



Titanium Alloy and Titanium Matrix Composite

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Deadline for manuscript
submissions:

closed (30 April 2022)

Message from the Guest Editors

Titanium alloys and titanium matrix composites play an important role as structural materials in the automotive and aerospace fields due to their excellent specific strength, good corrosion resistance, outstanding specific modulus, terrific high temperature strength, and high biocompatibility. The methods for fabrication of titanium and titanium matrix composites include ingot metallurgy, powder metallurgy and additive manufacturing routes, etc. Nevertheless, the preparation of titanium matrix composites is still a great challenge, not only due to their inherent poor formability, but also due to the incorporation between ceramic reinforcement/precipitation and titanium matrices, which has become a bottleneck in developing high-performance alloys and compounds. Determining how to design titanium alloys and titanium matrix composites to achieve an optimum combination of strength and toughness is thus an ongoing and fascinating challenge, and it is significant to develop credible design and forming methods. The present Special Issue on “Titanium Alloys and Titanium Matrix Composites” may become a status report summarizing the progress achieved in the last five years.





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