

Special Issue

Nanoscale Catalytic Synthesis of Biodegradable or Biobased Polymeric Materials from Carbon Dioxide

Message from the Guest Editors

Carbon dioxide (CO₂)-based biodegradable polymers are gaining attentions since they can alleviate both the global warming effect and white plastic pollution. Recent advances in catalysts for CO₂ copolymerization will aid the development of biodegradable or biobased polymeric materials from CO₂. We are seeking original research and review articles that will stimulate the continuing efforts to design and develop nanoscale catalytic synthesis of CO₂ copolymers. This Special Issue aims to cover a wide range of subjects, including all kinds of polymeric materials from carbon dioxide including CO₂-based polycarbonate, polyester, polyurea, polyurethane, etc. and all kinds of catalyst for CO₂ copolymerization including metal complex catalyst and metal-free catalyst, as well as CO₂-based polymers applied in different scene including packaging materials, foam materials, barrier materials, electrolytes or binders for lithium-ion batteries, etc.

Guest Editors

Prof. Dr. Yuezhong Meng

Prof. Dr. Yuning Li

Prof. Dr. Luyi Sun

Dr. Shan Ren

Deadline for manuscript submissions

closed (30 November 2025)



Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 10.3
Indexed in PubMed



mdpi.com/si/193878

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

[mdpi.com/journal/
nanomaterials](https://mdpi.com/journal/nanomaterials)





Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 10.3
Indexed in PubMed



[mdpi.com/journal/
nanomaterials](https://mdpi.com/journal/nanomaterials)



About the Journal

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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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, CAPIus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)