**4th International Conference on**

**Applied Mathematics in Science and Engineering (AMSE- 2025)**

**PREFACE**

**Organizing institute:** Department of Mathematics, Faculty of Engineering & Technology (ITER), Siksha ‘O’ Anusandhan (Deemed to be University)

In recent times, applied mathematics in science and engineering has garnered the attention of researchers due to extensive applications of mathematical techniques in the modern world to create novel power sources and devices with unique applications. Much of the understanding of applied mathematics has come from pursuing controlled real-life applications in Biotechnology, Agriculture, Engineering, and other scientific fields, for which, applied mathematics serves as the foundation pillar. This proceeding is the collection of applications of various fields of mathematics such as Computational Fluid Dynamics, Applications of Differential Equations in Engineering, Numerical Methods for ODEs and PDEs, renewable energy systems, Machine Learning, Artificial Intelligence, Fractional order Differential Equations, Fuzzy/ Fluid/ Plasma Dynamics, Mathematical Modelling and Analysis of Biological Systems, Optimization, Graph Theory, Theoretical Physics, Algebraic and Functional Analysis, Thermal Engineering and Heat Transfer, and Internet of Things, which are presented at the 4th International Conference on Applied Mathematics in Science and Engineering (AMSE-2025) during August 28 – 30, 2025 held in Siksha ‘O’ Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India. This edited book showcases the research of an international roster of scientists and students. The Department of Mathematics at Siksha ‘O’ Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India organized the conference. The conference had over 20 delegates from all over the world, with good representation from South Africa, Malaysia, UAE, Saudi Arabia, USA, Italy, Nepal, and Bangladesh, as well as a substantial number of eminent Indian scientists. The conference was designed so as to generate excellent opportunities for international researchers interested in Applied Mathematics science and engineering to meet and discuss issues related to current developments in the field of power generation. The goal of the conference emphasizes interdisciplinary research in Applied Mathematics.

**Place:** Bhubaneswar, Odisha, India Editorial Team

4th AMSE-2025