International Journal of Electrochemistry

Special Issue on

Bifunctional Electrocatalysts for Water Splitting

CALL FOR PAPERS

Producing hydrogen (H_2) through electrochemical water splitting has the potential to address future global terawatt energy needs at no environmental cost. Efficient water electrolysis requires active and robust catalysts that can facilitate the sluggish kinetics of its two half-reactions, namely, oxygen evolution reaction (OER) and hydrogen evolution reaction (HER). In recent years, numerous efforts have been devoted to developing low cost and efficient OER and HER catalysts. To simplify the water splitting system and make water electrolysis feasible at the industrial scale, ideally the water splitting should be driven by the same catalyst. However, the exploration of bifunctional electrocatalysts that can efficiently catalyze both OER and HER in the same electrolyte is considerably less. Further investigation is therefore needed.

This special issue is dedicated to the state-of-the-art development of advanced catalysts for water splitting electrocatalysis, where high-quality manuscripts of original, unpublished research ranging from catalyst design and synthesis, advanced operando characterization, to fundamental studies of hydrogen and oxygen reactions are enthusiastically invited.

Potential topics include but are not limited to the following:

- Synthesis and investigation of bifunctional electrocatalysts for water splitting
- Advanced in situ and operando characterization of bifunctional electrocatalysts for water splitting
- Measurement techniques for the study of water splitting
- Theoretical predictions on advanced bifunctional electrode materials for water splitting
- Modeling of surface water splitting redox reactions
- Experimental and/or theoretical studies on behavior of electrochemical interfaces and catalysis mechanisms of water splitting
- New devices and systems for (photo)electrocatalytic water splitting

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/ijelc/bews/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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