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Corrosion of Magnesium Alloys

Guest Editors:

Prof. Dr. Raman Singh
Departments of Mechanical & Aerospace Engineering and Chemical Engineering, Monash University, Melbourne Vic 3800, Australia

raman.singh@monash.edu

Dr. Vijayaraghavan Venkatesh
School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

VE0005AN@e.ntu.edu.sg

Dr. Vinod Kumar
Department of Metallurgical and Materials Engineering, Malaviya National Institute of Technology, Jaipur, India

vk.iitk@gmail.com

Deadline for manuscript submissions:
closed (30 September 2017)

Message from the Guest Editors

Dear Colleagues,

Magnesium alloys, given their high strength-to-weight ratio, are very attractive materials for applications. However, magnesium alloys have not found widespread application, particularly in the corrosive environment, because of their unacceptably rapid corrosions. Thus, there is a great commercial value in finding measures for durable corrosion resistance of magnesium alloys. It may be intriguing that, because of the susceptibility of magnesium to corrosion, and the corrosion products of magnesium being non-toxic, there has been recent and increasing interest in these alloys for manufacturing biodegradable temporary implants. With this background, this Special Issue invites contributions from academia, researchers, industry professionals and engineers on the following aspects:

- Corrosion mechanics and corrosion-assisted fracture of magnesium alloys
- Measures for mitigation of corrosion of magnesium alloys
- Application of magnesium alloys including in novel fields, such as bioimplants

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Editor-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Message from the Editor-in-Chief

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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Contact Us

Metals
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
Fax: +41 61 302 89 18
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
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