Webinar Series

Invitation to Attend the Digital Transformation Technology Webinar

Date: Thursday, November 25th, 2021, Time: 1:10 PM – 4:15 PM CEST (UTC+1)
Location: Hybrid – ONLINE OR AT 1210 VIENNA, GIEFINGGASSE 2

Registration: To register for the event (FREE) please visit the IEEE registration page https://events.vtools.ieee.org/event/register/289193 or contact markus.makoschitz@ait.ac.at.
Login information for joining the online event will be provided right before the event starts!

Workshop Moderator: Johannes Stöckl (AIT Austrian Institute of Technology GmbH)

Agenda

13:10 – 13:15: Welcome

13:15 – 13:20: Opening (DI Dr. Johannes Stöckl - AIT)

13:20 – 13:45: Integrated Energy Value Chains (DI Dr. Valentina Janev – Mihajlo Pupin Institute)

13:45 – 14:30: Context Aware Monitoring (Prof. Axel Jantsch – TU Vienna)

14:30 – 14:45: Coffe break

14:45 – 15:30: Knowledge Graphs for Energy - Challenges and Opportunities (Prof. Emanuel Sallinger – TU Vienna)

15:30 – 16:15: Hidden Malware Communication in Critical Infrastructures (Prof. Tanja Zseby – TU Vienna)

16:15: End of Online Event

Note: There will be an AIT EES lab tour and a Horizon Europe round table right after the event, for those participants who attended the workshop physically.

Organizers:

This event is jointly organized by the **IEEE IAS/PELS/IES Joint Chapter Austria**, the **IEEE PES Chapter Austria**, **AIT Austrian Institute of Technolgy GmbH** and the **Mihajlo Pupin Institute**. The workshop is also supported via the project Sinergy (https://project-sinergy.org/). This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 952140.

Speaker Information:

Title: Integrated Energy value Chains – Research Perspective

Abstract: The European electricity system undergoes significant changes driven by the European Union (EU) common rules for the internal market for electricity, as well as by the climate action agenda. In this context, the challenges that result from penetration of variable renewable energy sources) in the electricity value chain and the need for future innovative solutions are discussed. Results from currently running EU projects will be presented.

Speaker: Dr. Valentina Janev is a Senior Researcher at the Mihajlo Pupin Institute, University of Belgrade, Serbia and Associated Professor at the Belgrade Metropolitan University. She was a Coordinator of recently finished EU project LAMBDA Learning, Applying, Multiplying Big Data Analytics. Currently, she is in the coordination team of EU project SINERGY Capacity building in Smart and Innovative eNERGY and leads the implementation of the Serbian Pilot in the EU project PLATOON - Digital PLAtform and analytic TOOls for eNergy.

This event is supported by **AIT Austrian Institute of Technology Gmbh** and **Graz University of Technology.**

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For **further information** please contact **JC chair** markus.makoschitz@ait.ac.at or **vice-chair** s.leitner@tugraz.at

Title: Context Aware Monitoring

Abstract: Context aware monitoring denotes the model-free analysis of sensor signals to identify and track important states, modes, and anomalies in the signal in real-time. It holds the promise (a) to be simple to develop and deploy, because no complex models of the system under observation have to be constructed, and (b) to be deployable close to the sensor in resource limited devices. Context Aware monitoring has been applied in diverse domains for monitoring personal health, hydraulic circuits, AC motors, and smart grids.

Speaker: Prof. Axel Jantsch graduated from TU Wien in 1992. 1997-2014 he was with the Royal Institute of Technology KTH in Stockholm where he worked on Systems on chip and was among the pioneers of Networks on Chip. Since 2014 he is Professor in Systems on Chip at TU Wien.

Title: Knowledge Graphs for Energy - Challenges and Opportunities

Abstract: The rapid evolution of the energy sector in the last few years has raised many challenges and opportunities for digital transformation. Building AI systems that support such a transformation that are explainable, trustworthy and transparent remains a challenge. In this keynote, we are going to show how Knowledge Graphs, an AI term popularized by Google that has since been adopted throughout academia and industry, can play a pivotal role.

Speaker: Prof. Emanuel Sallinger is head of the Knowledge Graph Lab at TU Wien. Before that, he has for many years directed the VADA Laboratory at the University of Oxford. Throughout this, he has been working with academic and industrial stakeholders in the energy sector.

Title: Hidden Malware Communication in Critical Infrastructures

Abstract: Communication networks are necessary for operating smart grids but also bring new risks of cyber-attacks to critical infrastructures. In order to prevent detection, sophisticated malware uses hiding techniques to conceal the existence of communication structures for malware spreading, data exfiltration or command and control activities. In this talk different methods to establish hidden communication in smart grid environments are presented. It is shown how even necessary security measures, such as authentication methods and digital signatures, can be turned into carriers for hidden communication. Methods to prevent or detect hidden communication channels in smart grid environments are discussed.

Speaker: Prof. Tanja Zseby is a full professor of communication networks at the Institute of Telecommunications at TU Wien. She received her diploma degree (Dipl.-Ing.) in electrical engineering and her doctoral degree (Dr.-Ing.) from TU Berlin, Germany. Before joining TU Wien, she led the Competence Center for Network Research at the Fraunhofer Institute for Open Communication Systems (FOKUS) in Berlin and worked as visiting scientist at the University of California, San Diego. Her research focus is network security, anomaly detection and secure smart grid communication.

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