



# Call for Papers

## CPSS Transactions on Power Electronics and Applications

### Special Issue on Modular Multilevel Converters, 2020

**Scheduled Publication Time: March 31, 2020**

The modular multilevel converter (MMC), since its inception, is poised to change the landscape of medium and high voltage power electronics applications. In general, power electronics circuit topologies are centered around capacitors, inductors, or combinations of capacitors and inductors, which can be seen as a hybrid approach. Conventional multilevel converters are capacitor centered and have their advantages and limitations. For example, the neutral point clamped (NPC) multilevel converters and flying capacitor multilevel converters can be back-back connected but are not easily scalable to achieve higher voltage. The cascade multilevel converter has modular structure but cannot be back-to-back connected. Compared to aforementioned multilevel converters, MMC indeed is a remarkable hybrid circuit that has both capacitors based sub-modules and arm inductors and achieves modularity, feasibility for back-back connection, and good scalability at the same time. Though MMC has been implemented in many applications already, with the introduction of wide bandgap power devices and the needs to further improve power density, efficiency, and reliability, many challenges still remain.

This special issue serves to foster and collect new research achievements on MMC. Prospective authors are invited to submit original contributions or survey papers for peer review for publication in CPSS Transactions on Power Electronics and Applications. Topics of interest of this Special Issue include, but are not limited to:

- Circuit topology variations
- Control of modular multilevel converters
- Sub-module voltage balancing
- Circulating current control
- Methods for capacitor size reduction
- Integration of wide bandgap power devices
- Dv/dt control of wide bandgap power device based modular multilevel converters
- Integration of renewable energy and energy storage
- MMC based motor drives
- MMC in HVDC and MVDC
- MMC in smart power stations

The manuscripts should be submitted through Manuscript Central at <https://mc03.manuscriptcentral.com/tpea-cpss>. Submissions must be clearly marked “Special Issue on Distributed Energy Resources, 2018” on the cover page. The information about manuscript preparation and requirements is provided on [http://tpea.cpss.org.cn/a/For\\_Authors/](http://tpea.cpss.org.cn/a/For_Authors/). Manuscripts submitted to this Special Issue will be reviewed and handled by the guest editorial board as noted below.

**Deadline for Submission of Manuscripts: January 15, 2020**

**Guest Editor-in-Chief:** Jin Wang, The Ohio State University, United States ([wang.1248@osu.edu](mailto:wang.1248@osu.edu))

**Guest Co-Editor-in-Chief:** Yi Tang, Nanyang Technology University, Singapore ([yitang@ntu.edu.sg](mailto:yitang@ntu.edu.sg))

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#### Proposed Timeline:

- January 15, 2020 – Manuscripts submission deadline
- February 15, 2020 – Final acceptance notification
- ~~March 1, 2020~~ **June 30, 2020** – Camera-ready manuscripts for publication