

**Science Academy's Refresher Course on  
Concept of Fluid Dynamics and Applications  
(CFDA-2018)**

**June 25–July 6, 2018**

**Sponsored by**



Indian Academy of Sciences, Bangalore  
Indian National Science Academy, New Delhi  
The National Academy of Sciences, India, Allahabad

**Organized by**



**Department of Applied Mathematics  
Indian Institute of Technology  
(Indian School of Mines)  
Dhanbad-826004, Jharkhand  
www.iitism.ac.in**

**Objective**

The basic concept of Fluid Dynamics may be applied at various levels in academics, industry and research and development in science and engineering. The formulation of physical concept into a reliable model is one of the challenging tasks for upcoming scientists and engineers. It may happen only when the basic concept and their significant applications are well-known to them at early stage of education. The Fellow lecture series will certainly help to open new domain of Fluid Dynamics and its application in real life problems such as: wound healing, blood flow in human body, solute transport in groundwater reservoir, Interaction between water and oil etc.

The key features of this Course are enlisted as follows:

- To abreast with the knowledge and expertise of eminent academicians working on Fluid Dynamics and their various applications in science and engineering.

- To motivate the young minds towards recent advances and research with applications of concepts of Fluid Dynamics.
- Under graduate, Master students and Research Scholars may be given preference to participate in the programme for his/her exposure and opportunity to interact with eminent academicians who are exclusively working in the areas of Fluid Dynamics.
- Hands on session/Tutorials will be organized to solve the real-world problems.
- Study material will be provided to all participants in the form of soft and/or hard copy.
- Only **25 outstation and 10 Local Teachers/Research Scholars/Post Graduate Students** will get an opportunity to participate in this course **without any participation fee. Free boarding and lodging facility will be provided.**

**Theme of the Refresher Course:**

- Basic Concept of Fluid Dynamics
- Advances in Fluid Dynamics: Fluid Flow through Porous media, Fracture Porous media, Computational Fluid Dynamics, Finite Element Methods, Software in use etc.
- Applications of Fluid Dynamics: Real life problems such as: wound healing, blood flow in human body, solute transport in groundwater reservoir, Interaction between water and oil, Multilayer fluid flow problems etc.

**(54 Lectures and hands on session)**

**Important Dates**

Last Date for Registration: **On or Before May 30, 2018**

**Venue: IIT(ISM), Dhanbad**

**About IIT(ISM), Dhanbad**

IIT(ISM) is a fully residential technical institute having all modern amenities located in the mineral-rich belt of India in the prime cooking coal city of Dhanbad, Jharkhand. It was established as ISM in 1926 on the lines of the Royal School of Mines, London. IIT (ISM) an Institute of National importance has been rendering invaluable service to the cause of global education and societal development in its nine long decades of existence. Keeping in tune with the changing times a need has been realized for further expansion and diversification. IIT (ISM) has grown into a

full-fledged technical institution with 18 faculty departments offering a wide range of courses in Engineering, Science, Management, Humanities and Social Sciences at UG, PG and Ph.D. levels. IIT (ISM) admits students through IIT-JEE and GATE Entrance Exam in various courses of the respective departments.

**About the Department**

The departments provide an outstanding research environment complemented by excellent teaching for their students to flourish in different arena of academics and industry as well. The departments are executing various sponsored projects received by UGC, CSIR, NBHM, ISRO, DST etc. It is well recognized by the external funding agencies with SAP-DRS provided by UGC, FIST provided by DST and Science Academy programmes provided by National Science Academy's. The departmental society i.e., Society of Applied Mathematics (SAM) is contributing significantly towards academic outreach such as Workshop, Training Programmes, Conferences and Research activities as well.

**List of Tentative Resource Persons**

Prof. B. V. Rathish Kumar, FNASc, IIT Kanpur  
Prof. B. N. Mondal, FNASc, ISI Kolkata  
Prof. Alok Nath Chakrabarti, FNASc, Platinum Jubilee Fellow, IISc, Bangalore  
Prof. Naveen Kumar, ISc, BHU, Varanasi  
Prof. Rama Bhargava, IIT Roorkee  
Prof. G. P. Raja Sekhar, IIT Kharagpur  
Prof. Subir Das, IIT BHU, Varanasi  
Prof. Manoj Kumar, MNIT Allahabad  
Prof. M. K. Singh, IIT(ISM) Dhanbad  
Dr. P S Rao, IIT(ISM) Dhanbad

**Course Director:**

**Prof. B. V. Rathish Kumar, FNASc, IIT Kanpur**

**Contact Address:**

**Course Coordinator**

**Prof. M. K. Singh**

Department of Applied Mathematics

IIT(ISM) Dhanbad - 826 004

Email: drmk29@iitism.ac.in

Phone/Fax No.: (0326)2235488, 9431125817(M)

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