



3D and 4D Printing of (Bio)Materials

Guest Editor:

Dr. Mo Maniruzzaman

Division of Molecular
Pharmaceutics and Drug
Delivery, College of Pharmacy,
University of Texas at Austin,
Austin, TX 78712, USA

Deadline for manuscript
submissions:

closed (31 July 2020)

Message from the Guest Editor

3D printing has emerged as one of the most versatile fabrication technologies, referred to as the additive manufacturing technique, which involves additives such as polymers and metals deposited in sequential layers to produce a 3D object (i.e., pills or medical devices).

Being based on the traditional 3D printing, 4D printing can encompass a wide range of disciplines, such as materials science, bioengineering, and chemistry/chemical engineering, and has the true potential to emerge as the next-generation additive manufacturing technique. Using stimuli-responsive (also known as shape memory) materials, 4D printing creates structures that are capable of transforming from one shape to another, right off the print bed under various stimuli, such as heat, pH, water, etc.

The 3D printing process optimization, engineering, formulation compositions, advanced drug delivery, materials properties, and characterizations, and the state of the art and limitations that exist in the current printing modalities will be explored in this proposed Special Issue of Polymers.

Keywords:

- 3D and 4D printing
- biomaterials
- implants
- smart implants
- drug delivery
- additive manufacturing





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Alexander Böker

Lehrstuhl für Polymermaterialien
und Polymertechnologie,
University of Potsdam, 14476
Potsdam-Golm, Germany

Message from the Editor-in-Chief

Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 5.0.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Ei Compendex, PubMed, PMC, FSTA, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank: JCR - Q1 (*Polymer Science*) / CiteScore - Q1 (*Polymers and Plastics*)

Contact Us

Polymers Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/polymers
polymers@mdpi.com
[X@Polymers_MDPI](https://twitter.com/Polymers_MDPI)