

Tentative Outline

Special Thematic Issue for Current Topics in Medicinal Chemistry

Thematic Issue Title: Biological signatures of neuro-psychiatric disorders: trans-diagnostic validation

Guest Editor: Drozdstoy St. Stoyanov

Aims & Scope:

This thematic issue will focus on original reports and/or critical reviews of potential biological signatures of major neurological and psychiatric disorders, such as schizophrenia, major depressive disorder, bipolar disorders, anxiety disorders, multiple sclerosis etc.

The fundamental aim of the thematic issue is to bring forward the trans-diagnostic role of molecular, immune-inflammatory, and neuroimaging methods and data, which explains broad spectrum of diagnostic and classification entities, by means of cross-validation of clinical and biological markers. This is achieved by advanced statistical methodology, including machine learning experiments.

The underpinning mechanisms of disease are identified on three vertical levels of determination:

- (i) Neuro-chemical, exploring the molecular bio-markers of disease, such as microRNAs, pro-inflammatory mechanisms, neuro-oxidative and neuro-nitrosative stress in peripheral blood samples to be cross-validated against central biomarkers, e.g. magnetic-resonance spectroscopy
- (ii) Neuro-biological and neuro-anatomical signatures, outlined by structural magnetic-resonance imaging (quantitative MRI; voxel-based morphometry, in vivo histology of the central nervous system), and functional MRI, to detect the corresponding blood-oxygenation-level-dependent signal
- (iii) Clinical phenomenology datasets: scores from clinical interviews; cognitive and self-evaluation tests

The rationale of this collection is to delineate both vertical and horizontal sections of neurological and psychiatric diagnoses from the view of fundamental neuroscience.

Keywords: neurobiology, molecular neuroscience, neuroimaging, machine learning, diagnosis, neurology, psychiatry

Subtopics:

The subtopics to be covered within this issue are listed below:

1. Trans-disciplinary diagnostic biomarkers
2. Biological signatures of disease
3. Machine Learning Experiments in Clinical Neuroscience
4. Functional and structural neuroimaging
5. Molecular neurobiology

Schedule:

- Manuscript submission deadline: October 15 th
- Peer review due: November 1st
- Revision due: November 15th
- Announcement of acceptance by the guest editors: November 20th
- Final manuscripts due: November 30th 2019

Contacts:

Guest Editor:

Drozdstoy

Stoyanov

Affiliation:

Medical

University

Plovdiv

Email:

drozdstoy.sto

yanov@mu-

plovdiv.bg

Any queries should be addressed to ctmc@benthamsience.net