

## SPONSORSHIP CERTIFICATE

Certified that Dr./Shri/Smt.....  
..... is being sponsored from  
..... for attending the short-term  
course on “**Air Delivery Systems and Indoor  
Environment Quality**” to be conducted at IIT Madras  
during October 14-19, 2019.

.....  
(Signature of Sponsoring/forwarding authority with date  
and seal)

## REGISTRATION FEE

### (a) Participants from AICTE recognized colleges

No registration fee will be charged from the teachers of AICTE recognized Engineering Colleges. However, a caution fee of Rs. 1000/- (Rupees One Thousand only) is to be paid along with the application form. The caution money is refundable to (a) applicants who are not selected (b) selected applicants who attend the course.

The participants from AICTE colleges will be paid TA/DA as per the AICTE norms.  
TA: 3AC - to and fro fare by the shortest route.

### (b) Participants from other organizations

Participants from Industry, Government Departments, and Research Organizations have to pay **Rs. 20,000/-** per candidate as registration fee. This amount is to be sent along with the application form.

Registration fee includes an electronic copy of the lecture notes, training programme kit, lunch and refreshments.

## MODE OF PAYMENT

All payments should be made through crossed Demand Draft in favour of “**IIT Madras**” payable at Chennai.

**IIT Madras GSTIN 33AAAAI3615G1Z6**

## BOARDING AND LODGING

**QIP participants:** Boarding and lodging will be arranged in the Taramani Guest House at IIT Madras on twin sharing basis.

**Participants from Industry/Research organizations:** Boarding and lodging will be arranged in the Taramani Guest House at IIT Madras or Hotel in IIT Madras Research Park on payment basis.

## IMPORTANT DATES

Submission of application form  
with sponsorship certificate : Aug 26, 2019  
Payment of course fee : Aug 26, 2019  
Intimation to selected candidates: Aug 30, 2019

## CONTACT DETAILS

Prof. M.P. Maiya ([mpmaiya@iitm.ac.in](mailto:mpmaiya@iitm.ac.in))  
Prof. Shaligram Tiwari ([shaligt@iitm.ac.in](mailto:shaligt@iitm.ac.in))  
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Chennai – 600 036  
Phone: 91-44-22574290

**Course Web-Site**  
URL: <http://iitm.ac.in/News>



Gajendra Circle (GC), IIT Madras

## QIP Short Term Training Programme on Air Delivery Systems and Indoor Environment Quality (Sponsored by AICTE, New Delhi)

October 14-19, 2019



*Coordinators*  
Prof. M.P. Maiya  
Prof. Shaligram Tiwari  
Prof. S.M. Shiva Nagendra



*Organized by*

Departments of Mechanical and Civil Engineering  
**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
Chennai-600036, India

## INTRODUCTION

Air conditioning (AC) is becoming common due to its necessity but is energy intensive consuming more than 60% of the total building energy consumption. The demand of AC is growing, thus further straining the energy supply in the country. The large buildings are to be equipped with central AC system. The air delivery system (ADS), which is a part of it, consumes nearly  $\frac{1}{3}$  of the energy. Good air filtration, delivery and distribution are as important as conditioning of air by cooling system. Indoor air is not always as clean and safe in buildings where hazardous chemicals are used or combustion process occurs. In recent years, concerns over the poor indoor environment quality (IEQ) in AC buildings and consequent adverse effects have drawn wider attention.

## OBJECTIVES

The main objectives of this course are to update the information and disseminate knowledge on the recent developments in ADS and IEQ through a series of lectures by experts in appropriate areas.

## COURSE CONTENTS

1. Introduction – Fundamentals of air properties, psychrometric chart, basics of air conditioning, human comfort and IEQ
2. Fans – Types, laws, selection, performance, VFD/VSD, Series and parallel configuration, Fan-system interaction, Control
3. Ducts – Air flow in ducts, Round and rectangular ducts, Duct sizing, balancing, Duct insulation, Costing/ optimization

4. Air Outlets – Air jets, Air distribution/diffusion in space, Classification of outlets, Performance index, Selection/ design
5. Indoor Environment Quality – Human comfort, types, sources and control strategy of indoor air pollutants, Sick building, Risk analysis, IAQ monitoring, Assessment, Standards and Modeling, acoustics and lighting.
6. Miscellaneous – Filters, C&D coils, Dampers, noise, Controls, etc.
7. Tutorials and Laboratory / Industry / Site visits

The exact program with slot wise lecture will be sent in due course of time to all those who register by email their “Expression of Interest” to attend the programme.

## RESOURCE PERSONS

The teaching faculty will constitute experts from different specializations within IIT Madras and guest speakers from other reputed institutions and organizations.

## LECTURE NOTES

Soft copy of lecture handouts will be made available to the participants in a CD.

## ELIGIBILITY

Teachers from AICTE recognized engineering colleges, practicing engineers from private and government organizations, scientists/ engineers from R&D establishments are eligible to apply.

## QIP Short Term Training Programme on Air Delivery Systems and Indoor Environment Quality

(October 14-19, 2019)

### APPLICATION FORM

(Last date for submission: Monday, 26 August 2019)

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

PIN: \_\_\_\_\_

Phone (With STD Code): \_\_\_\_\_

Email: \_\_\_\_\_ FAX: \_\_\_\_\_

Educational Qualification: \_\_\_\_\_

Professional Experience (Years): \_\_\_\_\_

Please tick the appropriate box below:

From AICTE recognized college:

From Industry/Research Organization:

DD Details: Amount (in Rs) \_\_\_\_\_

DD Number: \_\_\_\_\_ Date: \_\_\_\_\_

Date .....  
Signature of the applicant

**Please enclose sponsorship certificate along with this form**

For additional entries, please photocopy/type this form