Special Issue

Optimization and Machine Learning for Analysis and Control of Integrated Energy Systems

Message from the Guest Editors

This Special Issue aims to explore cutting-edge developments at the intersection of optimization theory and machine learning as applied to the analysis and control of integrated energy systems (IESs). As modern energy infrastructures evolve to incorporate higher shares of intermittent renewable generation, multi-energy vector coupling, and distributed energy resources, they present unprecedented challenges in terms of operational complexity, uncertainty management, and control stability. This Special Issue seeks to foster dialog between the optimization, machine learning, and energy system communities, with the ultimate goal of developing more intelligent, efficient, and resilient energy infrastructures for the future.

- integrated energy systems (IES)
- machine learning (ML)
- optimization techniques
- energy system control
- reinforcement learning
- predictive modeling
- renewable energy integration
- smart grid optimization
- demand response
- distributed energy management
- deep learning for energy systems
- model predictive control (MPC)
- predictive maintenance in energy systems
- industrial energy system integration

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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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