Special Issue

Applications of Pulsed Electric Field (PEF) Interactions with Biological Cells

Message from the Guest Editors

This Special Issue will provide an excellent opportunity to share the latest research on the technology associated with the generation of pulsed electric fields (PEFs), from pulse generators to treatment chambers, and its applications in different fields. In addition, the effects of PEFs in cancer treatment and tumor ablation, disinfection, decontamination, hygiene, cell and tissue stimulation, wound healing, biomass processing and biofuel generation, food safety and food preservation, agricultural crops, and farming and biomedical applications, as well as diagnostics and analytics, are encouraged. This Special Issue of the journal Applied Sciences, "Applications of Pulsed Electric Field (PEFs) Interactions with Biological Cells", aims to attract novel contributions covering a wide range of research and applications on the experimental techniques and effects of the use of PEFs in biological cells. Keywords

- pulsed electric field (PEF) generation
- diagnostic and analytics
- PEF applications in the medical, environmental, food, energy, and biotechnological fields
- experimental techniques and effects from using PEFs in biological cells

Guest Editors

Prof. Dr. Luis Redondo

Unit for Innovation and Research in Engineering, Lisbon School of Engineering, UnIRE/ISEL, 1959-007 Lisbon, Portugal

Prof. Dr. Bucur Novac

Wolfson School of MEME, Loughborough University, Loughborough, UK

Deadline for manuscript submissions

20 January 2026



Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.5



mdpi.com/si/170081

Applied Sciences Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41616837734 applsci@mdpi.com

mdpi.com/journal/applsci





Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.5



About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multidimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo

Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

