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# Standard Model and Supersymmetry Predictions

Guest Editor:

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Deadline for manuscript submissions:
**closed (15 April 2024)**

## Message from the Guest Editor

Dear Colleagues,

The standard model of particle physics is a theoretical framework that describes the behavior of subatomic particles and their interactions. Despite its success in predicting the behavior of particles, the standard model has some limitations. It does not explain dark matter, the imbalance between matter and antimatter, or the hierarchy problem, which refers to the large discrepancy between the strength of gravity and the other fundamental forces. Supersymmetry is a proposed extension to the standard model that predicts the existence of additional particles. Supersymmetry could solve some of the limitations of the standard model. For example, it predicts the existence of a stable, weakly interacting particle that could be a candidate for dark matter. Supersymmetry could also help explain the hierarchy problem by canceling out the large quantum corrections to the mass of the Higgs boson. However, supersymmetry has not yet been experimentally observed, and its predictions are still being tested. Many scientists are working on experiments to search for evidence of supersymmetry. We welcome you to submit your work to this Special Issue.

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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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