Special Issue

Advances in Materials for Third-Generation Photovoltaic Technologies

Message from the Guest Editors

Third-generation PV technologies are the most efficient and promising options nowadays. Power conversion efficiencies (PCEs) of 30 % under indoor light have often been reported for these indoor photovoltaics (iPVs). However, these PCEs may reach up to the theoretical PCE of 50-60 % via the optimization of the properties and composition of their materials. This Special Issue intends to disseminate the most recent advances in synthesizing and engineering materials for third-generation PV technologies and their applications. The topics of interest for publication include, but are not limited to, the following:

- Materials for third-generation PV cells;
- Optimization of composition and structure of third-generation PV cells;
- Advanced characterization of solar cells;
- Simulation, modeling, design, and machine learning;
- Production of large area devices and modules;
- High-power outdoor and low-power indoor applications;
- Flexible devices and portable applications;
- Mitigating the environmental impact of PVs.

Guest Editors

Dr. Fátima Santos

1. LEPABE—Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
2. ALiCE—Associate Laboratory in Chemical Engineering, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

Dr. Dzmitry K. Ivanou

1. LEPABE—Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
2. ALiCE—Associate Laboratory in Chemical Engineering, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

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Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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