



## Emergent Quantum Mechanics – David Bohm Centennial Perspectives

Guest Editors:

**Dr. Jan Walleczek**

**Dr. Gerhard Grössing**

**Dr. Paavo Pylkkänen**

**Prof. Dr. Basil Hiley**

Deadline for manuscript  
submissions:  
**closed (30 April 2018)**

### Message from the Guest Editors

Dear Colleagues,

This Special Issue explores the possibility of an ontology for quantum mechanics. The focus is the search for a "deeper-level" theory for quantum mechanics that interconnects three fields of knowledge: emergence, the quantum, and information. Contributions will be featured that present current advances in realist approaches to quantum mechanics, including new experiments, work in quantum foundations, and the physics of the quantum observer and the conscious experimenter agent.

Topics of the Special Issue:

- Interpretations of Quantum Mechanics
- Nonlocality and Violation of Bell Inequalities
- Quantum Probabilities and Contextuality
- Quantum Causality and Ontology
- Information Measures in Quantum Theory
- Quantum Observation and the Physics of the Experimenter Agent
- Nonlinear Methods applied to Quantum Theory
- Self-organization and Quantum Emergence
- Hidden Variable Theories and Relativity
- Emergent Space-time

Dr. Jan Walleczek  
Dr. Gerhard Grössing  
Dr. Paavo Pylkkänen  
Dr. Basil Hiley





*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 \(Web of Science\)](#), [Inspec](#), [PubMed](#), [PMC](#), [Astrophysics Data System](#), and [other databases](#).

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

## Contact Us

---

*Entropy* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/entropy](http://mdpi.com/journal/entropy)  
[entropy@mdpi.com](mailto:entropy@mdpi.com)  
[X@Entropy\\_MDPI](https://twitter.com/Entropy_MDPI)