

**IEEE Estonia Section & IES/PELS/IAS/PES Joint Societies Chapter**  
*in cooperation with*  
**Center of Excellence in Energy Efficiency**

# **FUTURE-PROOF ELECTRIFICATION TECHNOLOGIES**

## **Program**

**12:30 – 13:00 Light Snack**  
**13.00 – 14.00 Energy Efficiency Research in Estonia**  
13:00-13:05 **Formal Opening** – Andrei Blinov, TalTech  
13.05-13.15 “Mission and Vision of the Estonian Center of Excellence in Energy Efficiency” — Dmitri Vinnikov, TalTech  
13.15-13.30 “Estimating the Energy Production of BI/BAPV Systems from Civil Engineering Viewpoint” — Jaanus Hallik, TalTech  
13.30-13.45 “Data-Driven Approach to Improvement of Buildings Energy Performance” — Eduard Petlenkov, TalTech  
13.45-14.00 “Renovation Wave as a socio-technical transition” — Veiko Lember, TalTech

**14.00-15.15 Trends, Plans and Smart Solutions for Future Electricity Systems**

14.00-14.15 “Broadband Identification Techniques for Power-Electronics and Grid-Connected Systems in DC Electrification” — Tomi Roinila, Tampere University, Finland  
14.15-14.30 “Photovoltaic Cooling with Hydro Capillary Systems” — Janis Zakis, Riga Technical University, Latvia  
14.30-14.45 “Future and Future-proofing Tallinn Urban Lighting” — Joan-Tähven Vene, Tallinn Urban Environment and Public Works Department  
14.45-15.00 “Emerging Thin-Film Chalcogenides for Scalable, Tailored PV in Sustainable Electronics & Electrified Infrastructures” — Maciej Sibiński, TalTech  
15:00-15:15 “Digitally Unlocking Grid Flexibility with Heat Pumps”, Marc Schreurs, Daikin Europe, Belgium

**15.15-15.30 Coffee Break**

**15.30-16.15 DC Technologies for Efficient Renewable Production and Delivery**

15:30-15:45 “Improving Photovoltaic Production in Snowy Conditions Using Bidirectional Microinverter for Active Snow Melting” — Sachin Chauhan, TalTech  
15:45-16:00 “Shifting to DC for a More Efficient and Flexible Lighting System” — Niwton Gabriel Feliciani Dos Santos, TalTech  
16:00-16:15 “Fuel Cells for EV and Energy storage: Principles, Technologies, and Future Prospects” — Vinod Kumar Yadav, TalTech

**16.15-17.45 Future-Proof Power Electronics Systems for Sustainable Electrification**

16:15-16:30 “Improved Bidirectional Partial Power Converter for Efficient DC Power Transfer” — Tuhin Mitra, TalTech  
16:30-16:45 “Electromagnetic Compatibility of DC-DC Converters for DC Microgrids” — Hetal Sharma, TalTech  
16:45-17:00 “Wide-Range Bidirectional Electric Vehicle DC Charger” — Hans Anniste, TalTech  
17:00-17:15 “Sizing of PV and Battery Storage for Single-Family Estonian Residential Buildings” — Tofopefun Nifise Olaiwola, TalTech  
17:15-17:30 “Smart Energy Router for Prosumer Buildings” — Salamat Ali, TalTech  
17:30-17:45 “High Power Density Non-Isolated DC-DC Converters for Harsh Operating Environments” — Abdul Majid, TalTech

**17.45-18.00 Wrap-up and open discussion**

 **Date: June 3, 2025, 13:00-18:00**  
 **Location: TalTech Energy Building, NRG-226**  
 **Join: <https://shorturl.at/pTNs8>**



**Register**



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