

Special Issue

Advanced Manufacturing of Smart Materials

Message from the Guest Editors

Smart materials represent a revolutionary class of materials that respond to environmental stimuli such as changes in magnetic fields, temperature, light, solvents, electric fields, and, in some instances, multi-stimuli sources. The advanced manufacturing of these smart materials combines cutting-edge fabrication techniques with innovative material design to create responsive, adaptive solutions for numerous applications.

The emerging trend of integrating artificial intelligence (AI) into various smart material manufacturing processes represents another significant advancement. The introduction of AI into the manufacturing process permits the use of AI algorithms to optimize process parameters to enhance material performance and manufacturing efficiency.

The continued advancement of smart material manufacturing processes provides a myriad of opportunities for manufacturing smart material structures for various industrial applications. The maturation of these technologies used to produce smart material structures would usher in the fabrication of sophisticated structures with seamlessly embedded sensors, actuators, and computational capabilities to create truly adaptive systems.

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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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