# Special Issue

# Supersymmetry Approaches in Quantum Mechanics and Field Theory

## Message from the Guest Editor

The interaction between theoretical physicists and highly specialized mathematician communities is currently experiencing hectic and fast development based on the key recent findings in supersymmetry, connecting mathematical physics, quantum mechanics and quantum field theory in their broadest senses. Since the first generalizations of the harmonic oscillator algebraic method and first studies on the existence of supersymmetric particles in nature, the idea of supersymmetry has come a long way through a very prosperous journey. In this Special Issue, we focus on hidden and explicit symmetries with corresponding subtleties related to inter-relations between those subjects, leading to important applications for enhancing human knowledge about our world. It is a pleasure to live in such scientifically innovative times.

### **Guest Editor**

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## **About the Journal**

## 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.

### **Editor-in-Chief**

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