



New Advances in Polymer Electrospun Fibers

Guest Editors:

Dr. Baturalp Yalcinkaya

Department of Material Science,
Faculty of Mechanical
Engineering, Technical University
of Liberec, 461 17 Liberec, Czech
Republic

Dr. Ipek Yalcin Enis

Textile Engineering Department,
Textile Technologies and Design
Faculty, Istanbul Technical
University, Beyoglu, 34437
Istanbul, Turkey

Dr. Fatma Yalcinkaya

Department of Environmental
Technology, Institute for
Nanomaterials, Advanced
Technologies and Innovations,
Technical University of Liberec,
461 17 Liberec, Czech Republic

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Message from the Guest Editors

Dear Colleagues,

Electrospinning creates nanometer-to-micrometer polymer fibers. Electrospun fibers are now used in tissue engineering, drug delivery, and energy storage due to improvements in electrospinning.

Electrospinning with multi-component polymer systems has produced fibers with customized characteristics. Combining polymers improves fiber mechanical strength, biocompatibility, and drug loading capacity.

Functionalized electrospun fibers represent another advancement in this field. The addition of functional molecules such as enzymes or antibodies to fibers creates materials with specialized biological or chemical capabilities. Biosensors and drug delivery may use these functionalized fibers.

Hybrid electrospinning polymer–metal or polymer–ceramic composites represent another advancement. These materials can be used for energy storage and catalysis.

Finally, electrospinning involves advanced fiber alignment and orientation procedures. Fiber orientation can form anisotropic mechanical, electrical, and optical materials. Tissue engineering and electronics may use these materials.

Dr. Baturalp Yalcinkaya

Dr. Ipek Yalcin Enis

Dr. Fatma Yalcinkaya

Guest Editors

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Editor-in-Chief

Prof. Dr. Alexander Böker

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

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Polymers Editorial Office
MDPI, St. Alban-Anlage 66
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