



Surface Modification for Enhanced Photoelectrocatalytic Activity

Guest Editor:

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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 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.

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