

## Special Issue

# Advanced Functional Coatings and Materials for Energy Harvesting, Conversion and Storage

### Message from the Guest Editor

In the pursuit of sustainable energy solutions, the significance of advanced functional coatings and materials is paramount, particularly within the domains of energy harvesting, conversion, and storage. The lack of comprehensive research on coatings and materials utilized in electrodes, collectors, and separators has resulted in challenges such as slow kinetic speed and low energy conversion efficiency in reactions. Thus, there exists an urgent need to enhance the efficiency of energy production processes and optimize storage capacities. This Special Issue is positioned to accelerate advancements in the development of novel materials and coatings customized for diverse applications like solar cells, batteries, supercapacitors, and thermoelectric devices. Topics of interest includes:

- Exploration of novel materials and coatings aimed at enhancing energy conversion efficiency;
- Utilization of advanced characterization techniques for the evaluation of functional coatings;
- Innovations in nanomaterials and functional coatings tailored specifically for energy applications;
- Challenges and opportunities associated with the scaling up of functional coatings.

---

### Guest Editor

Dr. Maiwen Zhang

Department of Chemical Engineering, Waterloo Institute for Nanotechnology, University of Waterloo, Waterloo, ON N2L 3G1, Canada

---

### Deadline for manuscript submissions

closed (30 June 2025)



## Coatings

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.8  
CiteScore 5.4



[mdpi.com/si/200600](https://mdpi.com/si/200600)

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

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





# Coatings

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.8  
CiteScore 5.4



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



## About the Journal

### Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

---

### Editors-in-Chief

Prof. Dr. Wei Pan

State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China

Dr. Emerson Coy

NanoBioMedical Centre, Adam Mickiewicz University in Poznań, ul. Wszechnicy Piastowskiej 3, 61-614 Poznań, Poland

---

### 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), Ei Compendex, CAPlus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q2 (Surfaces, Coatings and Films)