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Special Issue Reprint

Bio-Based and Biodegradable Plastics

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Over the few coming decades, bio-based and biodegradable plastics produced from sustainable bioresources should essentially substitute the prevalent synthetic plastics produced from exhaustible hydrocarbon fossils. To the greatest extend, this innovative trend has to apply to the packaging manufacturing area and especially to food packaging implementation. To supply the rapid production increment of biodegradable plastics, there must be provided the effective development of scientific-technical potential that promotes the comprehensive exploration of their structural, functional, and dynamic characteristics. In this regard, the transition from passive barrier materials preventing water and oxygen transport as well as bacteria infiltration to active functional packaging that ensures gas diffusion selectivity, antiseptics' and other modifiers' release should be based on the thorough study of biopolymer crystallinity, morphology, diffusivity, controlled biodegradability and life cycle assessment. This Special Issue accumulates the papers of international teams that devoted to scientific and industrial bases providing the biodegradable material development in the barrier and active packaging as well as in agricultural applications. We hope that book will bring great interest to the experts in the area of sustainable biopolymers.

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