



## CALL FOR PAPERS



# IEEE TRANSACTIONS ON SMART GRID

## Special Section on Power-Electronics-Enabled Smart Power Distribution Grid

### **Scope:**

Economic and environmental incentives, as well as advancements in technology, are reshaping the traditional view of power distribution systems. In a future distribution grid, as the number of inverter- and converter-based devices significantly increases, it is clear that existing technical solutions and industry practices will no longer be sustainable. While much progress has been made in advancing smart grid solutions, less attention has been paid to bridging the gap between the two traditionally research areas of power systems (especially distribution systems) and power electronics, to facilitate the realization of 100% penetration of power-electronics-based distributed energy resources.

Considering the growing interest in power-electronics-enabled power systems around the world, this Special Section invites a broad spectrum of contributors, i.e., academics, researchers, practitioners, market regulators, system operators, and policymakers, to help define and develop the interdisciplinary technical approaches required for making this vision a reality, in which policy, economic, and workforce issues also play a significant role. This Special Section will hence concentrate on discussing various relevant topics associated with how to accommodate extremely high levels of power-electronics-based distributed energy resources to promote economic efficiency, improve social welfare, reduce energy costs, support plug-and-play of distributed renewable energy, and improve the capability, adaptability, scalability, resiliency, safety, security, and usability of power distribution grids.

This Special Section solicits original research papers that target, but are not restricted to, the following topics:

- Emerging solid-state technologies for distribution-level applications.
- Grid integration of grid-forming converters and inverters for active distribution networks or microgrids.
- Distributed control of power electronics for distribution-level applications.
- Improving stability, reliability, and resilience of ac/dc microgrids with high penetration of power-electronics-based distributed energy resources.
- Applications of cybersecurity and communication technologies to power-electronics-enabled distribution networks.
- Relevant testbed, proof-of-concept demonstrations, pilot projects, and real-world implementations.
- New business models and economic analysis of power-electronics-enabled distribution networks.
- Innovative education and training activities for promoting power-electronics-enabled power systems to develop an appropriate pipeline of future power engineers.

It is worth noting that this Special Section will place special emphasis on joint academic and industry collaborations. Hence, submissions from industry are very much welcome, as well as papers describing interdisciplinary and real-world-problem-driven work.

**Important Dates:**

Late-October, 2020	Call for papers
December 31 <sup>st</sup> , 2020	Submission deadline for two-page extended abstract
January 31 <sup>st</sup> , 2021	Invitation for full paper submissions
April 15 <sup>th</sup> , 2021	Submission deadline for full papers (early submission is highly recommended) and beginning of 1 <sup>st</sup> review cycle
June 15 <sup>th</sup> , 2021	End of 1 <sup>st</sup> review cycle and notification to authors
August 15 <sup>th</sup> , 2021	Revised paper submission and beginning of 2 <sup>nd</sup> review cycle
November 15 <sup>th</sup> , 2021	End of 2 <sup>nd</sup> review cycle and final notification to authors
November 30 <sup>th</sup> , 2021	Publication materials due
December 2021	Publication of Special Section (early access on IEEE Explore)

**Submission Guidelines:**

Work that is not under consideration for publication in other venues will be considered in this Special Section. Two-page extended abstracts are required for initial review. Please submit a PDF version of the two-page extended abstracts, including a cover letter with the authors' contact information, via e-mail to [wencong@umich.edu](mailto:wencong@umich.edu) before the aforementioned deadline.

Authors of selected abstracts will be invited to submit full papers for review. Please refer to <http://www.ieee-pes.org/publications/information-for-authors> for information on organization and formatting of submissions. Full papers from invited authors should be submitted at <https://mc.manuscriptcentral.com/tsg-pes>, selecting in the Manuscript Type drop-down menu box the Special Section on "Power-Electronics-Enabled Smart Power Distribution Grid".

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