Special Issue

Innovations in Nanoparticle-Enhanced Liquid Crystal Materials

Message from the Guest Editors

Liquid crystal is a functional soft material due to its anisotropy of crystalline solids and fluidity of ordinary liquids. Although liquid crystals are mainly used in display devices, such as liquid crystal displays, smartphones, and tablets because of their interesting electro–optical properties, they have found a place in digital data storage, holography, color thermometers, smart windows, and optical and biological sensors. Recently, the combination of nanoparticles with liquid crystals has captured significant attention in the scientific community. As ordered templates, liquid crystal molecules can be used for the synthesis and self-assembly of functionalized nanoparticles. On the other hand, dispersed nanoparticles can induce the homogeneous alignment of liquid crystal molecules, forming various anisotropic structures and enhancing the electro-optic properties.

This Special Issue will focus on a wide range of nanoparticles, including metal nanoparticles, metal oxide nanoparticles, ferroelectric nanoparticles, carbon nanotubes, quantum dots, etc., and related soft-matter liquid crystal systems.

Guest Editors

Dr. Jiatong Sun

College of Information Science and Technology, Donghua University, Shanghai 201620, China

Dr. Jingxin Sang

School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, Shanghai 200093, China

Deadline for manuscript submissions

20 September 2025

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/226747

Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced 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.

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

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 - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)

MDPI