Special Issue

Hybrid Metal–Polymer Joints II

Message from the Guest Editor

Multi-material hybrid structures are in high demand in several fields. In transportation industries, MMHSs are used to reduce a product's weight without affecting the structural performance, consequently resulting in lower fuel consumption, and, in the case of electric vehicles, to increase their autonomy. Furthermore, this weight reduction dramatically helps to reduce CO2 emissions, as well as to improve overall performance. The main challenge when manufacturing MMHSs is represented by the adoption of the joining process between such dissimilar materials. Conventional mechanical fastening and adhesive bonding involve several issues. Thus, because of the increasing demand for MMHSs, several new joining processes have been developed in order to overcome such limitations. Fast mechanical joining processes and thermomechanical joining processes have been developed in recent years as suitable alternatives for the production of multi-materials hybrid structures. This Special Issue aims to collect original research and literature reviews concerning conventional processes and recent developments in this field.

Guest Editor

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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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