Special Issue

Degradation Mechanisms, Durability Enhancement and Decommission of Composite Materials

Message from the Guest Editors

The extensive use of composite materials across key sectors including aerospace, automotive, wind, and marine, valued for their high performance, has reached a critical juncture. While their adoption grows, managing the significant EoL waste stream from aging structures such as wind turbines and aircraft becomes increasingly urgent, particularly as traditional landfilling faces sustainability pressures, driving the need for circular approaches. Furthermore, maintaining the safety and reliability of these materials in demanding applications hinges on deeply understanding how they degrade under operational stresses and environmental factors. Addressing these interconnected challenges requires a focused examination of the primary degradation mechanisms, including moisture, temperature variations, UV radiation, fatigue, and creep, alongside advancements in durability enhancement via additives and coatings, improved damage assessment (NDT), effective repair techniques, and comprehensive strategies for decommissioning and EoL management. Therefore, we welcome articles related to degradation mechanisms, durability enhancement and decommissioning of composite materials.

Guest Editors

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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