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Advanced Materials for Electrocatalysis of Oxygen

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Deadline for manuscript submissions:
closed (31 December 2021)

Message from the Guest Editors

Dear Colleagues,

The oxygen reduction reaction (ORR) and the oxygen evolution reaction (OER) are among the most important reactions in renewable energy conversion and storage devices. The full deployment of these devices (fuel cells, electrolyzers, metal–air batteries, etc.) depends on the development of highly active, stable, and low-cost catalysts. Furthermore, bifunctional materials that are able to catalyze both reactions are still a challenge for the progress of rechargeable metal–air batteries or unitized regenerative fuel cells. Actually, noble metals, belonging to Pt-group metals (PGMs), are mainly used to catalyze these reactions; however, the high cost and the limited resource of PGMs greatly hinder the widespread commercialization of these energy conversion and storage devices. Therefore, the development of low-cost, highly active, and stable non-PGM catalysts for ORR and OER are highly desired.

This Special Issue aims to cover the most recent advances and developments regarding advanced materials for oxygen electrodes.

Dr. Vincenzo Baglio and Dr. Carmelo Lo Vecchio
Guest Editors

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Message from the Editorial Board

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