Special Issue

Recent Trends in Laser Cladding and Surface Alloying

Message from the Guest Editors

In recent years, surface engineering has garnered significant attention and interest due to its exceptional potential for enhancing the mechanical, thermal, and chemical properties of materials. Laser cladding involves the precise deposition of a specialized alloy or coating material onto a substrate through the controlled melting and solidification of the substrate's surface using a high-intensity laser beam. This process enables the creation of intricate, multi-layered structures with exceptional microstructural control, thereby enhancing the material's surface properties.Surface alloying aims to introduce specific elements into the near-surface region of a material, thereby modifying its composition and properties at the atomic level. This can be achieved through various methods, such as diffusion-based processes, physical vapor deposition, chemical vapor deposition, and laser surface alloying.This Special Issue aims to assemble a collection of in-depth articles that will serve as a comprehensive resource for researchers, engineers, and professionals interested in the latest advancements and applications of laser cladding and surface alloying.

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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