

1. Record Nr.	UNINA9910647223903321
Titolo	Polymers and Their Application in 3D Printing // Hamid Reza Vanaei, Sofiane Khelladi, Abbas Tcharkhtchi, editors
Pubbl/distr/stampa	[Place of publication not identified] : , : MDPI - Multidisciplinary Digital Publishing Institute, , 2023
ISBN	3-0365-6028-9
Descrizione fisica	1 online resource (182 pages)
Disciplina	620.192
Soggetti	Polymers - Rheology Polymers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Effects of Laser Power and Hatch Orientation on Final Properties of PA12 Parts Produced by Selective Laser Sintering 1 -- Strain Release Behaviour during Crack Growth of a Polymeric Beam under Elastic Loads for Self-Healing 23 -- Piezoresistive Properties of 3D-Printed Polyactic Acid (PLA) Nanocomposites 51 -- Characterization of 3D Printed Metal-PLA Composite Scaffolds for Biomedical Applications 63 -- Modeling Impact Mechanics of 3D Helicoidally Architected Polymer Composites Enabled by Additive Manufacturing for Lightweight Silicon Photovoltaics Technology 75 -- Clinical Application of 3D-Printed Patient-Specific Polycaprolactone/Beta Tricalcium Phosphate Scaffold for Complex Zygomatico-Maxillary Defects 93 -- Effect of Architected Structural Members on the Viscoelastic Response of 3D Printed Simple Cubic Lattice Structures 107 -- Effect of Printing Process Parameters on the Shape Transformation Capability of 3D Printed Structures 123 -- 3D Bioprinting of Polycaprolactone-Based Scaffolds for Pulp-Dentin Regeneration: Investigation of Physicochemical and Biological Behavior 145 -- 3D Printed and Conventional Membranes-A Review 159.
Sommario/riassunto	Fused filament fabrication, also known as 3D printing, is extensively used to produce prototypes for applications in, e.g., the aerospace, medical, and automotive industries. In this process, a thermoplastic polymer is fed into a liquefier that extrudes a filament while moving in successive X-Y planes along the Z direction to fabricate a 3D part in a

layer-by-layer process. Due to the progressive advances of this process in industry, the application of polymeric (or even composite) materials have received much attention. Researchers and industries now engage in 3D printing by implementing numerous polymeric materials in their domain. In this Special Issue, we will present a collection of recent and novel works regarding the application of polymers in 3D printing.
