One week Short term course on Modelling of Multiphase Flows (MMF-2021) September 27th –October 1st , 2021

Organized by
Department of Applied Mechanics
Motilal Nehru National Institute of Technology-Allahabad
Prayagraj-211004

ABOUT THE INSTITUTE

Motilal Nehru National Institute of Technology Allahabad, Prayagraj (MNNIT Allahabad) is an Institute with total commitment to quality and excellence in academic pursuits. It was established as one of the seventeen Regional Engineering Colleges of India in the year 1961 as a joint enterprise of Government of India and Government of Uttar Pradesh. On June 26, 2002 MNREC was transformed into National Institute of Technology and Deemed University fully funded by Government of India. With the enactment of National Institutes of Technology Act-2007(29 to 2007), the Institute has been granted the status of institution of national importance w.e.f. 15.08.2007.

The Institute offers nine B.Tech., twenty-five M.Tech. (including part-time), MCA, MBA, M.Sc. (Mathematics and Scientific Computing) programmes and also registers candidates for the Ph.D. degree. The Institute has been recognized by the Government of India as one of the centers for the Quality Improvement Programme for M.Tech. and Ph.D. The Institute has been selected as a Lead Institution under World Bank funded Government of India Project on Technical Education Quality Improvement Programme (TEQIP) (2002-2007).

ABOUT THE DEPARTMENT

The Department of Applied Mechanics is established in 1965. The Department offers courses at undergraduate level on Solid Mechanics, Fluid Mechanics, Hydraulic Machines, Structural Analysis, Material Science, Engineering Mechanics, Mechanics of Deformable Solids, Structures, Kinematics of Mechanics, Dynamics of Machines, Theory of plates & shells, Mechanical Vibration and Nano Technology.

The department runs four Post Graduate (M.Tech.) programmes in Engineering Mechanics and Design, Material Science & Engineering, Fluids Engineering and Biomedical Engineering. The department also offers Ph.D. programme in these areas.

ABOUT PRAYAGRAJ

The city of Prayagraj (Allahabad) is among the larger cities of Uttar Pradesh. It is situated at the confluence of three rivers- Ganga, Yamuna and the mythological Saraswati. Besides Sangam, it also has many governmental institutions which include Allahabad University, HRI, IIIT Allahabad, High Court of UP, AGUP, CDA Pension, State Government education board and various tourist places like Anand Bhawan, Khusroo Bagh, Chandra Shekhar Azad Park and Bharadwaj Park.

ORGANIZING COMMITTEE

Patron
Prof. Rajeev Tripathi
Director, MNNIT Allahabad

Chairman
Dr. Abhishek Kumar
Head, Applied Mechanics Department

Course Coordinator/ Convener
Dr. Anubhav Rawat, AMD
Dr. Abhishek Kumar Tiwari, AMD

Student Coordinator:
Mr. Ankit Prakash

ADDRESS FOR COMMUNICATION

Coordinator MMF-2021
Department of Applied Mechanics
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Prayagraj-211004

Email: mmf.mnnit2021@gmail.com

For any further information / assistance you may contact following student coordinator: Mr. Ankit Prakash, AMD (9123194748)

ABOUT THE COURSE

This course is designed for the researchers and engineers and academicians working on various kind of multiphase flow systems encountered in many industrial and naturally occurring phenomenon viz. ash Disposal in thermal power plants, oil & gas industry, coal transportation, pharmaceutical and food powder industry etc. In this course basics of multiphase flow and the numerical approaches used to model multiphase flow will be discussed. The course will not only cover the theoretical background but shall also put special emphasis on real time industry applications to cater to their needs. The course shall provide the attendees to gain hands on session on the Eulerian-Eulerian (two-fluid) models, Eulerian-Lagrangian (discrete particle) models, and discrete phase (particles, droplets, or bubbles) in a continuous phase.

TOPICS TO BE COVERED

- Introduction to various Multiphase Flows.
  - Ash Flow in Thermal Power Plants
  - Crushed Coal transportation
  - Powdered mineral ore transportation
  - Pharmaceutical Powder Flows
  - Blood Flows in Human body
  - Environmental Flows
  - Food Powders
  - Steam Flows
  - Crude oil transportation
- Classifications and Modelling approaches.
- Introduction and Modelling of Homogenous Phase using VOF method.
- Introduction and Modelling of Homogenous Phase using mixture model.
- Introduction and Modelling of discrete phase.
- Introduction and Modelling of Eulerian-Lagrangian Frame work.
- Minor Project

WHO SHOULD ATTEND

Faculties, research scholars, PG scholars, UG Students from Technical Institutions/Engineering Colleges/Polytechnic working in Mechanical Engineering/Chemical Engineering/Civil Engineering etc are eligible. Interested practicing engineers from Government and private industries (Bureaucrats/Technicians/Participants from Industry etc.) and staff of MNNIT may also apply. The number of seats is limited to 200 and selection is based on first come first serve basis.

IMPORTANT DATES

Receipt of Registration form along with fee details – 24/09/2021
Selection Notification – 25/09/2021

RESOURCE PERSONS

Dr. Kuldeep Singh, University of Nottingham, U.K.
Prof. Haim Kalman, Ben Gurion University of the Negev, Israel.
Prof. V.K. Agarwal, IIT Delhi
Prof. V. Seshadri, IIT Delhi
Dr. Dharmendra Tripathi, NIT-Uttrakahand
And many more esteemed academicians and researchers from all across the world in the field of Multiphase Flows.

REGISTRATION

The short-term course will be conducted in online mode during September 27th –October 1st, 2021. To register for this course the applicants will have to pay fees in advance as per the following details. The International transaction charges shall be borne by the participants only.

Category	Registration Fee in Rs. (GST Inclusive) (For Indians)	Registration Fee in USD ($) (For non-Indians)
U.G. Students	236/-	100
P.G. Students	590/-	150
Ph.D. Students	1180/-	150
Faculties	3540/-	250
Industry persons and Others	5900/-	300

The participants have to first register for the course using the following registration link. Later on after 20/9/21 the registered candidates shall be sent the details for the payment of registration fee at their registered email address for processing the payment on or before 25/9/21 through Bank Transfer/UPI/D.D.

**Note: The candidature shall be confirmed for the course only after receiving the registration fee. For ensuring participation from all categories a short listing criteria may be applied if the registered candidates will be more than the capacity of the course i.e. 200 participants.*

Registration Link
https://forms.gle/Zjbv7EZLQavTV7NR7

MODE OF PRESENTATION

The course will be conducted in online mode and further details will be communicated to all registered participants in due time.