

One Week Self-Financed Short-Term Training Programme on
Basics of Computational Fluid Dynamics (BCFD-2014)

Date: June 23 – 27, 2014

Department of Applied Mechanics

Motilal Nehru National Institute of Technology Allahabad
Allahabad- 211004, Uttar Pradesh, India.

Introduction:

To improve quality of technical education through manpower development for effective teaching including the provision of pedagogical training, a short-term training programme on 'Basics of Computational Fluid Dynamics (CFD)' is planned, which offers basic theories of CFD and laboratory sessions on CFD modeling.

Programme Details:

Date		Opening Session (9.00 to 11.00 AM)		11.00 to 11.30 AM	Session-II (11.30 AM to 1.30 PM)	1.30 to 2.30 PM	Session-III (2.30 PM to 5.30 PM)	5.30 PM
Day-I (23/06/2014) Monday		Registration	Inaugural ceremony	Tea Break	'Overview of CFD' Transport equations & boundary conditions.	Lunch Break	Diffusion/Conduction problems.	Discussion and Review of the day's learning
Date	Breakfast 8.30 AM	Session-I (9.00 to 11.00 AM)			Session-II (11.30 AM to 1.30 PM)		Session-III (2.30 PM to 5.30 PM)	
Day-II (24/06/2014) Tuesday		CFD Lab. on Diffusion problems			Convection-diffusion problems.		CFD Lab on Convection- diffusion problems.	
Day-III (25/06/2014) Wednesday		Pressure-velocity coupling			Unsteady/transient problems		Lab session on pressure- velocity coupling & unsteady problems	
Day-IV (26/06/2014) Thursday		Introduction to CFD Software: Geometry, Grid Generation, Solver and post processing			Hands on experience on CFD software.		Introduction to Turbulence & Its Modeling	
Day-V (27/06/2014) Friday		Lab session on Turbulence Modeling		CFD Researches in India & Abroad: A Glimpse.	Presentation by the Participants	Valedictory function		

Scope of the Programme:

CFD is considered as a cutting-edge tool for the computational simulation ranging from the movement of microorganisms to the weather prediction. The leading manufactures, like automotive, aerospace, naval sectors frequently use this technique for the building of prototype and product development. The STTP will discuss the basic theories of CFD ranging from transport equations, discretization, modeling, mesh generation and solution techniques. The programme also includes hands-on laboratory session to boost the understanding of CFD.

Highlights of the Programme:

- Tailor-made, proven and popular course designed for the beginners of CFD.
- Methodical treatment connecting the Fluid Dynamics and its Mathematics.
- Hands-on Laboratory Session with a flavor of CFD coding using MatLab/C.
- Exposure to CFD software.
- Discussing an Overview and Potentials of CFD, identifying thrust areas in CFD.

Takeaways:

- The programme helps to understand the fundamentals of CFD and to know how to excel in this area.
- It offers practice/hands-on training in CFD using well-known platforms- MatLab/C, which will pave the way for CFD coding in future.
- It introduce with leading CFD software, which is a great aid to the CFD.
- The programme builds confidence in one's mind to carry out CFD simulation independently.

CFD at MNNIT Allahabad:

Department of Applied Mechanics has a state-of-the art CFD laboratory, which houses one 64 core IBM blade server, 14 high power workstations starting from HP Z800 followed by 36 desktop computers of latest configuration. The department also has ANSYS Fluent, ANSYS CFX and OpenFoam CFD softwares. The Fluids Engineering Research Group of the department is actively engaged in the teaching and research of CFD at M.Tech. and Ph.D. levels. Current research interest of the group includes aerospace, bio-fluid dynamics, vehicle aerodynamics, flow control, thermo-fluid dynamics, and turbomachines with active participation of students and professionals across academia and industries. The group also handles sponsored projects from Govt. agencies and industry.

About MNNIT Allahabad:

Motilal Nehru National Institute of Technology Allahabad (MNNIT) is an institute with total commitment to quality and excellence in academic pursuits. It was established as one of the seventeen Regional Engineering Colleges (RECs) of India in the year 1961 as a joint enterprise of Government of India and Government of Uttar Pradesh, and was an associated college of University of Allahabad. With over 50 years of experience and achievements in the field of technical education, having traversed a long way, on June 26, 2002 MNREC was transformed into National Institute of Technology and a Deemed University fully funded by Government of India. With the enactment of National Institutes of Technology Act-2007, the institute has been granted the status of Institution of National Importance w.e.f. 15.08.2007.

The Institute now offers nine B.Tech., twenty M.Tech. Degree Programmes (including part-time), MCA, MBA, M.Sc. (Mathematics and Scientific Computing) and Master of Social work (M.S.W.) programmes and also registers candidates for the Ph.D. degree. The Institute has been recognized by the Government of India as one of the centres for the Quality Improvement Programme (QIP) for M.Tech. and Ph.D. The entire campus is networked with 94 Mbps lease line. The institute offers congenial atmosphere for learning.

About Department of Applied Mechanics:

The Department of Applied Mechanics was established in 1964 and celebrates Golden Jubilee (1964-2014) this year. It was initially named as "Department of Applied Mechanics, Hydraulic and Hydraulic Machines", which was renamed as "Department of Applied Mechanics" in 2003. 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 offers four Post Graduate (M.Tech.) programmes in (i) Applied Mechanics, (ii) Material Science & Engineering, (iii) Fluids Engineering, and in (iv) Biomedical Engineering. The department also offers Ph.D. programme in these areas. The thrust areas of the department can be broadly divided into two groups: Mechanics & Materials and Fluid Mechanics involving theoretical, computational and experimental studies.

About City of Allahabad and its Connectivity:

Allahabad is well known throughout the country for its purity and cleanliness that the city has maintained for many years. It is a holy and religious place and the meeting point of three most pious rivers namely Ganga, Yamuna and the mythological Saraswati. The city has always been associated with well known political, cultural and academic personalities of the country which has aggrandized the glory of the city.

Allahabad city is situated in the northern part of India in the Awadh region of the state of Uttar Pradesh. It is well connected with flights, rail and road transport to other parts of India. Allahabad is the head quarters of north-central railway and is part of Howrah-Delhi grand chord rail network. It is well connected to all other important cities in India Allahabad has its own domestic airport at Bamrauli which is 15 km away from the heart of the city. Direct air-link is available for New Delhi and Mumbai. Air-connectivity to other parts of India is available from Lucknow (200 km) and Varanasi (135 km). Good road services are available in Allahabad. UPSRTC buses offer service to most of the cities in Uttar Pradesh. From Allahabad bus services are available to as far as Delhi (650 km) and Kolkata (800 km).

Eligibility Criteria to attend the STTP:

Faculty members of any government/private engineering/technical institutions with relevant background and CFD as an area of interest are eligible for this course. However, post-graduate students/research scholars/fellows/senior B.Tech. students with an ambition to pursue teaching/research as a career are also encouraged to attend. The seats are limited, and the selection will be made on 'First come first serve' basis.

Registration Fees:

Rs. 3000/- for outstation participants. Rs. 2000/- for participants from MNNIT. Registration fee includes registration kit, course materials, breakfast, working lunch and tea for all five days of the course. The registration fee does not include the accommodation and dinner charges. No T.A., D.A. will be paid to the participants.

Registration fee can be directly deposited through NEFT to the designated account or can be sent in the form of demand draft (D.D.) drawn on any nationalized bank in favour of "BCFD-2014" payable at Allahabad.

Bank Details:

Account Name: BCFD-2014.

Account No.: 718400301000110.

Bank: Vijaya Bank, MNNIT Branch, Allahabad- 211004, U.P.

IFSC Code: VIJB0007184.

Boarding and Lodging:

The institute offers limited accommodation and dining facilities *on payment basis* at the Executive Development Centre (EDC), which is located in the MNNIT staff colony. It houses limited A.C. and non-A.C. rooms and dining hall. Accommodation may be provided on 'first-come-first-serve' basis depending on the availability. A few guest rooms are also available in various hostels of the institute. Click here for details:

<http://www.mnnit.ac.in/index.php/facilities/edc.html>

Venue:

Department of Applied Mechanics, MNNIT Allahabad.

Organizing Committee:

Patron: Prof. P. Chakrabarti, Director, MNNIT Allahabad.

Programme Coordinators: Prof. Anuj Jain

Dr. Akshoy Ranjan Paul.

Members: Dr. R.P. Tewari.

Dr. S.J. Pawar.

Dr. Ramesh Pandey

Dr. Abhishek Kumar.

Er. Ajaya Bharti.

Dr. Anindya Bhar.

Dr. A.K. Upadhyay.
Dr. V. Murari.

Contact Details:

Dr. Anuj Jain

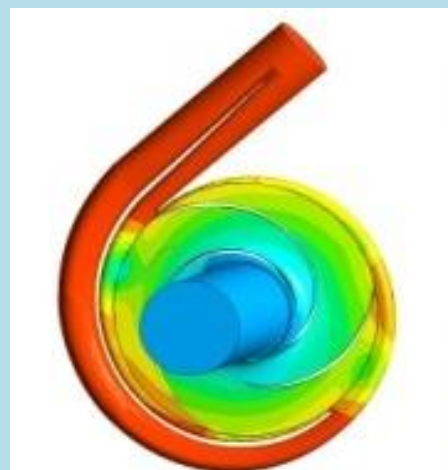
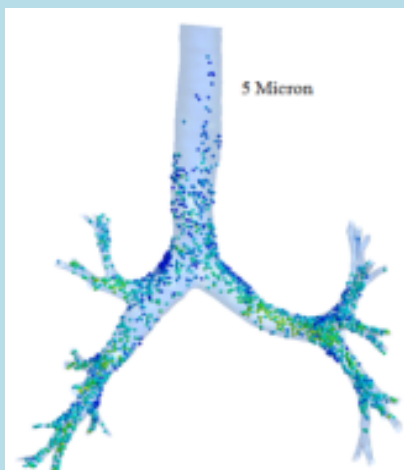
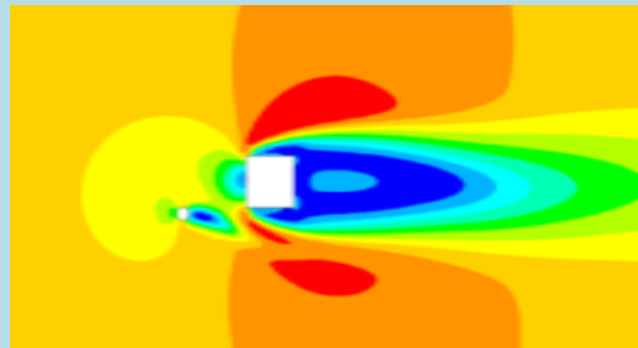
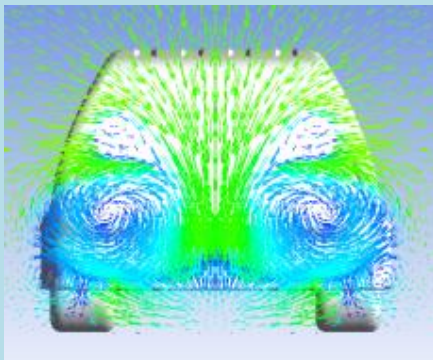
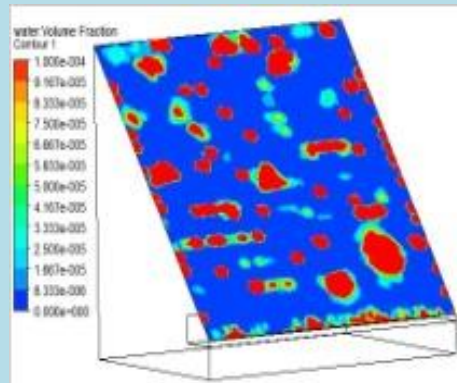
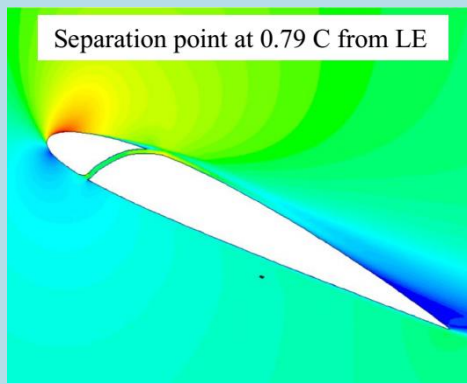
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Note:

A National Workshop on "Advanced Computational Fluid Dynamics" (ACFD-2014) is also scheduled from June 28 to July 02, 2014 at MNNIT Allahabad. The workshop will offer training on advanced CFD techniques by the eminent faculty members from IIT and NIT. Those who are interested to learn advanced techniques of CFD are encouraged to attend the same also. For details, please visit the website of the institute www.mnnit.ac.in.



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Allahabad- 211004, Uttar Pradesh, India.

REGISTRATION FORM

Name: _____

Date of Birth (in dd/mm/yy format): _____

Gender: _____

Designation: _____

Department: _____

Institute: _____

Highest Degree with Specialization/Branch: _____

Address for Correspondence: _____

Phone: _____ Mobile: _____ E-mail: _____

Accommodation Required: YES/NO

Type of Accommodation Required: _____

Date & Time of Arrival: _____. Date & Time of Departure: _____

Registration Fee Details:

Amount: _____

D.D. No./UTR No. (in case of NEFT): _____

Date of D.D. or direct transfer: _____

Issuing Bank Details: _____

Signature of Applicant with Date: _____

*The completed registration form should reach to the programme coordinator **on or before June 09, 2014** along with necessary registration fee. No application will be considered without the registration fee.