

About The Course

The aim of this workshop is to provide an introduction to the different approaches of computational fluid dynamics (CFD). In particular, the basics of macroscopic approach (finite element and finite volume method), mesoscopic (lattice Boltzmann method) and microscopic (molecular simulation) will be taught. There will be a hands-on sessions for every method in order to get better idea of difference in the different scales of simulation. The course shall be focused on developing fundamental understanding of these computational methods as well as its applications.

Learning objectives of this workshop:

The workshop address the various computational techniques of simulation of fluid flow and heat transfer problems.

- Introduction and application of Macroscopic scale of simulation for fluid flow and heat transfer problem (FEM and FVM).
- Introduction and application of Mesoscopic and microscopic scales of simulation (LBM and molecular simulation).
- Hands-on sessions for these computational techniques
- Discussion on the difference in the recent trends and application span of these methods.

Organizing Committee

Patron

Prof. Animesh Biswas
(Hon. Director, NIT Rourkela)

Chairman

Prof. Madhushree Kundu
(Head, Chemical Engineering, NIT Rourkela)

Conveners

Dr. Akhilesh Kumar Sahu

Dr. Krunal M. Gangawane

Dr. Naresh Thota

Treasurer

Dr. Biswajit Saha

Coordinator

Dr. Krunal M. Gangawane

Address for Communication

Dr. Krunal Gangawane, Department of
Chemical Engineering, NIT Rourkela,
Rourkela-769008

Email: gangawanek@nitrkl.ac.in

Phone: 0661 246 2253
08077808922

National workshop on Introduction to Computational Methods for Fluid Flow and Heat Transfer Problems (July 1-5, 2019)



Organized By

Department of Chemical
Engineering
National Institute of Technology
Rourkela
Odisha-769008

Sponsored Organizations

TEQIP-3
Technical Education Quality Improvement Programme

About Institute

National Institute of Technology (NIT) Rourkela is an institution of national importance funded by Ministry of Human Resource Development. It is one of the premier national level institutions for technical education in the country. The main objective of the institute is to produce quality engineers and scientists in graduate, post-graduate and doctoral levels in various branches of Engineering and Science. NIT Rourkela was ranked 601-800 in the world by the Times Higher Education World University Rankings of 2018 and 126th in Asia. In India, it was ranked 16 among engineering colleges by the National Institutional Ranking Framework (NIRF) in 2019. For details about the institute please visit us at www.nitrkl.ac.in

How to reach Rourkela

The most convenient way of travelling to Rourkela is by train, as it is well connected to most parts of the country by super fast trains. It does not have its own airport and the nearest airport is located in Ranchi, 250 km away. Kolkata airport is 493.3 km away from Rourkela. Howrah is very well connected with the Rourkela. Recently, Jharsuguda Airport is functional (131 km) and has connectivity to Delhi, Kolkata and Hyderabad.

Local Accommodation

Accommodation at the Institute Guest houses will be available on payment basis. The details regarding boarding and lodging are as follows:
South Guest House : (Single occupancy-double bed, double occupancy a/c rooms: Rs. 950/- per day (Double occupancy: 1400/- per day or 700 per head)
North Guest House : (Single occupancy, double-bedded a/c room: Rs. 600/- per day) (Double occupancy: 800/- per day)
Boys Hostel: (Single occupancy, double-bedded non a/c room): Rs. 150/- per day
Girls Hostel: Rs. 150/- per day

Invited Speakers

Dr. Tanmay Basak is a Professor of Chemical Engineering at IIT Madras. His research expertise includes FEM, Computational Electromagnetics, Microwave assisted Transport, Computational fluid flow and heat transfer. He is recipient of Young Engineer Award by Indian National Academy of Engineering, Amar Dye-Chem, NASI – SCOPUS Young Scientist Award and Herdillia Award. Prof. Basak is Associate Editor of International Journal of Heat and Mass Transfer and International Communication in Heat and Mass Transfer. He will deliver lectures on FEM, residual methods and FVM for fluid flow and heat transfer problems.

Dr. Suman Chakraborty is a Professor of Mechanical Engineering at Indian Institute of Technology Kharagpur. He has research interests in the area of Microfluidics, Nanofluidics, and CFD. In recognition of his pioneering research contributions in Engineering Sciences, he has been conferred the Shanti Swaroop Bhatnagar Prize, the highest scientific honour from the Government of India. He is Fellow of various National Academies of Science and Engineering, and a fellow of ASME, APS and the FRSC and the. Prof. Chakraborty will deliver lectures on LBM for microfluidics.

Fee Details

The registration fee details are listed below:

Students (UG, PG, PhD)	Rs. 1000
Academicians	Rs. 3000
Industry Fellow	Rs. 5000

Participants are requested to send a Demand Draft in favor of "REGISTRAR, NIT Rourkela" payable at Rourkela with a print out of the filled in Registration form, by Courier/ Speed Post/ a scanned copy of the DD and the signed registration form to gangawanek@nitrkl.ac.in or thotan@nitrkl.ac.in

National workshop on

Introduction to Different Computational Methods for Fluid Flow and Heat Transfer Problems

(July 1-5, 2019)

REGISTRATION FORM

Name.....

Category:(Academic/Student/Industry/R&D)
.....

Designation:

Department:

Institution:

Town/City:

E-mail:

Mobile No:

Registration Fee:

Online Payment can be made to a/c "CONFERENCE, NIT Rourkela, a/c no. 36734418111 Bank-SBI, IFSC:SBIN0002109. PARTICIPANTS ARE REQUIRED TO BRING THE PROOF (COPY) OF ONLINE TRANSACTION INCLUDING FOLLOWING DETAILS.

Transaction No. :

Transaction Date:

Accommodation required?

Date:

Signature: