

Special Issue

Advances in Cerium-Based Material in Catalysis

Message from the Guest Editor

The use of cerium-oxide-based material as catalysts has played an increasingly important role over the years, especially in the field of environmental catalysis. Cerium oxide nanoparticles due to the self-regeneration of their surface, which is based on the easy changing during redox cycling between 3+ and 4+, was largely employed in catalytic converters for emissions control from engine vehicles. In addition, cerium oxide exhibits antioxidant properties both in vitro and in vivo and is then used in biomedical applications to treat diseases that are characterized by higher levels of reactive oxygen. Many synthesis procedures are reported in the literature, and cerium nanoparticles have been deposited in many different supports, such as silica, alumina, or titania. Nevertheless, due to the importance of cerium nanoparticles, the research effort must continue. This Special Issue has the goal to stimulate the research community to share the last findings in cerium-based materials, pointing out synthesis procedures, characterization, and activity, taking also into account the environmentally friendly impact of its use.

Guest Editor

Prof. Dr. Giuseppe Pantaleo

Istituto per lo Studio dei Materiali Nanostrutturati (ISMN-CNR), Via Ugo La Malfa 153, 90146 Palermo, Italy

Deadline for manuscript submissions

closed (15 October 2023)



Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



mdpi.com/si/161743

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

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





Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



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



About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Keith Hohn

Carl R. Ice College of Engineering, Kansas State University, Manhattan,
KS, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, CAB Abstracts, and other databases.

Journal Rank:

JCR - Q2 (Chemistry, Physical) / CiteScore - Q1 (General Environmental Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.6 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).