

## Special Issue

# Clinical Application of Augmented Reality (AR) in Neurosurgery

### Message from the Guest Editors

Extended reality (XR) technologies have gained increasing attention in medical research in recent years. This has opened the way for various applications ranging from education and training to preoperative planning and intraoperative use. One of the specialties most heavily reliant on sophisticated imaging, neurosurgery, has been at the forefront of research and development related to this technology. However, AR is frequently met with hesitance among clinicians due to several technical challenges. Thus, much work remains to be carried out for its seamless integration into the neurosurgeon's workflow and for its full potential to be realized.

Specific themes may include but are not limited to:

- AR-assisted preoperative planning;
- AR-assisted multimodal neuronavigation;
- Intraoperative use of AR in cranial and spinal neurosurgery;
- AR-assisted neuroanatomy education;
- Use of microscope-mediated heads-up displays and head-mounted displays in the neurosurgical operating theater.

We very much look forward to your contributions.

---

### Guest Editors

Dr. Ibrahim E. Efe

Department of Neurosurgery, Charité–Universitätsmedizin Berlin, Corporate Member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Berlin, Germany

Dr. Markus Holling

Department of Neurosurgery, University Hospital Münster, Münster, Germany

---

### Deadline for manuscript submissions

closed (30 April 2024)



## Medicina

---

an Open Access Journal  
Published by MDPI

---

Impact Factor 2.4  
CiteScore 4.1  
Indexed in PubMed



[mdpi.com/si/149237](https://mdpi.com/si/149237)

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

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





# Medicina

---

an Open Access Journal  
Published by MDPI

---

Impact Factor 2.4  
CiteScore 4.1  
Indexed in PubMed



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



## 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 *Medicina* (ISSN: 1648-9144). *Medicina* is an open access, peer-reviewed scientific journal that publishes original articles, critical reviews, research notes, and short communications on medicine. The scientific community and the general public can access the content free of charge as soon as it is published.

---

### Editor-in-Chief

Prof. Dr. Edgaras Stankevičius  
Medical Academy, Lithuanian University of Health Sciences, Kaunas,  
Lithuania

---

### 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), PubMed, MEDLINE, PMC, and other databases.

#### Journal Rank:

JCR - Q1 (Medicine, General and Internal) / CiteScore - Q1 (General Medicine)