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Engineering Materials in Extreme Environments

Guest Editors:

Dr. Yi Gong
Department of Materials Science, Fudan University, Shanghai, China

Dr. Qi Tong
Department of Aeronautics and Astronautics, Fudan University, Shanghai, China

Deadline for manuscript submissions:
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Message from the Guest Editors

The combination of diverse engineering materials (e.g., metals, polymers, ceramics, and their composites) and extreme service environments (e.g., high temperature, high pressure, mechanical loads, chemicals, radiation) inevitably challenges the reliability, safety, longevity, and economy of the equipment in industries. In this context, measures which cover the whole life cycle of the equipment are adopted before operation, including design optimization, fabrication improvement, and reliability evaluation. During operation, routine maintenance, failure analysis, experience feedback, etc. are adopted, and in all stages the emphasis is laid on the essence of the equipment—the materials.

The aim of this Special Issue is to collect cutting-edge knowledge and provide a comprehensive overview of the structures, properties, processing, and performances of the engineering materials serving/involved in the extreme environments of conventional industries including aerospace, chemical production, manufacturing, steel production, transportation, etc. The engineering materials applied in emerging industries like integrated circuits, biotechnology, etc. are also welcome.

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Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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𝕏@Materials_Mdpi