

# **IEEE CPE-POWERENG 2024**

## **18<sup>th</sup> International Conference on Compatibility, Power Electronics and Power Engineering**

### **June 24 - 26, 2024 – GDYNIA, Poland**

**Special Session on**

**“DC transitional technologies and advanced controls in microgrids”**

**Principal Organizer:**

First name: Carlos Last name: Roncero-Clemente

Email: carlosrc@unex.es

Affiliation: University of Extremadura, Spain

**Co-organizer 1:**

First name: Oleksandr Last name: Husev

Email: Oleksandr.husev@taltech.ee

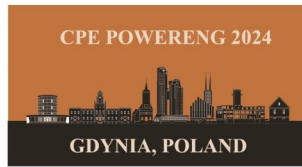
Affiliation: Tallinn University of Technology, Estonia

## **Call for Papers**

We are currently experiencing a growing dc equipment associated to the renewable energy sources and battery-based energy storage. This increase also extends to the demand side, encompassing various home appliances, electric vehicles, and their associated charging infrastructure in residential, commercial, and industrial environments. Consequently, a new paradigm is emerging as low-voltage electrical dc system and dc microgrids become a tangible reality. This architectural shift presents inherent advantages, including enhanced efficiency owing to reduced conversion losses in power converters, improved reliability and power quality in electrical networks, and a higher grid stability. In particular, distribution system or microgrid will no longer operate at a specific frequency, facilitating their control and the definition of standards.

At the same time, it is obvious that the transition from ac to dc grids cannot be achieved immediately. This invites us to see an era in which ac/dc distribution networks and ac/dc microgrids will coexist. Despite extensive research and discussion, there is no clear roadmap for implementing dc grid. This special session is devoted to overview and facilitating discussions on various transitional





technologies and advanced control approaches which can help to speed up dc grid implementation while developing new standards and policies.

**Topics of interest include, but are not limited to:**

1	Dual-purpose power electronics solutions (for dc and ac grids)
2	dc-ready power electronics
3	Stability and control strategies for dc microgrid: energy management system and demand side management
4	Advanced control approaches in hybrid ac-dc microgrids: e.g.; artificial intelligence
5	Electric vehicle charging infrastructure for ac and dc grid
6	Power electronics for medium dc voltage applications
7	Interlink power electronics converters between dc and ac grids
8	Standardization, grounding, and safety issues for dc microgrids

**Submissions Procedure:**

All the instructions for paper submission are included in the conference website:

<https://cpe-powereng2024.umg.edu.pl>

**Deadlines:**

- Full paper submission: 14 January, 2024
- Notification of acceptance: 5 April, 2024
- Final paper submission and early bird payment deadline: 16 May, 2024

