Special Issue

Cathode Material for Metal-Air Batteries

Message from the Guest Editor

Metal-air batteries (MABs) have become attractive candidates for the next generation of energy storage in the past few decades, owing to their high specific energy density as well as the low cost for next-generation green and sustainable energy technologies. There are many types of MABs, including Li-air batteries, Na-or K-air batteries, Zn-air batteries, Al-or Mg-air batteries, and so on. An air electrode integrated with an oxygen electrocatalyst is the most important component, the sluggish kinetics of oxygen reduction reaction (ORR), and oxygen evolution reaction (OER) are primary factors hampering the improvement of performance and energy efficiency of MABs. Efforts have been made to develop various catalysts for air cathodes in order to improve the ORR/OER activity and cell performance, which is the key to promoting the commercial application of MABs. This Special Issue will present the current status of cathode materials for MABs, propose strategies to solve the above problems, distinguish the structure and mechanism in electrochemical reactions of improving the performance, and ultimately provide a direction to guide the further application and development of MABs.

Guest Editor

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