Special Issue

Design, Characterization, and Application of High-Entropy Alloy Coatings

Message from the Guest Editor

HEAs are a novel alloy concept beyond the realm of traditional alloys that exhibit excellent and functional physical and mechanical properties such as high hardness and tensile strength, corrosion, and wear resistance. Compared with conventional metallic alloys composed of one or two major and some minor elements, HEAs consist of more than four principal elements. Besides ever-increasing knowledge about the mechanical and physical properties of bulk HEAs, proving a systematical approach for understanding the potential of the high-entropy alloy coating and optimizing their properties are also essential. This SI will include but not be limited to the followings:

- Theoretical and experimental research, knowledge, and new ideas in designing and synthesizing HEAs coating.
- Modeling and simulation to predict the coating features, performance, durability, and reliability in service environments.
- Coating methods such as Thermal Spray techniques, Cold Spray, PVD, CVD, Laser Cladding, and Plasma Arc Depsoitio etc.
- Durable, Wear, and Corrosion Resistance HEAs coatings
- Catalytical Application of HEAs coatings
- Biomedical and Biological Application of HEAs coatings

Guest Editor

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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.

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