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Decarbonization and Sustainability in Polymer Composites

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Message from the Guest Editors

Dear Colleagues,

Polymer composites, with their ubiquitous properties, have been widely used in various industries (e.g., aerospace, automobile, infrastructure, marine, wind energy, etc.). The constituents in these composites have mainly focused on carbon and glass fibers, as well as epoxy and thermoplastic matrices. However, the issue of their waste and detrimental environmental impact has become increasingly challenging. In this context, the purpose of this Special Issue is to present recent progress in the research and review of decarbonized and sustainable composites and technologies, with the following scopes:

- Polymer composites with alternative reinforcement (e.g., natural fibers, polymer fibers, etc.);
- Polymer composites with alternative matrices (e.g., Vitrimer, bio-based materials, CO_2-derived materials, etc.);
- Polymer composites with other sustainable constituents (e.g., wood, waste material, etc.);
- Recycling and repurposing waste plastics and composites;
- Material life cycle, waste management, and carbon footprint analysis of sustainable composites and fabrication methods;
- ML/AI-assisted design towards decarbonization and sustainability;
- Other relevant areas.

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Message from the Editor-in-Chief

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