

## Special Issue

# Advances in the Optimization and Control of Solar Integrated Energy Systems

### Message from the Guest Editors

The global transition towards sustainable and low-carbon energy has placed solar-based technologies at the forefront of future energy systems. Solar thermal and photovoltaic plants, as well as hybrid solutions integrating storage, desalination, hydrogen, and biomass systems, have become essential for addressing today's energy, water, and climate challenges. However, the inherent variability of solar resources, coupled with the increasing complexity of integrated multi-energy systems, poses significant challenges for reliable, efficient, and cost-effective operation. These challenges have accelerated the need for advanced optimization and control strategies capable of ensuring flexibility, resilience, and scalability across different applications and scales. This Special Issue aims to present and disseminate the most recent advances in the optimization, modeling, and control of solar integrated energy systems. It will highlight theoretical developments, computational approaches, experimental validations, and real-world applications that contribute to improving energy efficiency, reducing costs, and enhancing the sustainability of solar-driven technologies.

### Guest Editors

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## Energies

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## About the Journal

### Message from the Editor-in-Chief

*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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### Editor-in-Chief

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