Special Issue

Distributed Control and Optimization for Resilient Microgrid Systems: Event-Triggered Mechanisms and Energy Storage Strategies

Message from the Guest Editors

This Special Issue focuses on distributed control and optimization in microgrids, crucial for managing the complexity and dispersion of distributed energy resources (DERs). Distributed approaches offer scalability, resilience, and flexibility, addressing power fluctuations and ensuring real-time adaptability, unlike centralized mechanisms. Distributed methods also bolster system resilience by decentralizing decision-making, reducing single points of failure, and enhancing robustness against attacks. They ease communication burdens, reduce latency, and allow local decision-making without constant central reliance, ideal for managing dispersed resources. For this Special Issue, we invite contributions that explore new trends, novel distributed or decentralized algorithms, or applications in microgrids and smart grids, including laboratory tests, field validations, data-driven methods, and co-simulation strategies. Both review articles and original research papers are welcome.

Guest Editors

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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