

Scientific Program of
4th International Conference on Applied Mathematics in Science and
Engineering (AMSE - 2025), 28th- 30th August, 2025

Day-1: Thursday – 28th August 2025

8-10 AM: Registration for Participants
10-11 AM: Welcome & Inauguration

11.00-11.30 AM (Tea Break)

1st Technical Session

11.30-12.15AM **Prof. Swaroop Nandan Bora,**
Mathematics Department, IIT Guwahati, Assam
Title: Time-dependent Problems in Ocean Engineering and River Mechanics.

12.15-12.45 PM **Prof. Rashmi Bhardwaj**
Head, Nonlinear Dynamics Research Lab, University School of Basic and Applied Sciences, Delhi.
Title: Bifurcation and Fractal Pathways for Nonlinear Complexity

12.45-1.15 PM **Dr. Rupanwita Gayan**
Department of Mathematics, IIT Kharagpur, India
Title: The Interaction of Water Waves by an Array of Submerged Elliptic Disks in Deep Water.

Session Chair: **Prof. Satyaranjan Mishra,**
Siksha 'O' Anusandhan (Deemed to be University), India.

1.15-2.15 PM (Lunch Break)

2nd Technical Session

2.15-2.45 PM **Prof. D. P. Subedi**
Department of Physics, Kathmandu University, Nepal
Title: Application of Low Temperature Plasma for Surface Modification of Materials.

2.45-3.15 PM **Dr. Amar Prasad Misra**
Department of Mathematics, Visva-Bharati University, West Bengal.
Title: Nonlinear wave-wave interactions in relativistic magneto-plasmas: Pattern formation and spatiotemporal chaos.

3.15-3.45 PM **Prof. P. K. Sahoo**
Department of Mathematics, BITS-Pilani, Hyderabad.
Title: Wormhole geometry: A mathematical solution can reveal new Science.

- 3.45-4.15 PM **Prof. Sachin Kumar**
Department of Mathematics, University of Delhi, India
Title: Analyzing the Dynamic Behavior of both Bright And Dark Soliton Interactions of a Specific Variant of the Highly Nonlinear Equation.
- Session Chair: Prof. Sampada Kumar Parida**
Siksha 'O' Anusandhan (Deemed to be University), India.

4.15-4.30 PM (Tea Break)

Offline Parallel Sessions for Participants (4.30-6.30 PM)

DAY-2: Friday – 29th August 2025

1st Technical Session (Online)

- 9.30-10.00 AM **Prof. Ram N. Mohapatra**
University of Central Florida, Orlando, Florida, USA
Title: Some Results on Erasers and Discrete Gabor Frames.
- 10.00-10.30 AM **Dr. Mahanthesh Basavarajappa**
Department of Mathematics and Physics, Texas A&M International University, USA
Title: Frontiers in Fluid Instabilities: From Viscoelastic Bifurcations to Nanofluid Dynamic.
- 10.30-11.00 AM **Prof. Md. Golam Hafez**
Chittagong University of Engineering & Technology, Bangladesh.
Title: Nonlinear Dynamics of Plasma Waves in Space and Astrophysical Environments: Theory, Modeling, and Applications.
- Session Chair: Prof. Sachin Kumar**
Department of Mathematics, University of Delhi, India

11.00-11.15 AM (Tea Break)

2nd Technical Session (Online)

- 11.15-11.45 AM **Dr Katta Rames**
Department of Pure and Applied Mathematics, Sunway University, Malaysia
Title: Blood Flow Dynamics in Stenotic Arteries
- 11.45-12.15 PM **Prof. Clemente Cesarano**
Section of Mathematics Luciano Modica UNINETTUNO University, Italy
Title: Hermite Polynomials in the Description of Chebyshev-like Polynomials

- 12.15-12.45 PM **Prof. K. S. Nisar**
Mathematics Department, Prince Sattam Bin Abdulaziz University,
Saudi Arabia
Title: Intelligent Computing and Mathematical Modeling.
- 12.45-1.15 PM **Prof. Varsha Daftardar-Gejji**
Department of Scientific Computing, Modeling and Simulation
Savitribai Phule Pune University, India.
Title: Fractional-Order Dynamics: Challenges and Future Directions.
- Session Chair:** **Prof. Milu Acharya,**
Siksha 'O' Anusandhan (Deemed to be University), India.

1.15-2.15 PM (Lunch Break)

Local tour to visit tourist spots by University bus

Online Parallel Sessions for Participants (2.30-6.00 PM)

DAY-3: Saturday– 30th August 2025

1st Technical Session

- 9.30 -10.00 AM **Prof. Prasannakumara B. C.**
Department of Studies and Research in Mathematics, Davangere University.
Title: Non-similar solutions for heat transfer problems: Application of Bivariate Laguerre collocation method.
- 10.00 -10.30 AM **Prof. N. S. Saini**
Department of Physics, Guru Nanak Dev University, India.
Title: Nonlinear Structures in a space dusty plasma
- 10.30 -11.00 AM **Dr. Bankim Chandra Mandal**
Department of Mathematics, IIT Bhubaneswar, India.
Title: Optimal Control of Time-Fraction Problems using Substructuring Algorithms.
- 11.00.-11.30 AM **Prof. R. P. Sharma,**
Department of Mechanical Engineering, Professor, NIT, Arunachal Pradesh.
Title: Recent Progress and Emerging Trends in Nanofluids Research
- Session Chair:** **Prof. Mitali Madhusmita Nayak**
Siksha 'O' Anusandhan (Deemed to be University), India.

11.30-11.45 AM (Tea Break)

2nd Technical Session (Online)

- 11.45 -12.15 PM **Dr. Mukesh Kumar Awasthi**
Department of Mathematics, Babasaheb Bhimaroo Ambedkar University,
India
Title: Viscous Potential Flow Theory in Mathematical Modeling of Interfacial Stabilities.
- 12.15-12.45 PM **Dr. Alok Kumar Pandey**
Department of Mathematics, Graphic Era (Deemed to be University),
Dehradun, Uttarakhand, India
Title: Heat transfer analysis of stagnation point flow of tangent hyperbolic fluid over a non-flat rotating disk using temperature dependent properties.
- 12.45 – 1.15 PM **Prof. Ioannis Kourakis**
Department of Mathematics, Khalifa University, College of Computing and
Mathematical Sciences, Abu Dhabi, UAE
Title: Nonlinear Waves in Space Plasmas: An Overview of Recent Results.
- 1.00-2.00 (Lunch Break)**
- 2.00 - 2.30 PM **Dr. Sunil Kumar**
Mathematics Department, NIT Jamshedpur, India.
Title: Fractional Calculus and its Application.
- 2.30 - 3.00 PM **Prof. O. D. Makinde**
Department of Mathematics, Faculty of Military Science, Stellenbosch
University, South Africa
Title: Harnessing Mathematical Models in Engineering and Biology Systems for Technological Progress and Sustainability.
- Session Chair: Prof. Anita Panda,**
Siksha 'O' Anusandhan (Deemed to be University), India.

Valedictory Session

- 3.30 PM Welcome of the guests to the Dias
- 3.35-3.40 PM Address by Guest of Honour **Prof. Renu Sharma**,
Addl. Dean Student Affairs & Professor,
Siksha 'O' Anusandhan (Deemed to be University), India.
- 3.40-3.50 PM Address by Chief Guest **Prof. Mohan V Aware**,
Director, NIT Arunachal Pradesh, India
- 3.50 -4.15 PM Certificate distribution

