

Special Issue on **Polymer Composites for Energy and Environmental Applications**

CALL FOR PAPERS

Advanced materials designed for energy and environmental applications are becoming increasingly important for the sustainable development of human society. Polymer composites have been widely explored for applications in separation, water purification, pollution remediation, and many energy storage devices such as fuel cells, super capacitors, and lithium ion batteries. Despite the rapid development of this field, principles for rational design are still insufficient because much is yet to be understood to associate the properties with the multiscale structures of polymer composites. Scalable synthesis methods for multifunctional polymer composites provide opportunities to potential commercialization and industrial applications. Development of characterization techniques allows discovery of new features of these materials and enables mechanistic studies *in operando*. With the aid of computers, multiscale modeling offers new scopes for the design and understanding of polymer composites.

This special issue welcomes the submission of original research and review articles that focus on polymer composite materials for energy and environmental applications. It is aimed at covering synthesis methods, fabrication procedures, and integration approaches for functional materials and devices. Advanced characterization techniques are also of interest for the composition, morphology, and mechanical and thermal properties of polymer composite structures. In addition, articles focusing on mathematical modeling and computational simulation for understanding molecular transport and charge carrier transfer in polymer composites are encouraged.

Potential topics include but are not limited to the following:

- ▶ Mixed matrix membranes for separations
- ▶ Polymer composites for water filtration
- ▶ Catalytic composite materials for mitigation of contaminants
- ▶ Pollutant adsorbent materials
- ▶ Sensing materials for hazardous gases and chemicals
- ▶ Polymer composite membranes for fuel cells
- ▶ Polymer composites for supercapacitors
- ▶ Polymer composite electrolyte and electrode materials for batteries

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/amse/pcee/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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