



Journal of Nanotechnology

Special Issue on  
**Challenges of Catalytic Reactions with  
Nanomaterials**

CALL FOR PAPERS

With the increasing research interests in energy conversion and storage, new materials and chemistries hold the key to fabricate high effective devices, aiming to address the challenge for the finite fossil fuels and global warming. Nanomaterials are the ideal platforms where the chemical reactions dance, due to their outstanding catalytic activity. For example, the oxygen reduction reactions (ORR) in fuel cells, hydrogen and oxygen evolution reactions (HER and OER) in water splitting system, CO<sub>2</sub> reductions, ORR and OER in metal-O<sub>2</sub> batteries are mostly manipulated by various nanomaterials. Although the advantages of nanomaterials are widely recognized, tremendous challenges and opportunities in understanding the influence of surface, interface, size, morphology, crystal facets on the reaction kinetics, conversion, and stability still deeply attract the chemists and materials scientists.

In this special issue, we cordially invite researchers globally to contribute original research papers and review articles in the development of challenges of catalytic reactions with nanomaterials.

Potential topics include, but are not limited to:

- ▶ Recent development of nanomaterials for catalysts, electrocatalysts, and photoelectrocatalysis
- ▶ Synthesis and characterization of nanomaterials and nanostructures for energy conversion
- ▶ Nanomaterials and nanostructures for CO<sub>2</sub> reduction, water splitting, and metal-O<sub>2</sub> batteries
- ▶ Earth abundant materials for lithium ion batteries, supercapacitors, fuel cells, and solar cells
- ▶ Understanding the catalytic activity of nanomaterials

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnt/ccrn/>.

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