J-BHI Special Issue on “Sensor Informatics for Managing Mental Health”

Mental, neurological, and substance-use disorders (MNS) conditions such as depression, psychosis, bipolar disorders, epilepsy, developmental and behavioral disorders in children and adolescents, dementia, Parkinson’s disease, alcohol use disorders, drug use disorders, and self-harm/suicide, are prevalent throughout the world. They are major contributors to morbidity and premature mortality. Due to the challenges related to diagnosis, monitoring, treatment and prevention of MSN disorders, synergistic research efforts are required.

To this end, biomedical and health informatics technologies need to develop innovative sensing and processing platforms, for effective capturing of information during daily activities or sleep, during specific tasks, at home and in clinics for the assessment of the subjects’ psychophysiological state including affective, stress, mood, and behavioral states. Research involving such computational models of pathophysiology and related signal/data processing, within a focused and timely special issue, will have the potential to guide the future delivery of treatment tailored to individual needs, improving the lives of people affected by MNS disorders, and clinicians dealing with MNS diagnoses and treatments.

The main topics of interest to this special issue include, but are not limited to:

- Advances in detection, sensing, analysis, and modelling of central and/or autonomic correlates useful in psycho-physiological states assessment
- Applications of biomedical signal processing techniques improving the embedded and remote monitoring of MNS patients
- Innovative MNS sensing platforms based on wearable monitoring systems and smart textile technology
- Sleep monitoring and assessment in MSN patients
- Annotated and advanced models of MNS disorders
- Biomechanical and biomotion studies during MNS disorders
- Healthcare data systems and Telematics for managing MNS disorders
- Novel approaches for real-time machine learning with wearable and home monitoring technologies for the assessment of MNS disorder progression and for improving psycho-physiological evaluations
- New assistive devices, sensors and feedback systems for self-management of mental disorders
- Novel technologies for managing depressive comorbidities in ageing
- ICT tools for mental health promotion and suicide prevention

Priorities will be given to papers reporting original work supported by long-term analysis, carefully designed studies, large cohort validation, and supplemented by on-line data or resources that can be shared by the research community.

Submission of manuscripts

Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. As an author, you are responsible for understanding and adhering to our submission guidelines (http://pbi.embs.org/for-authors/). When submitting, authors are requested to choose “Sensor Informatics for Managing Mental Health” in the manuscript type to indicate that the paper is intended for this special issue. The managing editor for coordinating this special issue is Dr. Carmen Poon.