# Special Issue

# Next-Generation Neurodiagnostics: Deep Learning, Hyperspectral Imaging, and Computing Acceleration in Brain Condition Detection

## Message from the Guest Editors

This Special Issue, “Next-Generation Neurodiagnostics: Deep Learning, Hyperspectral Imaging, and Computing Acceleration in Brain Condition Detection”, aims to garner original research and comprehensive reviews that focus on novel methodological advances and translational applications in this evolving field. We welcome both specific and interdisciplinary contributions that utilize machine learning, spectral data analysis, and neuroimaging technologies to enhance our ability to diagnose and characterize neurological conditions at multiple spatial, temporal, and spectral scales. Topics of interest for this Special Issue include, but are not limited to, the following:

- Hyperspectral imaging for brain tissue analysis and disease detection;
- Deep learning methods for spectral and multimodal neuroimaging data;
- Multimodal data fusion combining HSI, MRI, fMRI or PET;
- Microscopy imaging;
- Real-time brain imaging through computing acceleration (e.g., GPUs, FPGA, edge computing);
- Spectral analysis and biomarkers for neurological conditions diagnosis;
- Image segmentation, classification, and anomaly detection in neural datasets.

## Guest Editors

Dr. Miguel Chavarrías
Dr. César Sanz
Dr. Jaime Sancho

## Deadline for manuscript submissions

31 May 2026

**Bioengineering**

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 5.3
Indexed in PubMed

mdpi.com/si/245006

*Bioengineering*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
bioengineering@mdpi.com

mdpi.com/journal/bioengineering

# Bioengineering

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 5.3
Indexed in PubMed

mdpi.com/journal/bioengineering

# About the Journal

## Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Bioengineering* (ISSN 2306-5354). *Bioengineering* is published in open access format – research articles, reviews and other contents are released on the Internet immediately after acceptance. The scientific community and the general public have unlimited and free access to the content as soon as it is published. *Bioengineering* provides an advanced forum for the science and technology of bioengineering. We would be pleased to welcome you as one of our authors.

## Editor-in-Chief

Prof. Dr. Anthony Guiseppi-Elie
Department of Biomedical Engineering, Texas A&M University, College Station, TX 77843, USA

## Author Benefits

**High Visibility:**

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

**Journal Rank:**

JCR - Q2 (Engineering, Biomedical)

**Rapid Publication:**

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).