



New Advances in Special Functions and Their Applications in Science and Mathematics

Guest Editors:

**Prof. Dr. Waleed Mohamed
Abd-Elhameed**

1. Department of Mathematics,
Faculty of Science, Cairo
University, Giza, Egypt

2. Department of Mathematics,
College of Science, University of
Jeddah, Jeddah, Saudi Arabia

Dr. Youssri Youssri

Department of Mathematics,
Faculty of Science, Cairo
University, Giza 12613, Egypt

Prof. Dr. Anna Napoli

Department of Mathematics and
Computer Science, University of
Calabria, Via Pietro Bucci, cubo
30/A, 87036 Rende (CS), Italy

Deadline for manuscript
submissions:

closed (30 April 2023)

Message from the Guest Editors

Special functions, including orthogonal polynomials with symmetric and nonsymmetric parameters, are important in many areas of mathematics and in the applied sciences. For example, they are very important in the numerical analysis of different types of differential equations.

An orthogonal polynomial sequence is a family of polynomials such that any two different polynomials in the sequence are orthogonal to each other under some inner product. The most widely used orthogonal polynomials are classical orthogonal polynomials, consisting of Hermite polynomials, Laguerre polynomials, and Jacobi polynomials, and their special cases for symmetric parameters, namely, Gegenbauer polynomials, which form the most important class of Jacobi polynomials; other special cases include Chebyshev polynomials and Legendre polynomials.

This Special Issue welcomes papers devoted to the theory and applications of special functions, including symmetric and non-symmetric orthogonal polynomials. Emphasis will be placed on the use of any applied polynomial set to handle various differential and integral problems.





symmetry



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Sergei D. Odintsov

ICREA, P. Lluis Companys 23,
08010 Barcelona and Institute of
Space Sciences (IEEC-CSIC), C.
Can Magrans s/n, 08193
Barcelona, Spain

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.

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

Journal Rank: JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (*General Mathematics*); Q1 (*Physics and Astronomy*); Q1 (*Computer Science*)

Contact Us

Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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

mdpi.com/journal/symmetry
symmetry@mdpi.com
X@Symmetry_MDPI