Special Issue

Neural Dynamics and Information Processing

Message from the Guest Editors

Information theory has emerged as a framework for investigating how neural populations operate. However, it is difficult to scale information-theoretic methods to large neural populations or long recordings. At the same time, progress in recording techniques yields ever-increasing numbers of simultaneously recorded neurons, providing rich datasets for the analysis of underlying neural population dynamics. New modeling and methodological approaches are developed to investigate neural dynamics and exploit the advantages of information-theoretic measures in this context, dealing with the challenges of computational and sample complexities. This Special Issue is concerned with the latest contributions to modeling neural dynamics, in conjunction with approaches from information theory, which are applied to tuning and interpreting dynamical models. We also invite research at the intersection between machine learning and neuroscience aiming to scale dynamics or information theory approaches to larger scales.

Guest Editors

Dr. Arno Onken

Institute for Adaptive & Neural Computation, School of Informatics, University of Edinburgh, Edinburgh EH8 9AB, UK

Dr. Nina Kudryashova

Institute for Adaptive & Neural Computation, School of Informatics, University of Edinburgh, Edinburgh EH8 9AB, UK

Deadline for manuscript submissions

closed (28 April 2023)

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/133128

Entropy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
entropy@mdpi.com

mdpi.com/journal/entropy

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/journal/entropy

About the Journal

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.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

Editor-in-Chief

Prof. Dr. Kevin H. Knuth
Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, PubMed, PMC, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Physics, Multidisciplinary) / CiteScore - Q1 (Mathematical Physics)

MDPI