



*universe*



an Open Access Journal by MDPI

## Spontaneous Breaking of Conformal Symmetry

Guest Editor:

**Prof. Dr. Andrej Arbuzov**

Bogoliubov Laboratory of  
Theoretical Physics, Joint  
Institute for Nuclear Research,  
Dubna 141980, Russia

Deadline for manuscript  
submissions:

**closed (31 October 2020)**

### Message from the Guest Editor

The symmetry principle is one of the guiding rules in physics. Among many possible geometrical symmetries, the conformal one certainly pretends to be fundamental, even so that it is obviously broken in the world around us. The purpose of this Special Issue is to collect contributions on current theoretical research on possible ways of scale invariance and conformal symmetry breaking in different areas of physics. We aim to provide the reader with an updated overview of the recent advances in the field. We wish to invite both original and review papers to this Special Issue along any of the lines related to this fascinating area of research.

### Keywords

- Spontaneous symmetry breaking
- Nonlinear symmetry realizations
- Conformal symmetry
- Fundamental energy scales
- Hierarchy problem
- Standard Model
- Quantum chromodynamics
- General relativity



[mdpi.com/si/32415](https://mdpi.com/si/32415)

**Special** Issue



*universe*



an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Lorenzo Iorio**

Ministero dell'Istruzione e del Merito, Viale Unità di Italia 68, 70125 Bari, BA, Italy

## Message from the Editor-in-Chief

The multidisciplinary *Universe* journal is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the editorial board, I extend my welcome to this new journal and look forward to hearing from the interested contributors and learning about their valuable research.

## 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), Astrophysics Data System, INSPIRE, CAPlus / SciFinder, Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Astronomy and Astrophysics*) / CiteScore - Q2 (*General Physics and Astronomy*)

## Contact Us

---

Universe Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/universe  
universe@mdpi.com  
X@Universe\_MDPI