

Special Issue

Symmetries of Difference Equations, Special Functions and Orthogonal Polynomials

Message from the Guest Editor

Special functions and orthogonal polynomials, in particular, have been around for centuries. In the twentieth century, the emphasis was on special functions satisfying linear differential equations, but this has been extended to difference equations, partial differential equations and non-linear differential equations. The theory of the symmetries of special functions, orthogonal polynomials and differential equations is well improved, their relations to integrability are known, and there are many corresponding results and applications. They provide us the means to compute the symmetries of a given equation in an algorithmic manner and, most importantly, to implement it in symbolic computations. This Special Issue will reflect the diversity of the topics across the world. The Special Issue's papers will cover the symmetries of difference equations, discrete dynamical systems, special functions, orthogonal polynomials, symmetries, and integrable difference equations.

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.

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