



## Supersymmetry, Supergravity and Superstring Theory

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Deadline for manuscript  
submissions:

**closed (30 June 2020)**

### Message from the Guest Editors

Supergravity represents an extension of general relativity in which the invariance under general coordinate transformations follows from supersymmetry. String-theory was originally developed as a theoretical framework to study non-perturbative QCD. The supersymmetric version of string theory provides a possible quantum description of gravity. The consistency of this theory requires that the low-energy excitations of this string be described by an effective supergravity theory. Supergravity, as an effective low-energy theory encodes the full large-scale dynamics of superstring theory even in limits in which a consistent formulation of superstring theory is missing. The symmetry principle is the guiding principle to the construction of supergravity. Indeed, its physical content is totally determined by supersymmetry, for given field content and space-time dimensions.

Potential topics include but not limited to the followings: gauged supergravities and possible UV completion; a top-down approach to AdS/CFT and AdS/CMT; the topological structure of superspace and  $L^\infty$  algebras; exceptional field theory and double field theory and generalized geometry.





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## Editor-in-Chief

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## Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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