Special Issue

Advanced Surface Modifications for High-Efficiency Photovoltaics

Message from the Guest Editor

This Special Issue focuses on recent advances in surface modification and thin-film technologies for enhancing the performance of PV cells. This Special Issue includes contributions from leading researchers in the field, covering topics such as the following:

- Advanced surface modifications for improving the efficiency of PV cells, such as surface passivation, texturization, and anti-reflection coatings;
- Advanced thin-film technologies for next-generation solar panels, including perovskite, quantum dot, and organic solar cells;
- Engineering surface chemistry for enhanced photovoltaic performance, such as using plasmonic nanoparticles, nanowires, or graphene to improve light absorption and charge separation;
- Characterization techniques for analyzing the morphology, structure, and electronic properties of PV materials, such as scanning electron microscopy, X-ray diffraction, and photoluminescence spectroscopy.

It is hoped that this collection of papers will stimulate further research and development in the field and contribute to the ongoing efforts to make solar energy a more viable and sustainable source of electricity.

Guest Editor

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About the Journal

Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.
Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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