



IEEE CPE-POWERENG 2024
**18th International Conference on Compatibility,
Power Electronics and Power Engineering**
June 24 - 26, 2024 – GDYNIA, Poland

Special Session on

**“Next generation grid-forming inverters – from microgrids to
transmission systems”**

Special Session Proposal for the IEEE CPE-POWERENG 2024

Sponsored by the IEEE IES Technical Committee on Smart Grids

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Call for Papers

Grid-forming inverters represent a promising technology for the realization of 100% inverter-based power system, as well as for the realization of resilient microgrid applications. Even though such applications have mostly until today focused to low voltage microgrids and uninterruptible power supply scenarios, grid-forming inverters are expected to soon scale to higher voltage levels, and even make it to the transmission system level. This special session will aim to shed light on some of the most recent advances in the grid-forming inverter technology. Special interest will also be given to works focusing on the application of such technologies at the transmission system level as well as the forthcoming grid-code requirements regarding grid-forming inverters.

Topics of interest include but are not limited to:

- Applications of grid-forming inverters
- Novel and advanced grid-forming inverter control schemes
- Stability analysis of grid-forming inverters
- Cooperative resilience of grid-forming inverters
- Virtual inertia emulation techniques via grid-forming inverters
- Microgrid applications (any voltage level)
- Grid-code requirements for grid-forming inverters
- Simulation and experimental testing of grid-forming inverters
- Grid support functionalities (e.g., voltage, frequency, operation under faults)
- Black-start provision by grid-forming inverters

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

