



Intermetallic Alloys and Intermetallic Matrix Composite Coatings

Guest Editors:

Prof. Dr. Cezary Senderowski

Departament of Materials and Machinery Technology, University of Warmia and Mazury, Oczapowskiego 11 St., 10-719 Olsztyn, Poland

Dr. Núria Cinca

Departament de Ciència i Enginyeria de Materials (CEM), Universitat Politècnica de Catalunya, Barcelona, Spain; Hyperion Materials & Technologies, P.I.Roca, Carrer de la Verneda, 12, 24, 08107 Martorelles, Spain

Deadline for manuscript submissions:

20 February 2024

Message from the Guest Editors

Transition metal aluminides based on Ti, Fe, Ni, Co and Nb are seen as promising for their potential use as coatings in aggressive environments. They possess sufficiently high concentrations of aluminum to form a continuous, fully adherent alumina layer on the surface when exposed to corrosive, oxidizing, carburizing and sulfidizing conditions. The common coating technologies (thermal spray technologies and laser cladding) may imply some oxidation of the raw material along the deposition process, which may actually introduce reinforcement phases that can contribute to change of thermophysical properties, increase hardness and wear resistance but are detrimental to oxidation and corrosion since they leave aluminum-depleted areas. In order to actually improve the wear performance, ceramic hard phases can be introduced also as feedstock. The use of carbides or borides for example is being used as a strategy not only investigated for coatings but also for bulks with the aim to be competitive to well-established WC-Co in high demanding wear resistant applications where tools need to withstand high temperatures.





Editors-in-Chief

Dr. Alessandro Lavacchi

Istituto di Chimica dei Composti
OrganoMetallici (ICCOM-CNR),
Via Madonna del Piano 10, 50019
Sesto Fiorentino, Firenze, Italy

Prof. Dr. Wei Pan

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

Message from the Editorial Board

Now more than ever, research is called for to produce technologies and improve knowledge 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 at the center of most contemporary research. Surface science and engineering play a key role in this regard. Refining surfaces and their modifications provides new materials, architectures and processes with a huge potential to aid most societal challenges. *Coatings* is a well-established, peer-reviewed, online journal that focuses on the dissemination of publications in the field of surface science and engineering. *Coatings* publishes original research articles that report cutting-edge results and review papers on the hottest topics.

Author Benefits

Open Access:— free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Materials Science, Coatings & Films*) / CiteScore - Q2 (*Surfaces and Interfaces*)

Contact Us

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

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/coatings
coatings@mdpi.com
@Coatings_MDPI