# **Special Issue**

# Revisiting the Fundamentals: Synthesis of Metal Oxides

# Message from the Guest Editor

This Special Issue is dedicated to re-examining the synthesis techniques of metal oxides, essential in a wide range of applications, including energy storage, catalysis, electronics, and health. With a focus on review-type articles, this collection aims to provide a comprehensive understanding of both traditional and emerging techniques for metal oxide synthesis, offering insights into their mechanisms, scalability, and applications. By revisiting the fundamentals, critical discussions on the limitations, advancements, and potential of various methods are encouraged. Themes of interest include, but are not limited to, the following:

- vapor condensation synthesis
- vapor reaction synthesis
- aerosol synthesis
- chemical precipitation and coprecipitation
- hydrothermal and solvothermal
- sol-gel
- pechini process
- synthesis in microemulsions
- sonochemical synthesis
- solution combustion synthesis
- electrochemical synthesis
- synthesis in supercritical fluids
- mechanical milling
- mechanochemical processing
- cryochemical processing

## **Guest Editor**

Dr. Vasile-Adrian Surdu

Department of Materials Science, Faculty of Materials Science and Engineering, Transilvania University of Brasov, 500036 Braşov, Romania

# Deadline for manuscript submissions

20 April 2026



an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/217785

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

mdpi.com/journal/ materials





an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 6.4 Indexed in PubMed





# 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

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