Special Issue

Design and Development of Metal Matrix Composites

Message from the Guest Editor

Metal Matrix Composites (MMCs) represent promising advanced materials that have garnered significant attention in various industrial sectors due to their exceptional mechanical properties and tailored functionality. MMC design involves incorporating one or more reinforcing phases, such as ceramic, carbon, or other metallic materials, into a metal matrix. This strategic combination allows engineers to tailor the material's properties to meet specific requirements, including improved strength, stiffness, thermal conductivity, and wear resistance. The selection of reinforcement materials, their volume fraction, and distribution within the matrix are critical factors in optimizing the final composite's performance. In this Special Issue, we welcome articles focusing on producing metal matrix composites through processes like powder metallurgy, casting, or additive manufacturing. Microstructural characterization and its relationship with final mechanical properties is also an objective of this Special Issue due to the importance of this knowledge for their implementation.

Guest Editor

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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