

## Special Issue

# Next-Generation Surface Engineering for Corrosion Protection in Industry and Extreme Environments

### Message from the Guest Editors

Corrosion severely impacts the durability, safety, and performance of engineering materials, causing economic losses and safety risks. With growing demand for longer lifetimes in harsh environments such as marine, aerospace, oil, and gas, solutions beyond conventional strategies are needed. Surface engineering—including advanced coatings, surface modifications, and material design—offers effective tools for corrosion mitigation and improved durability. This Special Issue collects research on surface engineering for corrosion protection, focusing on mobility, transport, energy systems, and extreme environments. It highlights next-generation materials, coatings, and treatments that withstand demanding conditions while considering sustainability, cost, and scalability. Scope includes:

- Electrochemistry of corroding interfaces
- Non-destructive evaluation
- Role of nano-/microstructure
- Corrosion-assisted cracking
- Fracture of aerospace structures
- Corrosion of energy systems
- Corrosion of weldments
- Petroleum, oil & gas corrosion
- Water system corrosion
- Prevention and mitigation
- Corrosion-barrier coatings
- Steel in concrete corrosion
- Additively manufactured materials

---

### Guest Editors

Dr. Edgar Carneiro  
Dr. José David Castro  
Dr. Ricardo Serra

---

### Deadline for manuscript submissions

30 June 2026



## Coatings

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.8  
CiteScore 6.1



[mdpi.com/si/254921](https://mdpi.com/si/254921)

*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 6.1



[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)