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Surface Modification for Enhanced Photoelectrocatalytic Activity

Guest Editor:

Dr. Chia-Yu Lin
Department of Chemical Engineering, National Cheng Kung University, Tainan City, Taiwan

Deadline for manuscript submissions:
closed (28 February 2022)

Message from the Guest Editor

Dear Colleagues,

The photoelectrochemical reformation represents a green and sustainable synthetic alternative to its conventional synthetic counterparts. This photoelectrochemical process involves three main steps, including light-harvesting to generate electron-hole charge carriers, transport of charge carriers within the bulk of light-absorbing material, and interfacial transfer of minority charge carriers across the photoelectrode/electrolyte interface for the desired reactions. To facilitate the kinetics of surface reaction and tune the reaction pathway, the surface modification of a photoelectrode with a suitable catalytic layer is often required. This Special Issue aims to cover the most recent progress and advances in surface modification and surface engineering for the enhanced performance of photoelectrochemical devices in solar fuel generation. This includes, but is not limited to:

- methods and relevant growth mechanisms for surface modification of the electrocatalytic layer;
- surface characterization techniques;
- photoelectrochemical applications of surface-modified photoelectrodes.

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Message from the Editorial Board

Now more than ever, research is called for to produce technologies and improve knowledge 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 at the center of most contemporary research. Surface science and engineering play a key role in this regard. Refining surfaces and their modifications provides new materials, architectures and processes with a huge potential to aid most societal challenges. *Coatings* is a well-established, peer-reviewed, online journal that focuses on the dissemination of publications in the field of surface science and engineering. *Coatings* publishes original research articles that report cutting-edge results and review papers on the hottest topics.

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Contact Us

Coatings Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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