

Special Issue

Heat Resistant Steels and Alloys

Message from the Guest Editors

Heat-resistant steels and alloys play important roles in high-temperature applications. It is continuously important to make efforts to improve the heat resistance and long-term properties of the materials for higher efficiency of thermal power generation systems and also to design new materials that are adaptable to new operating conditions. The importance of designing new alloys and in understanding degradation mechanisms for improved jet engine operations remains unchanged due to the forecasted increase in the commercial aviation market until 2038.

This Special Issue highlights recent progress and innovations in the fields of heat-resistant steels and alloys from a wide perspective, including alloy design, characterization of microstructure formation and stability, creep deformation and fracture, creep-fatigue interaction, degradation mechanisms, oxidation, and high-temperature corrosion and other topics. It focuses on metallic materials that include creep resistant ferritic and austenitic steels, superalloys, titanium alloys, intermetallic compounds, and refractory metals. Researchers are, therefore, encouraged to submit a research and review paper on their recent work.

Guest Editors

Prof. Dr. Satoru Kobayashi
Tokyo Institute of Technology, Tokyo, Japan

Dr. Mikael Perrut
DMAS, ONERA, Université Paris-Saclay, 92322 Châtillon, France

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

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About the Journal

Message from the Editorial Board

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.

Editors-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

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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