



Entropy and Irreversibility in Biological Systems

Guest Editors:

Dr. Massimiliano Zanin

Instituto de Física Interdisciplinar
y Sistemas Complejos (IFISC), E-
07122 Palma, Spain

mzanin@ifisc.uib-csic.es

Dr. David Papo

Center for Translational
Neurophysiology for Speech and
Communication, Fondazione
Istituto Italiano di Tecnologia, via
Fossato di Mortara 17/19, 44121
Ferrara, Italy

david.papo@iit.it

Deadline for manuscript
submissions:

15 September 2021

Message from the Guest Editors

The last few years have seen a dramatic increase in the availability of biological data, thanks to the introduction of new large-scale techniques, to screening programs applied to the general population, and to the availability of open-access data banks. However, the collection of data is not equivalent to the acquisition of knowledge, and data are only as significant as the analyses performed on them. When the objective of the analysis is to detect patterns, subsequently, the most crucial concepts are entropy and irreversibility.

In this Special Issue, we welcome contributions applying the concepts of entropy and irreversibility to biological systems at all scales, from processes inside the cell to the whole human body, in health and pathologies. Potential topics of the Special Issue include, but are not limited to, the following: metrics of entropy and irreversibility for biological time series; analysis of EEG, MEG, and EKG data; and analysis of postural and gait data. SI's scope includes but not limits to:

- entropy
- irreversibility
- neuroscience
- biology
- pathologies

Dr. Massimiliano Zanin

Dr. David Papo

Guest Editors





entropy



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Kevin H. Knuth

Department of Physics, University
at Albany, 1400 Washington
Avenue, Albany, NY 12222, USA

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.

Author Benefits

Open Access:— free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [MathSciNet](#), [Inspec](#), [PubMed](#), [PMC](#), and many [other databases](#).

Journal Rank: [JCR](#) - Q2 (*Physics, Multidisciplinary*) / [CiteScore](#) - Q1 (*Mathematical Physics*)

Contact Us

Entropy
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
Fax: +41 61 302 89 18
www.mdpi.com

mdpi.com/journal/entropy
entropy@mdpi.com
[@Entropy_MDPI](#)