

Special Issue

Advanced Surface Engineering of Metallic Materials for Extreme Environments

Message from the Guest Editors

Metallic materials are often subjected to service in extreme conditions in tribology, manufacturing, industry, energy, defense, and aerospace. These extreme environments can arise from distinct and combined sources of temperature, strain rates, loads, corrosion, wear, erosion, fluid flow, etc. Surface engineering modifications to the base metallic materials have been shown to be a promising solution to extend the performance of these materials in such extreme conditions. This Special Issue pursues the dissemination of high-quality research including, but not limited to, the following topics: (i) tooling protection by coatings in manufacturing environments, such as high-pressure aluminum die casting, forging, forming, and machining; (ii) coatings in industry and marine environments; (iii) coatings in energy environments; (iv) coatings in defense environments; (v) coatings in aerospace environments, such as thermal barrier coatings; and (vi) advanced surface modification by coatings produced by conventional and new deposition techniques.

Guest Editors

Dr. Nelson Campos Neto

Mechanical Engineering | College of Computing, Engineering & Construction (CCEC), University of North Florida, 1 UNF Drive, Jacksonville, FL 32224, USA

Dr. Guilherme Yuuki Koga

Department of Materials Engineering, Federal University of São Carlos—UFSCar, SP, São Carlos 13565905, Brazil

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

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About the Journal

Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

Editors-in-Chief

Prof. Dr. Wei Pan

State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China

Dr. Emerson Coy

NanoBioMedical Centre, Adam Mickiewicz University in Poznań, ul. Wszechnicy Piastowskiej 3, 61-614 Poznań, Poland

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