Numerical Analysis and Applicable Mathematics

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Editorial

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"Numerical Analysis and Applicable Mathematics: Introduction to the Journal and the Inaugural Issue"

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1. Editorial – Inaugural Issue

We are delighted to announce that the first and inaugural issue of the Journal '*Numerical Analysis and Applicable Mathematics*' has been published by Ariviyal. It is an open access internationally peer-reviewed forum that focuses on publishing research that integrates unexpected fortunate discoveries in the area of Numerical Analysis and Applied Mathematics as well as Applications of Mathematics in Science, Engineering, Technology and Industry. '*Numerical Analysis and Applicable Mathematics*' is guided by renowned editorial board members and is committed to publish cutting-edge research two issues a year (biannual).

2. Aim and Scope of the Journal

Numerical Analysis and Applicable Mathematics endeavours to serve as an active platform that can contribute to the growing demand of publishing cutting-edge research. The need for a new journal that reports various aspects of Numerical Analysis and Applied Mathematics can be explained by our unique approach. One of the key aspects of Numerical Analysis and Applicable Mathematics published by Ariviyal is that the scope of the journal is relevant across multiple disciplines including numerical analysis, computational geometry, applied probability and applied statistics, mathematical modeling including stochastic aspects, approximation theory and control theory, discrete mathematics and operations research: optimization and decision making. It also aims to serve as a link between mathematicians, chemists, physicists, biologists, engineers, materials scientists, computer scientist, earth scientist, astronomer, statistician, environmental scientist and all other research scientists. With our efficient publication practices, advanced online submission system and eminent editorial board members, we are confident that this journal will be a great success.

'*Numerical Analysis and Applicable Mathematics*' invites research articles on a wide range of keywords related to numerical analysis and applied mathematics which includes: numerical methods(algorithm) - approximation solutions - computational mathematics - scientific computing - DNA computing - theoretical bounds - convergence analysis - stability analysis - stability regions - truncation error analysis - error estimation - error and interval analysis - numerical linear algebra - iterative methods - matrix decompositions - preconditioning methods - direct solution methods - numerical methods for Eigen problems - parallel and vectorizable algorithms - numerical solutions to transcendental equations - initial value problem - boundary value problem - initial value and time dependent problem - finite difference operator - analytic and semi-analytic methods - perturbation methods - mathematical programming - optimization and variational techniques - parallel algorithms(computing) - differential equations - Stochastic differential equations - delay differential equations - fractional differential equations - differential-algebraic equations - difference equations - integral equations, Volterra and FredholmIntegral equations - computational fluid dynamics - thermodynamics - steady and unsteady flow problems - boundary layer problems - heat and mass transfer - homotopy perturbation techniques - homotopy analysis - fluid phenomena in biological systems - nonlinear approximation methods - mathematical modeling - random dynamical systems - finite and infinite-dimensional dynamical systems - numerical treatment of dynamical systems - artificial intelligence - neural network - computing methodologies - algorithms and applications - coding theory and techniques - speech/image coding - pattern recognition and learning - communications and communication networks - optical communications - emerging applications of information theory - signal theory - detection and estimation - spectral analysis – filtering - signal processing systems - software developments in mathematical aspects - signal processing - data processing - remote sensing - image processing - geometric modeling - geometric graph - geometric networks - I/O efficient graph algorithms - graph drawing - graph coloring - polynomial approximation - mesh generation - shortest path - geometric pattern - complexity of geometric problems - computer-aided design - computer graphics – visualization - voronoi diagrams - delaunay triangulations - Convex-hull computation - line-segment intersection - polygon triangulation - low-dimensional linear programming – cryptography - game theory - fuzzy sets and systems - fuzzy engineering problems - fuzzy numerical analysis - fuzzy topology and analysis - fuzzy optimization and expert systems - fuzzy differential equations - fuzzy system of equation and Eigen values problems - fuzzy neural networks - genetic algorithms - fuzzy graph theory - fuzzy probability and statistics - fuzzy stochastic/time series modeling - theory of probability distributions - queuing theory - machine learning - data mining - Bayesian analysis - statistical distributions - Gaussian process - sampling and multivariate techniques - quality management - reliability models - statistical data analysis - survival analysis -

statistical modeling - Markov chains - Markov partition - Markov process - poisson process - population process - random walk Monte Carlo - regression - time series analysis, wiener motion and process - gambling - multivariate statistics - Bayesian decision theory - six sigma analysis - process capability analysis - lifetime data analysis - biostatistics - statistical software - computational statistics - mathematical optimization - mathematical programming and simulation - linear and non-linear programming model - sensitive analysis - dynamic and inventory models - queuing theory - transportation problems - scheduling, project management - decision making and support systems and so on.

With the available range of scientific databases and indexing platforms along with open access tag, this journal – *Numerical Analysis and Applicable Mathematics* aims to make quality research accessible to a broad audience.

3. First inaugural issue

In the inaugural issue of *Numerical Analysis and Applicable Mathematics*, we have published articles that cover various aspects of numerical analysis and applied mathematics within the scope of the journal and all of the published works are invited by the Ariviyal Team. *Numerical Analysis and Applicable Mathematics* encourages authors to make submissions that can contribute to the development of fundamentals, processes, designs and products involving applied mathematics aspects. In the inaugural issue of this new journal, we have published manuscripts that cover different aspects pertaining to the broader scope of the journal. Some of the key areas covered in the first issue include keywords: singular perturbation problems; boundary layer theory; reaction-diffusion, convection-diffusion; system of equations; semi-linear problem; Kellogg-Tsan solution decomposition; Vulanovic-Bakhvalov mesh; finite difference scheme; uniform convergence; adaptive grid; a posteriori error estimation; Shishkin mesh; Integral boundary condition; delay differential equation; fitted operator method; twin layers; oscillatory layers; Reissner-Mindlin plate; HDG method; error estimate; optimal convergence; uniformly stable and so on. With this inaugural issue, our journal *Numerical Analysis and Applicable Mathematics* has published manuscripts that are of highest significance with global scientific standards. First issue includes manuscripts published between January 2020 and June 2020 and we encourage researchers, scientists and academicians in the fields of numerical analysis and applied mathematics to make original contributions throughout the progress of the journal.

4. Articles, Submissions and Publications

Numerical Analysis and Applicable Mathematics, published by Ariviyal, has dedicated to create a unique platform to report high quality research findings confining to the scope of the journal with zero tolerance on plagiarism or manipulation. As an emerging platform in the fields of numerical analysis and applied mathematics, we expect submissions from authors that are original, reproducible and should ensure publication standards.

Numerical Analysis and Applicable Mathematics, published by Ariviyal, is a bi-annual open access journal (two issues per year) that publishes manuscripts under three major categories: Comprehensive research articles, Communications and Review articles. This journal with its internationally acclaimed editorial members and specialized reviewers is committed to offer impartial review and maintain the highest professional publication standards.

Key aspects of this journal 'Numerical Analysis and Applicable Mathematics' publication:

- Faster publication process (less than 30 days on an average from submission till articles get published)
- Complete online submission system
- No processing and publication charges
- Impartial and faster review process
- Open access without any restriction
- High quality English editing service
- Published research can be promoted

All submissions to this journal are subjected to efficient peer-review process which is handled by our eminent international board of associate editors and advisory board members to ensure quality and accuracy of research findings. Associate editors of the board include: **Prof. Dr. Relja Vulanovic** at Kent State University at Stark USA**; Prof. Dr. R. Ponalagusamy** at National Institute of Technology, Tiruchirappalli, India; **Dr. Jorge E. Macias-Diaz** at Universidad Autónoma de Aguascalientes Aguascalientes, Mexico; **Prof. Dr. Ramon Ardanuy Albajar** at University of Salamanca, Salamanca, Spain. Our complete list of expanding editorial board comprising associate editors and advisory board members can be accessed from the official journal platform.

5. Future

To assure transparency to all the submissions, *Numerical Analysis and Applicable Mathematics* offers a very simple and efficient online submission system for authors. As this journal is open access, we are confident that the published research will have greater visibility and be

widely accessed by larger set of audience. With this inaugural issue, we thank our authors of first issue of '*Numerical Analysis and Applicable Mathematics*' for their quality contribution at this initial stage. We would like to take this opportunity to thank our eminent editorial board members and reviewers for their great support and contribution during the preparation of this inaugural issue. We look forward to your valuable contributions and your support in making this journal a success.

Prof. Dr. Higinio Ramos
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