
Title: Advanced Polymers Recycling and Resource Recovery



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Interests: Secondary raw materials, processing of polymer waste polymers,



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Interests: Biopolymers; biocomposite; eco-friendly; biodegradable; films; environmentally safe; humic; hybrid; ecology.

Proposal

About 90% of the 300 million tonnes of plastics produced each year are not recycled and are disposed in landfills, posing significant environmental concerns. Polymers waste can be either recycled or chemically disposed of by thermal depolymerization. The current situation in polymers waste recycling requires the search for an effective polymer waste management solution. Effective technologies development for the secondary processing recycling polymers and plastic that contributes to natural resources preservation. That is because polymer materials are produced from oil and gas and, in conditions of polymer raw materials shortage, polymer-containing waste becomes a powerful raw material and energy resource. Therefore, the polymer waste processing can become a highly profitable type of economic activity, including light industry, and will ensure the ecological situation enhancement in the country. It is urgent to find effective ways of polymer waste handling to solve the polymer raw materials shortage.

This special issue will highlight recent advanced researches in polymers recycling and resource recovery, including, redesigning existing polymers, new polymer classes designed to promote circularity, polymers derived from renewable feedstocks, chemical recycling to monomer or materials with equivalent function, chemical upcycling, tools to enable polymer sustainability, and advances in sustainable processing technologies. Also special Issue will focus on current and future research towards repurposing plastics at the end of life for various applications.

Sub-Topics

- Plastic wastes recycling
- Secondary polymer raw materials
- Processing of polymer waste into fuel, lubricant materials and construction materials

Keywords: Plastic wastes, polymer recycling, energy recovery, monomer recovery, sustainable materials processing, reuse of polymers, degradation of polymer and composites.
