

**AICTE QIP  
SHORT TERM TRAINING PROGRAMME**

*On*

**Advances in experimental and  
computational fluid mechanics**  
**October 29 – November 03, 2018**

**Coordinators:**

**Dr. Shyama Prasad Das  
Dr. Dhiman Chatterjee  
&  
Dr. Shaligram Tiwari**

*Sponsored by*

**All India Council for Technical Education**



*Organized by*

**Department of Mechanical Engineering  
Indian Institute of Technology Madras**

**BACKGROUND**

Fluid mechanics is a fascinating subject that deals with the simple to complex phenomena encountered in nature as well as industry. It becomes extremely important to

understand the details of fluid flow and heat transfer characteristics occurring in many practical applications that helps to design real systems. The proposed short term course is designed to enhance and strengthen the basic knowledge on theoretical concepts as well as measurement techniques in fluid mechanics. It is aimed to familiarize the participants with advanced topics that include novel techniques of measurements in flow systems, computational fluid flow and heat transfer and other research topics such as microfluidics, atomization and spray, hydrodynamic instabilities, etc.

**COURSE CONTENT**

- Foundations of fluid mechanics
- Introduction to computational fluid dynamics
- Measurements in fluids and thermal engineering
- Viscous flows over external surfaces
- Viscous internal flows
- Introduction to turbulent flows
- Hot-wire anemometry and LDV
- Particle Image Velocimetry (PIV)
- Multiphase flows, interfacial flows
- Microfluidics
- Atomization and spray
- Introduction to hydrodynamic instabilities

**FACULTY**

Faculty members of IIT Madras and guest faculty members from other premier Institutions/Organizations will deliver lectures.

**COURSE MATERIAL**

Each registered participant will be provided with a set of comprehensive lecture notes.

**COURSE DURATION & VENUE**

The course is of one week (six days) duration from **October 29 – November 03, 2018**. Classes will be held at IC&SR, IIT Madras, Chennai.

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*Application Form*

- **Name (block letter):**
- **Designation & pay scale:**
- **Organization:**
- **Address for communication:**
  
- **Pin code:**                      **Ph. No.:**  
**Fax No.**                              **E-mail:**
- **Highest Academic Qualification:**
- **Specialization:**
- **Experience (in years):**  
**(a) Teaching:                      (b) Industrial:**
  
- **Amount of TA required as per entitlement mentioned in this brochure (only for AICTE approved college teachers):**
- **Accommodation:**

Required / Not Required

(Local participants will not be provided accommodation)

All data provided are true to the best of my knowledge and belief. Kindly register me for the short term course on “Advances in experimental and computational fluid mechanics” to be held at IIT Madras.

Place:

Date:

Signature of the Applicant

## SPONSORSHIP

Prof./Dr./Mr./Ms./Mrs./\_\_\_\_\_ is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the short-term course “Advances in experimental and computational fluid mechanics” at IIT Madras during October 29 – November 03, 2018, if selected.

Date: \_\_\_\_\_  
Signature of Sponsoring Authority  
Designation:  
Official Seal:

\_\_\_\_\_ Provisionally selected candidates have to send a DD for Rs. 500/- as caution-money:

DD No. \_\_\_\_\_ Date: \_\_\_\_\_

Bank: \_\_\_\_\_

Amount: \_\_\_\_\_

\_\_\_\_\_ Signature of the Applicant

### The duly sponsored application form should be posted to:

Dr. Shyama Prasad Das  
Dept. of Mechanical Engineering  
IIT Madras, CHENNAI – 600 036  
(or)

Dr. Dhiman Chatterjee  
Dept. of Mechanical Engineering  
IIT Madras, CHENNAI – 600 036  
(or)

Dr. Shaligram Tiwari  
Dept. of Mechanical Engineering  
IIT Madras, CHENNAI – 600 036  
E-mail: [aecfm18@gmail.com](mailto:aecfm18@gmail.com)

## ELIGIBILITY

The course is open to faculty with background in Mechanical and allied branches (Aerospace, Applied Mechanics, Automobile, Civil, Chemical, Metallurgy and Ocean Engineering / Naval Architecture) from engineering colleges approved by AICTE. *No course fee* is charged for participants sponsored by AICTE approved institutions. However, Rs 500/- caution-money has to be sent by the provisionally selected participants, which will be returned back once the participant joins the course.

All payments are to be made by demand draft drawn on any nationalized bank in favor of **CCE, IIT Madras payable at Chennai.**

## FINANCIAL ASSISTANCE

Limited number of participants from AICTE recognized engineering institutions will be eligible for to and fro railway fare via shortest route in 3-Tier AC class and free lodging and boarding in IIT Madras guest house during the course period. Candidates attending the course for complete duration only will be eligible for TA and DA.

## BOARDING AND LODGING

Boarding and lodging facilities will be provided for the selected candidates from AICTE approved institutions in the Taramani guest house at IIT Madras. Accommodation will be on twin sharing basis.

## IMPORTANT DATES

Last date for application : **10-07-2018**  
Intimation of selection (by email) : **17-07-2018**  
Confirmation of participation (by email) : **25-07-2018**

### QIP STTP details, application and updates:

#### Center for Continuing Education, IITM:

<http://www.cce.iitm.ac.in/>

#### Department of Mechanical Engineering, IITM:

<http://mech.iitm.ac.in>

### Course coordinators Profile:

**Dr. Shyama Prasad Das;**

<https://mech.iitm.ac.in/meiitm/personnal/dr-shyama-prasad-das/>

**Dr. Dhiman Chatterjee**

<https://mech.iitm.ac.in/meiitm/personnal/dr-dhiman-chatterjee/>

**Dr. Shaligram Tiwari;**

<https://www.iitm.ac.in/info/fac/shaligt>