

Short Term Course
on
**Flow Visualisation and Measurement
Techniques in the Incompressible and
Compressible Flows**

1st – 5th August 2022



Course Coordinator

Dr. Sunil Manohar Dash

Assistant Professor,

Department of Aerospace Engineering,
Indian Institute of Technology Kharagpur

Guest Lectures

Dr. Kim Boon Lua

Professor,

Department of Mechanical Engineering,
National Yang Ming Chiao Tung University Taiwan

Dr. Amardip Ghosh

Assistant Professor,

Department of Aerospace Engineering,
Indian Institute of Technology Kharagpur

Introduction

The accurate interpretation of the fluid flow pattern is significantly important to understand the physics of the complex three-dimensional flow regimes associated with Aerospace, Mechanical, Civil and many other branches of engineering applications. Experimental flow measurements and visualisation is one of the effective and most accurate tools to capture the fluid flow pattern. The objective of this course is to demonstrate the theoretical details of several advanced intrusive and non-intrusive type flow measurement and visualisation techniques including Particle Image Velocimetry, Laser Doppler Velocimetry, Hot-Wire Anemometry, Schlieren Imaging etc. for both the incompressible and compressible flow regimes. The lecture materials will also highlight flow-field experiments on steady, unsteady, fixed and moving boundary fluid-solid interaction problems.

Course Contents

1. Introduction to Flow Visualisations and Measurements
2. Smoke and Dye Visualisations
3. PIV Measurements
4. Hotwire Anemometry Measurements
5. LDV Measurements
6. Schlieren Flow Visualisations
7. Temperature Measurements
8. Concluding Remarks

Pedagogy

Lectures will be delivered mostly through audio-visual presentation, group activity, exercise and case analysis.

TA and DA

No TA and DA will be provided.

No. of Participants

70 (Seats are available on first-cum-first basis)

How to Apply

Interested participants should download and submit the application form with required information in a prescribed format given at the end, and send it along with the bank draft or copy of the electronic paid slip of the Registration Fee to the coordinator in the mailing address before the deadline. Please also email scanned copies of all the posted documents to the coordinator Email ID: smdash@aero.iitkgp.ac.in.

Accommodation

40 nos. AC shared accommodations are available in the Technology Guesthouse of IIT Kharagpur. They will be offered on first come first serve basis. Other participants may apply for accommodation in student hostels or hotels outside campus. Participants have to pay for their food and lodgings.

Course Fee

| | |
|----------------------------------|----------------|
| Industry Participants | = Rs. 12,000/- |
| Faculty from Colleges | = Rs. 6,000/- |
| Students of IIT Kharagpur | = Rs. 1,000/- |
| Students from other Institutions | = Rs. 2,500/- |

No fees for faculty from IIT Kharagpur.

GST 18% is included in the course fee.

Important Dates

| | |
|--|-----------------------|
| Last Date for receiving the application form with the Registration Fee | : 28/ 07/ 2022 |
| Intimation to the participants | : 28/ 07/ 2022 |
| Start of the Course | : 01/ 08/ 2022 |
| End of the Course | : 05/ 08/ 2022 |

Payment Mode

The payment can be made through cheque / demand draft drawn in favor of “**CEP-STC, IIT Kharagpur**”, payable at Kharagpur, INDIA.

The payment can also be made through electronic fund transfer.

The bank details are as follows:

Account Name: CEP-STC, IIT Kharagpur

Account Number: 955 622 0000 2955

Bank Name: CANARA BANK

Bank Branch Name: SRIC, IIT KHARAGPUR

Address: IIT KHARAGPUR,

KHARAGPUR- 721 302,

MEDINIPUR DIST. (W. B.), INDIA,

(Telephone No: +91-3222 255221)

Swift Code: CNRB-INBB-BFD

IFSC Code: CNRB0019556

Branch Code: CNRB0019556

MICR Code: 721015104

PAN No.: AAAJI0323G

Mailing Address

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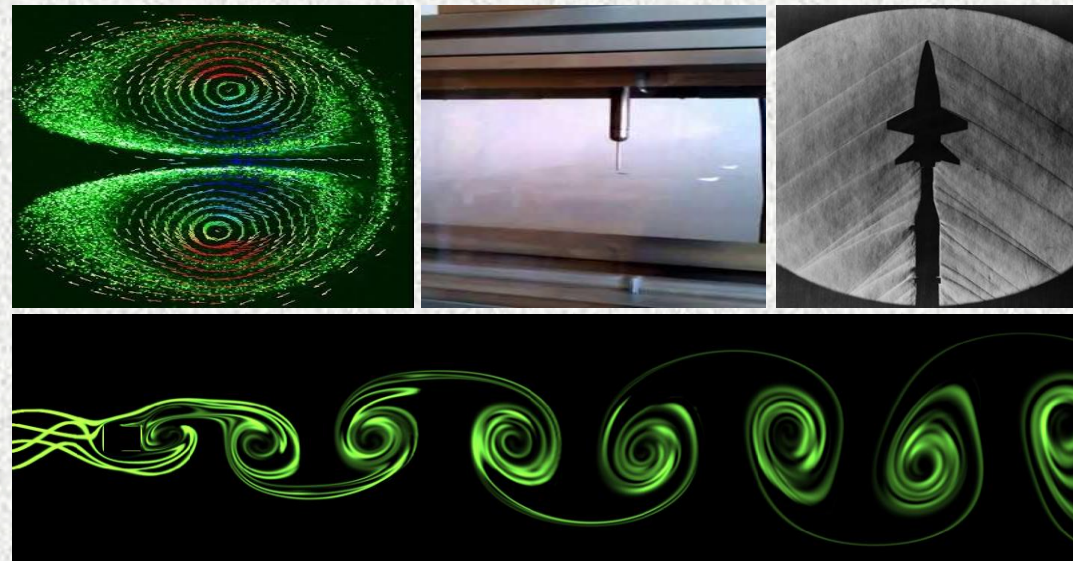
Ph No. +91-3222-304512 (O), +91-9958673652(M)

Certificate

Certificate will be issued to each participant from the Office of Deans/ AE Department Head, Indian Institute of Technology, Kharagpur.

Venue

Department of Aerospace Engineering
Indian Institute of Technology Kharagpur
West Midnapore, West Bengal State 721302



Application Form

PLEASE USE CAPITAL LETTERS

Note: Filled application should reach the course coordinator on or before July 28th, 2022

- 1. Topic of the Short Term Course:**
- 2. Name:**
- 3. Age:**
- 4. Gender:**
- 5. Designation:**
- 6. Name of the Institution /Organization:**
- 7. Address for communication:**
- 8. Highest academic qualification:**
- 9. Phone No:**
- 10. Email:**
- 11. Need Accommodation: (Y/N)**
- 12. Registration Fee Details (DD No.: Date: Amount: or NEFT money transfer details (in a separate sheet))**

Date:

Place: Signature of the Applicant