

# Hands-on workshop on OpenFOAM for large-scale CFD problems

Organized by **NSM Nodal Centre for Training in HPC & AI, IIT Kharagpur**  
under the aegis of the **National Supercomputing Mission**

**March 16-17, 2024**

## Objective and scope

OpenFOAM has emerged as an efficient, accurate, and user-friendly community-based open-source software for CFD calculation with several multi-physics modules. The present workshop will impart hands-on training on using OpenFOAM for large-scale CFD problems. Training will start with demonstrating the basic framework of OpenFOAM, and then discussions will follow on incompressible and compressible solvers with several practical applications. Multiphase flows and large-scale turbulent flow problems will also be discussed. Training will be further given on porting OpenFOAM modules into multi-processor HPC infrastructure and obtaining scalable executions while solving complex CFD problems.

## Who can attend?

Scientists, Faculty Members, Postdoctoral Fellows, Doctoral Students, Postgraduate Students, Researchers from DRDO, CSIR, and other Research Labs, and Centrally/state/private funded R & D Institutes.

## Participation mode:

The lectures as well as the lab sessions will be conducted in hybrid mode. Due to resource constraints, only a limited number of participants may be invited to attend physically, and others will be requested to join via online mode.

## Topics to be covered:

- Basics of CFD and HPC
- OpenFOAM framework
- Pressure-based and density-based solvers in OpenFOAM
- Multiphase Flow Simulations
- Turbulent flow simulations.

## Accommodation

Free accommodation on a shared basis will be provided to selected out-station participants.

## Registration Fee

Rs 600 per person, including GST (non-refundable).

## Important Date

**March 7, 2024:** Last date of registration.

(Registration may close earlier, if the capacity is reached. Early registration is recommended.)

## Resource Persons

- Prof. Ashoke De, IIT Kanpur
- Prof. Rajaram Lakkaraju, IIT Kharagpur

[For  
Registration  
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