



Advanced and Bio-Based Materials

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Message from the Guest Editors

Dear Colleagues,

Advances in materials and manufacturing techniques are enabling the development of a new generation of high-performance textile-based products for a range of industries, from apparel to aerospace. Key enabling technologies are additive manufacturing and the use of robotics in weaving, fibre placement, and knitting, which allow free-form and bespoke multi-material structures to be fabricated, unhindered by the limitations of traditional approaches. This may potentially allow the fabrication of complex multi-functional textile-based structures in a single product, transforming design and manufacturing processes. Furthermore, this also opens up new application areas in smart, responsive, and adaptive textiles that can communicate with users and transform using a specific stimulus.

This Special Issue aims to highlight and collect the most recent developments and trends in the field of advanced 3D textiles. This includes novel manufacturing processes (e.g., 3D printing, robotics, and weaving), advanced materials (e.g., nanocomposites, multi-functional, bioactive, electroactive, sustainable, adaptive and responsive), and new application areas.





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Message from the Editor-in-Chief

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