

**Special Session on**

**“Grid-forming and -supportive photovoltaic power plants with  
advanced topologies and control algorithms”**

**Organized by**

- **Hossein Dehghani Tafti**,  
Nanyang Technological University, Singapore  
email: Hossein002@e.ntu.edu.sg
- **Salvador Ceballos**,  
Nanyang Technological University, Singapore  
email: salvador.ceballos@tecnalia.com
- **Alain Sanchez-Ruiz**,  
Ingeteam R&D Europe, Spain  
University of the Basque Country, Spain  
email: alain.sanchez@ingetteam.com
- **Christopher D. Townsend**,  
The University of Western Australia, Australia  
email: [chris.townsend@uwa.edu.au](mailto:chris.townsend@uwa.edu.au)
- **Glen G. Farivar**,  
Nanyang Technological University, Singapore  
email: gfarivar@ntu.edu.sg
- **Josep Pou**,  
Nanyang Technological University, Singapore  
email: j.pou@ntu.edu.sg

**Call for Papers**

The power system is experiencing an ever-increasing integration of photovoltaic power plants (PVPPs), which leads demand on the power system operators to force new grid-forming and -supporting requirements to sustain with quality and reliability of the grid. Subsequently, PVPPs should be equipped with advanced features and control strategies to provide the required supporting functionalities to the grid, i.e., power reserve control, frequency response and reactive power control. Novel topologies and advanced control algorithms can be implemented in PVPPs to provide an optimized performance in these systems to support the grid and improve the quality and reliability of the grid.

**Topics of the Session:**

Topics of interest include, but are not limited to:

- Novel grid-forming algorithms in photovoltaic power plants
- New topologies for photovoltaic power plants with grid support functionalities
- Advanced control algorithms in photovoltaic power plants
- Leading flexible power point tracking strategies to provide power reserve and power control in photovoltaic power plants
- Analyse the effect of grid-forming and -supportive photovoltaic power plants in power system operation
- Optimized operation of photovoltaic power plants under power system transients