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Electrocatalysts for the Advanced Membrane Electrode Assemblies (MEAs)

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Message from the Guest Editors

Dear Colleagues,

The commercialization of fuel cells is mainly hampered by the high cost of platinum, which is responsible for catalyzing fuel cell electrochemical reactions. To date, the different lines of research in fuel cells seek to address the challenges of reducing the Pt content, water management, thermal management, and to develop efficient electrocatalysts for enhanced ORR. All the above, designing efficient electrode architecture requires urgent action, because the present fuel cell membrane electrode assemblies (MEAs) experience severe incompatibilities between the materials utilized for electrodes and membranes. Therefore, this Special Issue primarily focuses on the nano-engineering of electrocatalysts materials, namely, perovskites, metal organic framework, core-shell, transition metal-binding organic materials, Pt alloying and new alloy catalysts for advanced MEAs with exceptional power densities and long-term stability.