Special Issue

Advanced Material and Energy Challenges for Buildings

Message from the Guest Editors

Contributions discussing the following themes are welcome for submission: (i) non-destructive, in-situ thermal characterization of building envelopes; (ii) nature-based solutions for buildings; and (iii) evidence-based strategies for the energy retrofit of existing and heritage built stock. Submissions are invited that address one or more of the following themes:

- Novel sustainable materials, such as bio-based composites, aerogels, phase-change-enhanced matrices, radiative or reflective coatings, and hygroscopic or moisture-buffering composites.
- Nature-based solutions with measured thermal and energy performance and co-benefits for urban microclimate.
- Non-destructive/in-situ thermal characterization (steady and dynamic).
- Building energy modeling, with calibration and validation of dynamic building simulations using monitored boundary conditions.
- Retrofit strategies for near-zero/positive-energy buildings.
- Resilience to extreme heat and UHI: adaptive thermal comfort, passive cooling, and mitigation strategies at building-to-urban scales.
- Performance in Mediterranean and other climate zones, with attention to seasonal variability and occupant-building interactions.

Guest Editors

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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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