Special Issue

Multifunctional Thermoset Polymer Systems for Advanced Energy Storage Technologies

Message from the Guest Editor

Multifunctional thermoset polymer systems are gaining prominence for their versatile applications in advanced energy storage technologies. These polymers, especially bio-based, epoxy, and benzoxazine resins, offer superior mechanical strength, thermal stability, and chemical resistance, making them ideal for integrating structural functions with energy storage capabilities. Recent advances focus on integrating thermosets with nanomaterials such as MXenes, carbon nanotubes, and graphene to enhance performance in supercapacitors, batteries and thermal energy storage systems. Bio-based thermosets derived from lignin and other renewable sources are gaining attraction due to their environmental benefits. These systems enable multifunctionality—combining structural integrity, energy storage, and thermal management—making them ideal for flexible electronics, aerospace, and renewable energy devices. Cutting-edge research also explores shape–memory thermosets and dynamic covalent networks for self-healing and reprocessing capabilities, positioning these materials at the forefront of energy storage technologies.

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Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

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