

## Special Issue

# Spectroscopy in Modern Materials Science and Catalysis

### Message from the Guest Editors

We are pleased to invite you to a Special Issue dedicated to spectroscopy in modern materials science and catalysis. Spectroscopy is an essential tool for probing the electronic structure, oxidation states, and coordination environments in materials science and catalysis. The topics of this Special Issue include but are not limited to, the following:

- Application of spectroscopy to study catalytic mechanisms at the atomic level.
- Identifying active sites in catalysts for CO<sub>2</sub> reduction, water splitting, and polymer upcycling.
- Insights into the electronic properties of transition metal complexes using spectroscopy.
- Role of spectroscopy in optimizing catalysts through advanced theoretical methods.
- Spectroscopic investigation of energy storage materials, including batteries and fuel cells.
- Revealing the effects of defects, doping, and charge transport in energy storage systems.
- In-situ and operando spectroscopy for real-time insights into dynamic processes.
- Spectroscopy's contribution to understanding material performance under operational conditions in energy and catalysis applications.

### Guest Editors

Dr. Cong Liu

Chemical Sciences and Engineering Division, Argonne National Laboratory, Lemont, IL 60439, USA

Dr. Rishu Khurana

1. Chemical Sciences and Engineering Division, Argonne National Laboratory, Lemont, IL 60439, USA

2. Department of Chemistry, The University of Chicago, Chicago, IL 60637, USA

### Deadline for manuscript submissions

15 September 2025



## Catalysts

an Open Access Journal  
by MDPI

Impact Factor 4.0  
CiteScore 7.6



[mdpi.com/si/219674](https://mdpi.com/si/219674)

*Catalysts*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[catalysts@mdpi.com](mailto: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).