



Information Theory in Neuroscience

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Message from the Guest Editors

Dear Colleagues,

As the ultimate information processing device, the brain naturally lends itself to be studied with information theory. Application of information theory to neuroscience has spurred the development of principled theories of brain function, has led to advances in the study of consciousness, and to the development of analytical techniques to crack the neural code, that is to unveil the language used by neurons to encode and process information. In particular, advances in experimental techniques enabling precise recording and manipulation of neural activity on a large scale now enable for the first time the precise formulation and the quantitative test of hypotheses about how the brain encodes and transmits across areas the information used for specific functions.

This Special Issue emphasizes contributions on novel approaches in neuroscience using information theory, and on the development of new information theoretic results inspired by problems in neuroscience. Research work at the interface of neuroscience, Information Theory and other disciplines is also welcome.

Prof. Stefano Panzeri
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Guest Editors





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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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