







an Open Access Journal by MDPI

# Advances in Textile-Based Composites and Polymers: Machine Learning Predictions, Structure Optimization and Smart Applications

Guest Editors:

#### Dr. Pooria Khalili

Swedish Centre for Resource Recovery, Faculty of Textiles, Engineering and Business, University of Borås, SE-50190 Borås, Sweden

## Dr. Nancy Abdallah

Faculty of Textiles, Engineering and Business (including The Swedish School of Textiles)—Department of Engineering, University of Borås, Borås, Sweden

Deadline for manuscript submissions:

20 October 2024

## **Message from the Guest Editors**

Dear Colleagues,

The Special Issue presents a comprehensive overview of the latest advances in the intersection of textiles, composites, and polymers. Focusing on the integration of machine learning, the issue explores predictive modeling in order to understand complex material behaviors. Researchers delve into the application of machine learning algorithms for the prediction and optimization of the structural designs of textile-based composites.

Beyond theoretical discussions, the also Special Issue emphasizes practical implementations, demonstrating how smart textiles are deployed across various domains. From predicting material responses to optimizing structures and incorporating intelligent applications, this issue offers a holistic perspective on the developing landscape of textile-based composites and polymers. Specifically targeting researchers, engineers, and practitioners, this collection of articles serves as a valuable resource for the latest advancements in this dynamic and interdisciplinary field.













an Open Access Journal by MDPI

## **Editor-in-Chief**

### Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

# **Message from the Editor-in-Chief**

Materials (ISSN 1996-1944) was launched in 2008. The iournal covers twenty-five comprehensive biomaterials, energy materials, advanced composites. advanced materials characterization, porous materials, manufacturing processes and svstems. nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials. materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. Materials provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

## **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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases

**Journal Rank:** JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

## **Contact Us**