Special Issue

Advanced Solar Energy Materials: Methods and Applications

Message from the Guest Editor

- Solar coatings for thermal plants working at different temperatures based on metamaterials and metasurfaces with spectrally selective behavior; new intrinsically absorbing materials; semiconductors with tailorable bandgap; textured transition metal surfaces; metal–dielectric interferential filters; cermet-based multilayers with sharp cut-off of optical reflectance between absorptive and emissive behavior.
- Emerging photovoltaic solar materials.
- Aging of solar materials: modeling, simulation, and experimental tests at the nanoscale.
- Advanced materials for thermal storage systems: phase change materials (PCM), pure salts, salt eutectics, metals and metal eutectics, nano-enhanced PCM, nanofluids.
- Antisoiling coatings for solar applications.
- Self-cleaning solar materials.
- Catalytic solar coatings employed as alternative electrodes to platinum in the water-splitting process (e.g., transition metal nitrides in HER or OER reactions).

The Special Issue will promote a largely multidisciplinary approach. We are extending our invitation to contribute not only to experts in the field but also to other researchers with innovative proposals.

Guest Editor

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Deadline for manuscript submissions

closed (28 February 2025)

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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.

Editor-in-Chief

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