

## Special Issue

# Brain Functional Connectivity: Prediction, Dynamics, and Modeling

### Message from the Guest Editor

The brain is one of the most complex and mysterious systems in the world. Functional connectivity can be studied in both the frequency and time domains using methods such as coherence, correlation, and artificial neural networks. Revealing the functional connectivity between different brain regions can help us understand the mechanisms underlying information processing and decision making during cognitive tasks. This knowledge can also address practical and challenging problems in various fields, including healthcare, medicine, biomedical engineering, brain-machine interfaces, and cognitive sciences. The aim of this Special Issue is to collect the best papers on recent advances and perspectives in brain connectivity research, encompassing theoretical modeling, experimental studies, and the analysis of neurophysiological data obtained using various brain imaging modalities.

- neuroimaging data analysis
- neurophysiological signal processing
- brain dynamics
- brain networks
- brain modeling
- brain diseases
- connectomics
- neuronal synchronization
- brain-machine interface
- cognitive neuroscience
- deep learning in neuroscience

### Guest Editor

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### Deadline for manuscript submissions

31 August 2025



## Applied Sciences

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### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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