

Special Issue on
**Portable and Wearable Brain Technologies for
Neuroenhancement and Neurorehabilitation**

CALL FOR PAPERS

The recent advent of portable and wearable neuroimaging and neurostimulation technologies triggered a proliferation of research on brain recording and augmentation, both in healthy adults and in patients with neurological or psychiatric disease. Augmentation refers to the improvement of brain function (e.g., cognitive, affective, and motor) through task performance or reversal of deficits that are normal consequences of performance in healthy adults (e.g., mental fatigue, stress) or those related to brain disorders.

The goal of this special issue is to bring together recent advances in clinical and field applications of portable and wearable brain technologies, like neuroimaging, such as electroencephalography (EEG), functional near-infrared spectroscopy (fNIRS), and also stimulation approaches like transcranial direct-current stimulation (tDCS). Such approaches have made significant progress in recording and altering brain activity while allowing full body movements outside laboratory environments.

This special issue calls for neuroscience or neuroengineering manuscripts related to the use or development of portable and wearable neuroimaging or neurostimulation systems. Submissions can be any article type covering advanced neuroscience methods and neuroengineering techniques as well as analysis approaches to investigate brain dynamics in virtual, actual, or lab settings. Applications of these technologies to investigate attention, working memory, workload, brain behavioral relationship, human-computer-interaction, brain-computer-interfacing, and related areas relevant to ecologically valid environments are especially invited.

Potential topics include but are not limited to the following:

- ▶ Advances in wearable and portable neuroimaging such as fNIRS/EEG
- ▶ Applications of neurostimulation such as tDCS/tACS/tES/rTMS
- ▶ Advances in neurocognitive enhancement and neurostimulation
- ▶ Brain-computer-interface/neuroadaptive system design and development
- ▶ Multimodal neuroimaging and/or neurostimulation
- ▶ Development of portable and wearable brain sensors
- ▶ Applications of neurofeedback/biofeedback mechanisms
- ▶ Neuro/biosignal processing and analysis techniques
- ▶ Motion artifact rejection and noise removal algorithms
- ▶ Feature selection and classification
- ▶ Machine learning for online and offline classification
- ▶ Validation of wearable technology

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/neuroscience/pwbt/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Noman Naseer, Air University,
Islamabad, Pakistan
noman@pusan.ac.kr

Guest Editors

Hasan Ayaz, Drexel University,
Philadelphia, USA
hasan.ayaz@drexel.edu

Frederic Dehais, Institut Supérieur de
l'Aéronautique et de l'Espace, Toulouse,
France
frederic.dehais@isae.fr

Submission Deadline

Friday, 28 July 2017

Publication Date

December 2017