
Title: Polymer Science at the Forefront: Innovations in Biomedical Polymers and Nanotechnology



Prof. Dr. Song-Jeng Huang

(Guest Editor)

Department of Mechanical Engineering, National Taiwan University of Science and Technology
Taiwan,

E-mail: sgjghuang@me.ntust.edu.tw

SCOPUS: (<https://www.scopus.com/authid/detail.uri?authorId=55522746200>)

ORCID iD: (<https://orcid.org/0000-0002-6582-0339>)



Dr. Chao-Ching Chaing

(Guest Editors)

Department of Mechanical Engineering, National Taiwan University of Science and Technology
Taiwan,

E-mail: shoo6667@hotmail.com

ORCID iD: (<https://orcid.org/0000-0002-4127-0950>)

Proposal

In the 21st century, the fields of biomedical polymer materials applications and nanotechnology have seen substantial growth. This has led to significant progress in both precision manufacturing and medical testing. The technologies involved have advanced to the point where new and improved processes with various applications have been developed.

The biomedical polymer material is interdisciplinary in nature, combining aspects of material sciences, semiconductor technology, bonding techniques, medicine, plasma processes, mechanical engineering, chemical engineering, and biomedical engineering. Some of the major applications of this material include manufacturing technologies that are based on semiconductor processes. This encompasses Micro-Electro-Mechanical Systems (MEMS), etching, and laser processes, which are utilized to create components at the micrometer scale, such as biosensors, detectors, and sensors. These components are crucial for applications in polymer science.

Looking ahead, polymer science is anticipated to have significant applications in the realm of nanotechnology. This includes the miniaturization and accurate detection of devices, which provides real-time data. This data is essential for researchers and users alike, as it helps them to better understand their needs. In addition to this, advanced organic and biological coatings that are applied in bioelectronics, biosensors, or tissue engineering also represent important areas of focus.

This Special Issue offers a platform for sharing knowledge about unparalleled networking and relationship-building opportunities, presenting and discussing topics such as (but not limited to):

Composite material applications

High molecular polymer

Thermal process

Biomedical testing and applications

Plasma treatment

Bonding

Laser process

Microelectromechanical

The relationship between structure, properties, and biological materials applications
