Special Session on
“Grid Integration of PV systems and other Distributed Energy Resources: challenges, monitoring, and power quality assessment”

Organized by
Organizer(s): Sónia Pinto (IST, INESC-ID), John Licari (University of Malta), Grazia Barchi (EURAC Research), Cédric Caruana (University of Malta), Jonathan Leloux (Universidad Politécnica de Madrid), Marios Theristis (University of Cyprus)

Call for Papers
PV systems have evolved from small-scale residential applications to large-scale (MW) installations, feeding significant energy into the grid. However, the high PV penetration in medium and low voltage distribution grids is creating some challenges in the grid management and operation as reverse power flow, increased complexity in the protection settings, and Power Quality (PQ) issues. Problems as voltage rise, frequency control and high frequency harmonic emission are more likely and might result in the noncompliance with international standards. To overcome these issues new approaches to integrate these and other Distributed Energy Resources (DERs) in the grid are required.

Topics of interest include, but are not limited to:
- Power converter topologies, modulation and control strategies for grid connected PV systems and other Distributed Energy Resources (DERs)
- Small and large-scale integration of PV systems and their impact on the grid
- Power quality monitoring in PVs and DERs
- Power Quality issues and mitigating solutions
- Integration of energy storage systems with PV plants
- Contribution of small-scale PV inverters to distribution system voltage control
- Limitation of PV plant output power ramp rates
- Demand response applications for PV systems and other DERs in smart grids
- Efficiency and reliability of PV inverters