

## Special Issue

# Environmental Microbiology for Sustainable Bioenergy Solutions

### Message from the Guest Editor

The pursuit of climate neutrality and resource efficiency necessitates transformative innovations within the energy and bioresource sectors. Environmental microbiology thus emerges as a critical scientific pillar underpinning the development of integrated, scalable, and circular bioenergy solutions. This Special Issue aims to consolidate cutting-edge research at the interface of microbiology, biotechnology, and environmental systems science, with a particular emphasis on the role of microbial processes in enabling the sustainable production of biofuels, biogas, hydrogen, and other energy vectors. We welcome original research, following thematic areas:

- Engineered microbial consortia and synthetic biology approaches for optimized bioconversion;
- Microbial dynamics and process enhancement in anaerobic digestion and methanogenesis;
- Algal and phototrophic microbial platforms for next-generation biofuels;
- Microbial electrochemical systems and bio-based energy storage technologies;
- Bioconversion of agro-industrial residues and biowaste within circular value chains;
- Functional and structural microbial ecology in bioenergy production systems, etc.

### Guest Editor

Dr. Alina Butu

National Institute of Research and Development for Biological Sciences, Bucharest, Romania

### Deadline for manuscript submissions

30 March 2026



**Sustainability**

---

an Open Access Journal  
by MDPI

---

**Impact Factor 3.3**  
**CiteScore 7.7**



[mdpi.com/si/249954](https://mdpi.com/si/249954)

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

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





## Sustainability

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 7.7



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



## About the Journal

### Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

---

### Editor-in-Chief

Prof. Dr. Marc A. Rosen

Faculty of Engineering and Applied Science, University of Ontario  
Institute of Technology, Oshawa, ON L1G 0C5, Canada

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, RePEc, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Environmental Studies) / CiteScore - Q1  
(Geography, Planning and Development)