

## Special Issue

# Application Technologies and Engineering Practices for Power-Electronics-Dominated Power Systems

### Message from the Guest Editors

The rapid deployment of renewable generation, energy storage, flexible AC transmission systems (FACTS), electric vehicles, and converter-interfaced loads is fundamentally reshaping modern power grids from synchronous-machine-dominated networks to power-electronics-dominated systems. While this transition enhances system controllability, flexibility, and decarbonization, it concurrently introduces emerging technical challenges. This Special Issue aims to provide a focused platform for recent advances in the application technologies and engineering practices of power-electronics-dominated power systems. Topics of interest include, but are not limited to:

- Grid-forming and grid-following converter control;
- Stability analysis and enhancement;
- Renewable energy integration;
- Energy storage coordination;
- HVDC and FACTS applications;
- Power quality improvement;
- Digital modeling and real-time simulation;
- Protection and fault ride-through strategies;
- AI-enabled modeling and optimization and field operation experiences.

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## Applied Sciences

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### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

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