

Special Issue on
**Advancement of Single Atom Electrocatalysts toward
Energy Conversion Reactions**

CALL FOR PAPERS

Recently, energy and environmental concerns have highlighted the pressing need to produce sustainable and renewable energy. Efficient synthesis of electrocatalysts with excellent activity and stability holds tremendous promise in the field of energy conversion devices. However, significant challenges relating to cost, efficiency, and longevity remain. Single-atom electrocatalysts (SAECs) are currently regarded as promising candidates toward low cost and high efficiency oxygen reduction/evolution and hydrogen evolution due to their 100% atom utilization, high activity, and selectivity.

This special issue will focus on recent progress and pivotal breakthroughs in the SAEC field from synthesis to characterizations and to application. We invite publications describing progress in this area including in-depth studies of the intrinsic relationships between the active moieties and the strong metal-support interactions, advanced characterization techniques for revealing the defects, atomic and electronic structures, and investigation and further understanding of the degradation mechanisms as well as theoretical studies which clarify the structure-activity relations. A vibrant research community in this field is critical for achieving the ultimate goal of tailoring SAECs for energy conversion applications and promoting the development and mass production of energy-related devices.

Potential topics include but are not limited to the following:

- ▶ Engineering strategies for synthesis of SAECs with high dispersion and anchoring strategies of single atoms on the supports
- ▶ Synthesis of catalyst supports with higher durability or higher performance in the electrochemistry tests
- ▶ Advanced characterization techniques that reveal the structural or formation mechanism of SAECs
- ▶ Applications of SAECs in energy conversion reactions in
 - ▶ Oxygen Reduction Reaction (ORR)
 - ▶ Oxygen Evolution Reaction (OER)
 - ▶ Hydrogen Evolution Reaction (HER)

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

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

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