

Special Issue

Power System Dynamics and Stability

Message from the Guest Editor

The global transition toward smart grids and renewable energy systems represents a pivotal step in building the next generation of sustainable, resilient, and intelligent power in infrastructures. Driven by the urgency of climate change and increasing energy demands, the integration of renewable energy sources such as solar, wind, and tidal has become a critical focus. However, these sources introduce inherent challenges, including intermittency, output fluctuations, and power quality issues that require novel and adaptive solutions. Accurate forecasting of both energy consumption and renewable generation is essential to optimize grid efficiency and support dynamic generation management. As the energy landscape evolves, the precision and adaptability of forecasting models become central to ensuring grid reliability and performance. The integration of distributed generation with conventional centralized systems presents an opportunity to reduce fossil fuel dependency and overall energy costs. Yet, this coordination demands advanced control strategies.

Guest Editor

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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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