Self-sponsored Short-term course on

Modeling using Computational Fluid Dynamics and Matlab

(27th June – 1st July, 2016)

Organized by

Department of Chemical Engineering and Department of Mechanical Engineering

National Institute of Technology, Raipur-492010, Chhattisgarh

Coordinators

Dr. Amit Keshav Mr. S.K. Dewangan

About the Institute

National Institute of Technology Raipur situated in the capital of Chhattisgarh, has proven to be "avant-grade' in the field of science and technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September 1956. the institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our Prime Minister Hon'ble Pt. Jawahar Lal Nehru on 14th March 1963. From 1st December 2005, the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah-Mumbai railway route. The institute is 5 km from the Raipur railways station and 18 km from airport on NH-6, the Great Eastern Road.

Objective and scope

CFD is body of knowledge and techniques used to solve mathematical models of fluid dynamics on computers. It is a tool of prediction and provides us the relevant property of interest affecting the system. It provides complete information with very little additional cost, with high speed, high accuracy and without the use of harmful chemicals. It has wide field of application ranging from Aerospace, Thermal Engineering, Chemical Processing Manufacturing Science, Surface transport, etc. The main objective of the programme is to provide a hand on experience to the participants on the CFD software Fluent along with the use of the CFD knowledge to solve complicated problems involving multiphase and rheological flows. After completing this course they shall be able to use this software for various problems. Every lecture session is accompanied with a tutorial/lab session to give practice of the taught lectures and provide practical knowledge.

Topics to be covered

Introduction and basics of CFD, Equations of change, discretization methods, essentials, mathematical aspects, Grid generation, Assessing the grid quality and design, Knowledge of use of Ansys Software, Usage of Design Modeler (DM), Grid generation and Ansys Fluent, Rheological aspects: flow of Newtonian and non-Newtonian fluids, internal and external flows, Multiphase flow modeling, liquid solid, liquid gas and gas solid flow modeling, Matlab and its applications to field of engineering.

Registration Fee Particulars

Sl. No	Participants	Registration Fee in Rupees
1	UG Students	2000
2.	Research Scholars (PG and PhD)	2500
3.	Faculty	5000
4.	Industry Delegates	8000

Applications in prescribed format and the course fee in the form of cheque or demand draft drawn in favor of "Director, NIT-Raipur" must reach the coordinator on or before 20th June 2016. Registration fee includes course materials and lunch.

Certificate will be given to the participants after successful completion of the course Boarding, lodging and travel expenses should be borne by the participants.
Participants should bring their own laptop for lab sessions.

Chief Patron
Dr. S. Tiwari, Director, NIT Raipur

Patron
Dr. S. Sanyal, Dean, Research and Consultancy, NIT Raipur

Chairman
Dr. (Mrs.) A.B. Soni, Head, Dept. of Chem. Engineering, NIT Raipur

Coordinators

Dr. Amit Keshav
Department of Chem. Engg.

Mr. S.K. Dewangan
Department of Mech. Engg

Organizing Committee

Dr. B. Mazumdar, Dr. J Anandkumar, Dr. P. Ghosh, Dr. Dharm Pal, Mr. Akhilesh Khapre, Dr. C. Thakur, Anurag Tiwari, Ghoshna Jyoti, JagaMohan Meher, Ishtyaq Mohammad.

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REGISTRATION FORM

1. Name: ……2. Designation:……3. Organization:……
4. Mailing Address:……..……..E-mail:……..
5. Payment Details: ……Paid by (Draft No.)……...Dated ……for Rupees…….
on Bank ……
Date……Signature of candidate……Signature of Supervisor/HoD/Principal/Director…….

(Also Send the filled in scanned registration form through email to the address given in correspondence)