Special Session Proposal for M3HPCST-2026 Format

Title:

Advanced Computational Techniques and High-Performance Algorithms for Scientific Applications

Organizers:

- **Dr. [Your Name]**, [Your Affiliation], [Your Email]
- **Dr. [Co-organizer Name]**, [Co-organizer's Affiliation], [Email]

Session Description:

This special session aims to explore cutting-edge mathematical methods and high-performance computing (HPC) techniques that are driving advancements in science and technology. With the rapid evolution of computational power and numerical algorithms, modern scientific problems require robust, scalable, and efficient computational strategies.

The session will bring together researchers and practitioners to discuss recent innovations, optimization techniques, and real-world applications across engineering, physics, data science, and related fields.

Topics of Interest:

- High-performance numerical algorithms for scientific computing
- Parallel and distributed computing techniques
- Mathematical modeling and simulation in engineering and physics
- Machine learning applications in computational science
- Optimization methods for large-scale problems
- GPU and cloud computing for high-performance applications
- Computational fluid dynamics and other scientific simulations

Importance & Motivation:

As computational challenges grow in complexity, there is a critical need for innovative mathematical and computational methods that fully leverage modern HPC architectures. This session will offer a platform for researchers to exchange ideas, present breakthroughs, and collaborate on solving real-world computational problems.

Potential Contributors & Target Audience:

- Researchers in applied mathematics, computer science, and engineering
- Professionals involved in scientific computing and HPC development
- Industry experts working on large-scale computational challenges

Session Format:

- Regular paper presentations
- Invited talks by leading experts
- Panel discussion on future trends in computational science and engineering

Expected Number of Papers:

10–15 papers