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Towards Ultimate Quantum Theory (UQT)

Guest Editors:

Prof. Dr. Andrei Khrennikov

International Center for
Mathematical Modeling in
Physics and Cognitive Sciences,
Linnaeus University, SE-351 95
Växjö, Sweden

Prof. Dr. Margarita A. Man'ko

Lebedev Physical Institute,
Leninskii Prospect 53, 119991
Moscow, Russia

Dr. Yutaka Shikano

Quantum Computing Center,
Keio University, Yokohama 223-
8522, Japan

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Message from the Guest Editors

Dear Colleagues,

In spite of its tremendous success, the present quantum theory cannot be considered as *the ultimate theory of micro-phenomena*. It suffers from a variety of fundamental problems. Quantum mechanics is a nonrelativistic theory and its relativistic generalization, quantum field theory, suffers of divergences. However, of course, the biggest black cloud in the quantum sky is the impossibility to unify presently-existing quantum theory with general relativity. This Special Issue will be devoted to searching for new ways to create an ultimate quantum theory. However, since this project can take very long time, it also covers all traditional foundational topics: Interpretations, measurement theory, quantum information, entanglement and Bell-type inequalities, mathematical apparatus, experiment and its statistical analysis, quantum versus classical probability and randomness, quantum versus classical random walk, applications of the quantum formalism outside of physics, and especially applications of the principle of complementarity in cognition and decision making.

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Guest Editors



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Special Issue



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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.

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Contact Us

Entropy Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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