

Abstract



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Sustainability and Green Chemistry

With increasing public awareness of climate change, environmental pollution, and earth's declining resources, sustainability and green chemistry have become hot topics these days. In 2015, the United Nations adopted 17 sustainable development goals (SDGs) to be achieved in 2030. As polymers are being used all around us, they play a major role in the achievement of these goals. In this talk, the speaker will provide an overview of the sustainability initiatives at American Chemical Society (ACS) and his platform as ACS President in 2021. He will also cover selected polymer research and development (R&D) areas that are related to sustainability and green polymer chemistry. The following examples will be shown: 1) to use natural renewable raw materials (e.g., polysaccharides, proteins, and triglycerides) as source materials for new chemistry and products; 2) to exploit biocatalysts (e.g., enzymes and micro-organisms) for chemical and polymer conversions; 3) to apply green chemistry concepts to conversion and processing; and 4) to develop green methodologies to promote the development of green products. In view of the relevance of sustainability and green polymer chemistry to our society, we can expect to see continued R&D and commercial activities relating to this field in the future.