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Nanotechnology in Clothing & Fabrics

Guest Editor:

Dr. Muralidharan Paramsothy

Consultant, NanoWorld
Innovations (NWI), 1 Jalan
Mawar, Singapore 368931,
Singapore

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Message from the Guest Editor

Making clothing and fabric with nanoparticles or nanofibers allows the improvement of fabric properties without a significant increase in weight, thickness, or stiffness. Some current applications include:

- Nano-whiskers that cause water to bead up, making the fabric water- and stain-resistant
- Silver nanoparticles in fabric that kill bacteria, making clothing resistant to odour
- Nanopores, providing superior insulation for shoe inserts in cold weather
- Nanoparticles that provide a droplet-repellent effect for fabric used in awnings and other construction structures left out in the weather, causing dirt to rinse off in the rain
- Nanowires to develop flexible capacitors for use in fabric
- Coating a fabric with nanoparticles for battery creation
- Solar cell fabric
- Honeycomb of polyurethane nanofibers for the creation of clothing that protects against hazardous chemicals
- Piezoelectric nanofibers that allow clothing to generate electricity through normal motions
- Form-fitting clothing made using fabric composed of proteins, this nanomaterial stretching as much as 1500% of its original size
- Electrospun nanofiber inclusion
- Cell response to nanoparticles



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Special Issue



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Editor-in-Chief

Prof. Dr. Shirley Chiang

Department of Physics, University
of California Davis, One Shields
Avenue, Davis, CA 95616-5270,
USA

Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
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