



Special Issue on

Approximation Theory: Methods and Applications

Call for Papers

Approximation Theory: Methods and Applications studies mathematical techniques for approximating complex functions, data or operators using simpler and more computationally efficient forms. It focuses on polynomial approximation, interpolation, numerical methods and error analysis. The field has applications in numerical analysis, engineering, computer science, signal processing and machine learning, where accurate and efficient approximations are essential for modeling, computation and optimization.

In this special issue, we intend to invite front-line researchers and authors to submit original research and review articles on **Approximation Theory: Methods and Applications**. Potential topics include, but are not limited to:

- Polynomial and rational approximation
- Spline and finite element approximation
- Wavelet theory and multiscale approximation
- Operator approximation
- Multivariate approximation
- Sparse approximation
- Fourier and harmonic approximation
- Nonlinear approximation and data-driven approximation
- Approximation and estimation
- Kernel methods
- Error analysis and convergence theory
- Numerical approximation and computation
- Numerical methods for differential equations
- Approximation of high-dimensional functions
- Orthogonal polynomials and Gaussian quadrature
- Approximation in functional analysis
- Approximation on manifolds and graphs
- Optimal recovery and interpolation
- Optimization and approximation algorithms
- Statistical learning and approximation
- Machine learning and data approximation
- Approximation by neural networks
- Applications in signal and image processing
- Applications in engineering and physics



Authors should read over the journal's [For Authors](#) carefully before submission. Prospective authors should submit an electronic copy of their complete manuscript through the journal's [Paper Submission System](#).

Please kindly notice that the “**Special Issue**” under your manuscript title is supposed to be specified and the research field “**Special Issue – Approximation Theory: Methods and Applications**” should be chosen during your submission.

According to the following timetable:

Submission Deadline	September 17th, 2026
Publication Date	November 2026

For publishing inquiries, please feel free to contact the Editorial Assistant at submission.entrance1@scirp.org

APM Editorial Office