

Special Issue

Surface Modification for Enhanced Photoelectrocatalytic Activity

Message from the Guest Editor

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.

Guest Editor

Dr. Chia-Yu Lin

Department of Chemical Engineering, National Cheng Kung University, Tainan City, Taiwan

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

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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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Prof. Dr. Wei Pan

State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China

Dr. Emerson Coy

NanoBioMedical Centre, Adam Mickiewicz University in Poznań, ul. Wszechnicy Piastowskiej 3, 61-614 Poznań, Poland

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