

# COMPUTATIONAL AND NUMERICAL METHODS FOR SPECIAL FUNCTIONS

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## DESCRIPTION

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A large number of mathematical functions, especially special functions, have been developed over the years because of the needs in physics and engineering. They also arise in many problems of pure and applied mathematics, mathematical statistics, physics, and engineering. This special issue will provide an up-to-date overview of numerical methods for computing special functions and discusses when to use these methods depending on the function and the range of parameters. Not only are standard and simple parameter domains considered, but also methods valid for large and complex parameters are described. Therefore, this special issue of *Demonstratio Mathematica* will discuss the principal methods used in computing special functions.

Potential topics include but are not limited to the following:

- ▶ Sumudu, natural, Struve, Fourier, Bessel, Fresnel, wavelet, Fourier, Laplace, Mellin, Stieltjes
- ▶ Whittaker, Hilbert, etc., and allied integral transforms and their recent variants
- ▶ Fox H-integral transforms and applications
- ▶ Fractional integral transforms of several types
- ▶ Integrals involving kernels of various types including trigonometric, hyperbolic, hypergeometric, gamma, Bessel, modified Bessel, Struve, hypergeometric types, Fox-Wright etc.
- ▶ Integral and Fractional order integrals and their applications to fractional-order differential equations
- ▶ q-integral transforms involving q-special functions
- ▶ Applications involving q-series and q-polynomials
- ▶ Integral transforms of generalized functions
- ▶ and other related topics

Authors are requested to submit their full revised papers complying the general scope of the journal. The submitted papers will undergo the standard peer-review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

## HOW TO SUBMIT

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Before submission authors should carefully read the [Instruction for Authors](#).

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's [LATEX template](#). Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.**

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager: <https://www.editorialmanager.com/dema/>

All manuscripts will undergo the standard peer-review process (single blind, at least two independent reviewers). When entering your submission via online submission system please choose the section/category "*Special Issue on Computational and Numerical Methods for Special Functions*."

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication anywhere else.

The deadline for submissions is **30th September 2022**, but individual papers will be reviewed and published online on an ongoing basis.

- ▶ critical peer-review
- ▶ no space constraints
- ▶ quick online publication upon completing the publishing process (**continuous publication model**)
- ▶ content converting to xml
- ▶ better visibility due to **Open Access – free, unrestricted and permanent access to all the content**
- ▶ **liberal policies on copyrights** (authors retain copyrights) and on self-archiving (no embargo periods)
- ▶ **long-term preservation** of the content (articles archived in [Portico](#))

We are looking forward to your submission!

In case of any question please contact **Dr. Justyna Żuk** (Managing Editor; [Justyna.Zuk@degruyter.com](mailto:Justyna.Zuk@degruyter.com)).