coffee	AIE workshop (on-site)
9.30	Welcome speech (Marcelo Godoy Simões, Raine Hermans) & presenting the schedule.	
10.00-11.00	Keynote speech #1: Prof. Qihua Huang, Colorado School of Mines – Convergence of AI, Physics, Computing, and Control for Energy Transformation	DiTArtIS (Hybrid)
Session-1: AI/ML for Smart Energy Systems Chair: Enio Costa Resende		
11.00-11.20	Comparison between Symmetrical Short Circuit Current Contribution of Droop-Based Grid Forming Converter and Synchronous Generator	AIE workshop (on-site)
11.20-11.40	Fundamental Assessment of Oscillatory Performance of Grid-Forming Integrated Systems	
11.40-12.00	A Novel Approach to Prediction of the Transient Recovery Voltages in Shunt Reactor Circuit-Breakers and Determination of Hazardous Operation in High-Voltage Transmission Systems	
12.00-12.20	Analyzing the Performance of AC Microgrids in Stand-Alone Operation with Artificial Neural Network Controllers	
12.20	Lunch at restaurant August	
13.20-14.20	Keynote speech #2: Prof. Kevin Tansey, University of Leicester – AI and EO for Sustainability Monitoring	DiTArtIS (Hybrid)
Session-2: AI/ML for Sustainable Energy and Power Systems Chair: Enio Costa Resende		
14.20-14.40	Virtualized Intelligent Relaying of Smart Grid Over 5G Network	AIE workshop (on-site)
14.40-15.00	Inverter Dynamic Response Simulation via Neural Ordinary Differential Equations	
15.00-15.20	Advancing Sustainable Maritime with AI/ML Enhanced Hardware-in-the-Loop Testing	
15.20-16.20	Coffee break at Oscar & Poster Session in Lobby	
16.20-16.40	Your Very Own Polar Bear: Drawing Attention to Household Energy Efficiency Through Gamification	DiTArtIS (Hybrid)
16.40-17.00	Digital Technologies and AI Solutions for Electrification and Automation Off-Road Mobile Machinery Applications, Prof. Tatiana Minav, Tampere University	
17.00	End of Day	AIE workshop (on-site)
19.00	Cocktail event at Maaherrantalo (Koulukatu 2), sponsored by city of Vaasa	

Tuesday 21.5

Nissi auditorium, Ankkuri building

9.00	Start and coffee & posters in lobby	AIE workshop (on-site)
9.30-10:30	Keynote speech #3: Prof. Peter Palensky, TU Delft – Power Grid Resilience via Deep Learning Methods	DiTArtIS (Hybrid)
Session-3: Secure & Intelligent, Control & Monitoring of Smart Energy Systems Chair: Muhammad Faheem		
10.30-10.50	Start and coffee & posters in lobby	AIE workshop (on-site)
10.50-11.10	A Normal Behavior Model Based on Machine Learning for Wind Turbine Cyber-Attack Detection	
11.10-11.30	Towards a Model for Assessing the Effects of Social-Cyber-Physical Threats on the Future Power Grid – Review and Workshop Results	
11.30-11.50	Data-Driven Intermittent Earth Fault Detection Compensated and Isolated MV Networks	
11.50-12.20	Predictive Analysis of Transformer Faults Through Vibration Signatures and One-Dimensional Convolutional Neural Networks	
12.20	Lunch at August	
13.00-13.20	Industry presentation by WAPICE Ltd.	DiTArtIS (Hybrid)
13.20-13.40	Common Challenges and Solutions of AI Across Industries, Prof. Calina Ciuhu, Eindhoven University of Technology	
13.40-14.30	Tutorial - Introduction to Julia (Luca Ferranti, Fabricio Oliveira)	AIE workshop (on-site)
14.30-15.30	Tutorial - Machine learning with Flux (Luca Ferranti, Fabricio Oliveira)	
15.30-16-15	Coffee break at Oscar & Poster session in Lobby	
16.15-17.15	Tutorial - Scientific Machine Learning in Julia (Luca Ferranti, Fabricio Oliveira)	
17.15-18.00	Tutorial - Optimization in Julia with JuMP (Luca Ferranti, Fabricio Oliveira)	
18.00	End of Day	
19.00	Dinner at Strampen (Rantakatu 7, Vaasa)	

Wednesday 22.5

Nissi auditorium, Ankkuri building

9.00	Start and coffee & posters in lobby	AIE workshop (on-site)
9.30	Keynote speech #4: Prof. Moustafa Youssef, American University in Cairo - Sensor-less Energy-free Sensing: The Future of Ubiquitous Context-Awareness for the IoT	
Session-4: AI/ML Based Forecasting Techniques for Smart Power Systems Chair: Amit K. Shukla		
10.30-10.50	Model Order Reduction for Waste Heat Recovery: An Integrated Autoencoder-LSTM Neural Network Approach	AIE workshop (on-site)
10.50-11.10	Quantifying and Predicting Residential Building Flexibility Using Machine Learning Methods	
11.10-11.30	Anticipating Solar Photovoltaic Panel Output One Day in Advance with Gaussian Mixture Model	
11.30-11.50	Performance Evaluation of Sequence Model Architectures for Load Forecasting: A Comparative Study	
11.50-12.10	Rotodynamics Multi Fault Diagnosis Through Time Domain Parameter Analysis with MLP - A Comprehensive Study	
12.10-12.30	Closing speeches	
12.30	Lunch at restaurant August	