# 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

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## Deadline for manuscript submissions

closed (20 April 2026)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
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mdpi.com/si/217785

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### Message from the Editorial Board

*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.

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