Special Issue

Advances in Fuel Cell Catalyst

Message from the Guest Editor

Increasing catalyst activity has been considered as one of the major pillars in FC research. As the sluggish oxygen reduction reaction of the cathode dictates the overall performance of the cell, much efforts have been focused on investigating novel materials and structures regarding this perspective. While a catalyst's activity plays a crucial role in determining the performance of the FCs, in the sense of commercial implementation, the decisive factor weighs more on the durability rather than the activity. Pt-based nanoparticles are widely used as electrocatalysts in operation of polymer electrolyte membrane FCs. While the longevity may be an intrinsic property of the active material, other factors play in the degradation of the catalyst. The chemical stability of the support materials and the size distribution of the nanoparticles are aspects to consider in the deterioration mechanism known as the "Ostwald ripening process".

Guest Editor

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