

BNM Institute of Technology

ICIITCEE-2023

27th-28th Jan 2023

***** Special Session Proposal *****

TITLE OF THE SESSION

Recent advances in computational mechanics in Mechanical Engineering

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OBJECTIVES OF THE SPECIAL SESSION:

In order to reduce the cost of the performing experiments, material characterization, computational methods are extensively being used now a day in the wide range of mechanical engineering applications. The aim of this special session is to present the advances in the field of computational method used in solving engineering, geometrical, mathematical, and scientific problems with the help of advanced computational methods with a focus on mechanical and materials engineering.

This session includes wide range of computational methods used in mechanical engineering application. It also covers the prediction method to calculate the nanoscale to macroscale behaviour of materials. This special session will provide the glimpse of various computational strategy used throughout the world in the each domain of mechanical engineering application.

TOPICS OF THE SPECIAL SESSION:

Topics to be discussed in this special session include (but are not limited to) the following:

- Modelling of nanomaterial and nanocomposites
- Quantum mechanics
- Computational methods in composite analysis
- Density functional theory
- Computational continuum mechanics
- Finite element method
- computational methods in Material Science and Processing

- Machine learning and artificial intelligence in mechanical engineering application
- Computational fluid dynamics
- Computational methods in Mechanical Design
- Simulation & Testing
- Computational method in casting
- Numerical continuum mechanics
- Computational methods in Solid Mechanics
- Numerical methods in Structural Dynamics
- Tribological studies on advanced materials using AI & Machine learning