## Special Issue

## Advances and Challenges in Power Systems with High Penetration of Renewable Energies: 2nd Edition

## Message from the Guest Editors

The rapid development of distributed renewable energy and modern power electronics has brought transformative changes to the operation and control of power systems. The integration of renewable sources and new loads like electric vehicles introduces randomness, volatility, and nonlinear control characteristics, posing new challenges for safe, stable, and efficient system operation. This Special Issue focuses on innovative ideas and solutions for operating, controlling, and protecting power systems with a high penetration of renewables. Topics of interest include (but are not limited to):

- Modeling and analysis of renewable-rich power systems;
- Operation and control of AC/DC hybrid grids;
- Microgrid topology and coordinated control;
- Fault analysis and protection of HVDC and DC systems;
- Control and protection for energy storage, virtual power plants, and electric transportation.

We welcome high-quality original research contributions in these areas.

## **Guest Editors**

Dr. Zhenao Sun

Dr. Yongjie Luo

Dr. Yajuan Guan

Dr. Luona Xu

## Deadline for manuscript submissions

31 January 2026



# Applied Sciences

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mdpi.com/si/244638

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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 multidimensional network.

## Editor-in-Chief

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