

Special Issue

Mechanical, Tribological and Microstructural Characterization of Functional Coatings

Message from the Guest Editors

This Special Issue invites contributions focusing on the mechanical, tribological, and microstructural characterization of functional coatings used in diverse engineering applications. Functional coatings are essential for enhancing surface properties such as hardness, wear resistance, and friction behavior. Their performance is strongly influenced by composition, deposition method, and underlying microstructure. We seek original research and review articles that investigate these relationships through experimental and analytical approaches. Relevant topics include hardness, wear, and friction analysis under different conditions, phase and microstructure evaluation using XRD, SEM, or TEM, and performance assessment of coatings produced by methods such as thermal spraying, PVD, CVD, and sol-gel techniques. Papers that link material design to real-world functionality, explore new materials or hybrid systems, or propose novel characterization methodologies are particularly encouraged. This Special Issue will serve as a guide for researchers aiming to deepen the understanding of coating behavior and drive innovation in surface engineering technologies.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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