Special Issue

Corrosion Behavior of Biodegradable Magnesium Alloys

Message from the Guest Editor

Magnesium (Mg) and its alloys have been widely investigated as one kind of degradable metallic biomaterials, and their clinical applications have already been reported due to their degradability and superior combination of strength and ductility. However, due to the generally fast degradation of Mg alloys, the mechanical integrity and biological performances of Mg-based implants are largely degenerated during their service life. Therefore, a full understanding of the corrosion behavior of Mg alloys can pave the way for tailoring the degradation and biological response of Mg implants, can aid in establishing reliable in vitro evaluation standards for Mg degradation, and is an essential prerequisite for resolving the rapid corrosion of Mg alloys. To achieve this goal, the degradation of Mg alloys has been investigated under different conditions in vitro and in vivo, such as different alloy compositions, testing media, and solution flow conditions. In this Special Issue, we welcome articles that focus on the degradation behavior of Mg alloys and controllable strategies for the degradation of Mg alloys.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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