

Special Issue

Application of Neural Engineering in Sleep Research and Medicine

Message from the Guest Editors

Sleep is essential for a multitude of biological processes. Studying and monitoring sleep requires the simultaneous acquisition of multiple bio-signals related to both the central and the peripheral nervous system. If this can limit the applicability in daily life conditions, it also implies a considerable effort in terms of signal preprocessing and advanced analysis.

Considering the latest achievements in the field of biomedical imaging, signal processing, and machine learning, this Special Issue aims to collect original research papers and comprehensive reviews focusing on the most recent applications and studies of neural engineering for sleep research and medicine. Topics of interest include, but are not limited to, the following:

- Signal processing for sleep data analysis.
- Machine learning based approaches for sleep data analysis and sleep staging.
- Automated methods for sleep staging, event detections and pattern recognition.
- Multimodal neuroimaging for sleep study.
- Non-invasive systems for sleep monitoring in both clinical and daily life settings.
- Techniques and technologies for influencing and manipulating sleep.

Guest Editors

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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

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