

# **Journal of Interdisciplinary Mathematics**

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*Special Issue on*

## **Advancements in Mathematical Modelling and Statistical Analysis**

*Guest Editors*

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## FOREWORD

With the great pleasure and anticipation, we introduce this special issue dedicated to the theme for exploration in “Advancements in Mathematical Modelling and Statistical Analysis”, under the 1st International Conference on Mathematics, Modelling and Statistics (ICMMS-2023) held on 01-02 September, 2023 organised by Poornima Institute of Engineering and Technology, Jaipur, Rajasthan, India. The dynamic field of mathematical modeling and statistical analysis is at the forefront of scientific inquiry, playing a pivotal role in solving complex problems, making informed decisions, and driving innovation across diverse domains. The Conference received overwhelming response from academicians and researchers across the globe, getting in more than 90 papers out of which 21 quality papers have been identified and are included in the esteemed *Journal of Interdisciplinary Mathematics* published by Taru Publications, New Delhi.

In today’s rapidly evolving world, data in general models and robust statistical techniques is a major need of the hour. This special issue brings together at an unprecedented pace and complexity, the need for sophisticated mathematics of cutting-edge research that showcases the latest developments in these critical areas of mathematical models for statistical analysis. The contributors to this issue represent a diverse array of disciplines and geographical locations, reflecting the interdisciplinary applications of mathematical modeling and statistical analysis.

The articles contained within this volume delve into a wide spectrum of topics, ranging from the theoretical foundations of mathematical models to the practical applications of statistical methods in various

fields. Readers can expect to explore innovative approaches to complex problem-solving, novel techniques for data analytics, and advancements that promise to reshape the landscape of mathematical modeling and statistical analysis.

As we navigate through this special issue, we will encounter articles that highlight the role of mathematical modeling in predicting and understanding real-world phenomena, shedding light on intricate relationships that might otherwise remain hidden. Simultaneously, the statistical analyses presented in these pages will demonstrate their power in extracting meaningful insights from data, guiding decision-making processes, and fostering a deeper understanding of uncertainty.

In an era where collaborative and interdisciplinary research are key drivers of progress, this special issue serves as a testament to the collective efforts of researchers, scholars, and practitioners who contribute to the continuous evolution of mathematical modeling and statistical analysis. We hope that the insights shared within these research papers will inspire further collaboration and spark new ideas, ultimately propelling the field towards even greater heights.

We extend our sincere gratitude to the authors for their invaluable contributions and to the editorial team for their dedication and meticulous efforts in bringing this special issue to fruition. May this compilation serve as a source of inspiration, fostering a deeper appreciation for the limitless possibilities that emerge when mathematics and statistics converge to unravel the complexities of our world. We also extend our gratitude to the Chief Editor Dr. B. K. Dass for continuous guidance and the entire team of the journal for everlasting support.

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# Journal of Interdisciplinary Mathematics

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## Advancements in Mathematical Modelling and Statistical Analysis

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