

## Special Issue

# Information Theory in Molecular Evolution: From Models to Structures and Dynamics

### Message from the Guest Editor

In recent years, there has been a growing interest in using tools from information theory and statistical physics to quantify and model evolutionary processes. This Special Issue aims to collect novel contributions in this interdisciplinary field. We are especially interested in submissions that use information theoretical concepts as a core but are tightly integrated with the study of molecular processes. Applications may include novel evolutionary models, the application of phylogenetic signals to elucidate the biomolecular structure and function, and biomolecule engineering inspired by evolutionary cues. Also of interest for this issue are applications of entropy to the study of de novo gene birth, including the emergence of essential, taxonomically-restricted genes, as well as the dynamics of biomolecules, including molecular dynamics and biophysical modeling. Finally, biomedical applications related to mutational change and the use of statistical techniques to study viral evolution and disease are encouraged.

### Guest Editor

Dr. Faruck Morcos

1. Evolutionary Information Laboratory, Department of Biological Sciences, University of Texas at Dallas, Richardson, TX, USA
2. Center for Systems Biology, University of Texas at Dallas, Richardson, TX, USA
3. Department of Bioengineering, University of Texas at Dallas, Richardson, TX, USA

### Deadline for manuscript submissions

closed (1 December 2020)



## Entropy

an Open Access Journal  
by MDPI

Impact Factor 2.1  
CiteScore 4.9  
Indexed in PubMed



[mdpi.com/si/21020](https://mdpi.com/si/21020)

*Entropy*  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[entropy@mdpi.com](mailto:entropy@mdpi.com)

[mdpi.com/journal/  
entropy](https://mdpi.com/journal/entropy)





# Entropy

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.1  
CiteScore 4.9  
Indexed in PubMed



[mdpi.com/journal/  
entropy](https://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)