

Special Issue Reprint

Additive Manufacturing of Bio and Synthetic Polymers

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Additive manufacturing technology offers the ability to produce personalized products with lower development costs, shorter lead times, less energy consumed during manufacturing and less material waste. It can be used to manufacture complex parts and enables manufacturers to reduce their inventory, make products on-demand, create smaller and localized manufacturing environments, and even reduce supply chains. Additive manufacturing (AM), also known as fabricating three-dimensional (3D) and four-dimensional (4D) components, refers to processes that allow for the direct fabrication of physical products from computer-aided design (CAD) models through the repetitious deposition of material layers. Compared with traditional manufacturing processes, AM allows the production of customized parts from bio- and synthetic polymers without the need for molds or machining typical for conventional formative and subtractive fabrication.

In this Special Issue, we aimed to capture the cutting-edge state-of-the-art research pertaining to advancing the additive manufacturing of polymeric materials. The topic themes include advanced polymeric material development, processing parameter optimization, characterization techniques, structure–property relationships, process modelling, etc., specifically for AM.

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