



## Reinforced Polymer Composites

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### Message from the Collection Editor

Polymer materials are widely used in human life, medicine, industry, and so on. However, polymers have a lot of disadvantages, such as insufficient strength, stiffness, creep, and low usage temperature. That is why reinforcing fillers are widely used to improve polymer properties. The following factors should be taken into account to reach high mechanical properties when nanofillers are used: (a) Uniform distribution of the filler in the polymer matrix will result in a composite physical and chemical properties uniformity over its volume; (b) filler should not agglomerate inside the polymer bulk sample because it might act as stress concentrator; (c) interaction between fillers and polymer matrix should result in a composite supramolecular structure improvement.

Special attention will be given to the following aspects:

- Effect of polymer-filler interfaces interaction on the composite properties;
- Carbon fillers for polymers, including fibers, nanotubes, graphene, etc.;
- Solid-state technique for polymer composite formation, such as ball-milling, extrusion, molding, etc.;
- Polymer composites by additive manufacturing;
- Using of recycling materials in polymer composites.





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