
**Brain Informatics 2021 Conference Special Session on**
**New Methods and Technology in the Brain Imaging**

**September 17, 2021, Padova, Italy (Both online and offline modes)**

[On-line Submission]

**Introduction**

Innovations in brain imaging and modulation technologies will undoubtedly lead to a deeper understanding of how the brain perceives, moves, learns, and remembers, and so on. But only technological innovation will not enable us to understand the underlying mechanism of the brain. How to conclude or even explore a more general conclusion from individual characteristics, this needs to be completed by combining new analytical methods and imaging techniques. The establishment of neural circuits between brain nodes is a key for human's external behavior and internal perception thinking. The current research on the brain has been divided into many sub-fields from macro to micro. Different levels have different characteristics and have not yet been fully integrated. As for the working mode of this community hierarchy, we hope to incorporate the network structure of all levels into a framework through a unified research paradigm, and then restore the brain network structure of the original space. Because mathematically, the brain can be viewed as a complete system, which exists commonly isomorphic mapping. Therefore, we propose a unified GCA (uGCA) method based on the minimum description length (MDL) principle, in which code length guides the causal investigation uniformly. Meanwhile, the brain network isomorphism have been verified involving fMRI data sets with long and short TRs. In addition, we have also developed MEG instrument with high spatial and temporal resolution. The emerging imaging technology can further explore the low-level characteristics of the brain directly, which is of great significance for unifying the brain networks at different levels and further helping to explore the structural characteristics of the brain network. This reductive unified analysis method provides a new research paradigm for exploring the underlying mechanism of how the brain thinks and reasons.

Submission and Publication [Enter]

Similar to the main conference, there are 2 types of paper submissions that are possible:

**Type** Ⅰ: Full Paper Submissions. Papers need to have up to 10 pages in LNCS format using our online submission system. All full-length papers accepted will be published by

Springer as a volume of the series of LNCS/LNAI.

**Type Ⅱ**: Abstract Submissions. Abstracts have a word limit of 500 words. Experimental research is particularly welcome. Accepted abstract submissions will be included in the conference program and will be published as a single, collective proceedings volume.

Workshop and Special Session full papers will be published at the same **BI proceedings at the Springer-Nature LNAI Brain Informatics book series.**
Accepted full papers will be selected to publish in a special issue at the Springer Open Access **Brain Informatics Journal (Springer-Nature)** upon significant revision.

**Special Session Chairs**


- Zhenghui Hu, College of Science, Zhejiang University of Technology, China.
  Email: zhenghui@zjut.edu.cn


**Special Session Schedule**

- Submission deadline: 30 April, 2021
- Review deadline: 30 May, 2021
- Acceptance deadline: 1 June, 2021
- Camera ready & Registration: 15 July, 2021
- Program ready: 17-19 September, 2021