

## Background to the project

Over 5 years ago, we started conducting ISTE workshops for empowering teachers of engineering colleges. We first scaled up to engage 1,000 teachers at a time, in subject specific training workshops of two week duration. In 2013 we scaled this program further, to train up to 10,000 teachers at a time (T10KT), using 342 established remote centers across India. IIT Kharagpur is our partner Institution. Together, we have a mandate through a funded project from the National Mission on Education using ICT (NME-ICT) of MHRD, to train 1,50,000 teachers in 15 such workshops.

Since December 2009, we have conducted several two-week ISTE workshops on various engineering subjects. We have reached out to more than 65,000 teachers and helped them to enhance their teaching skills in these subjects.

In order to run these workshops at selected remote centers, we invite expert faculty from various remote centers to a One Week Coordinators' training workshop which is held in IIT Bombay, typically two months before the main workshop. These faculty members then act as Workshop Coordinators during the main training workshop to be conducted later for 10,000 teachers, during which, the Coordinators supervise the conduct of tutorials and Labs at their Centers. They liaise between the participants at their Remote Centers and IIT Bombay, from where the interactive lectures are transmitted live. All the lectures and tutorial sessions are recorded. The final edited audio-visual content, along with other course material, are to be released in Open Source. The content can be freely used later by all teachers, students and other learners.

IIT Bombay is launching Massive Open Online Courses (MOOCs) to global learners from July 2014, in partnership with edX. To help enhance the quality of engineering education multi-fold in India, IIT Bombay plans to offer a blended MOOCs model to students of engineering colleges in India. A paper on the proposed model is available at <http://www.it.iitb.ac.in/nmeict/pdfs/MOOCs.pdf>

To train teachers for adopting the use of MOOCs in general, and to empower them to use the blended model in particular, it has been decided to run some of the T10KT workshops, partially using the MOOCs approach. The first workshop on these lines will be conducted for the subject 'Computer Programming'. This will be a Two week workshop, and will be conducted for over 10,000 teachers.

## Teaching Faculty

**Prof. Deepak B. Phatak,**  
Department of Computer Science and Engineering, IIT Bombay  
<http://www.cse.iitb.ac.in/~dbp/>

**Prof. Sridhar Iyer**  
Department of Computer Science and Engineering, IIT Bombay  
<http://www.it.iitb.ac.in/~sri/>

## Duration and Venue

The duration of the workshop is 2 weeks, i.e. the participating teachers will complete the equivalent of one week full-time work online, spread over 5 physical weeks from their home/office. **The online activities will start from 11<sup>th</sup> May – 15<sup>th</sup> June 2014.** They will then assemble at their selected RCs (Remote Centers), for a week of face to face interaction, discussions, and tutorial sessions. They will then complete a team assignment and submit it within next two weeks. The face to face interaction through A-view video transmission at the selected RCs will commence on Monday, **16<sup>th</sup> June, 2014 at 09:00 hrs and ends at 18:00 hrs on Saturday, 21<sup>st</sup> June, 2014.**

The details and enrolment link is available here:  
<http://www.it.iitb.ac.in/nmeict/>

The above link contains the list of all 279 remote centers.

## Who Should Attend

The faculty colleagues teaching **Computer Programming** should attend this workshop. They should be familiar with the syllabi and examination pattern of their own college or university. This workshop is only for Faculty. Students are not entitled to attend the course.

Teachers currently serving with any college/institute, where the subject computer programming is taught as a part of regular academic degree of the parent university, are eligible to attend the workshop.

## Note

Please note that this workshop is conducted by the e-Outreach project of IIT Bombay, under the National Mission on Education through ICT. Live recording of the course and other created contents will be released under Open Source through a portal. The recorded CD/DVD of the course lectures will be available for distribution at cost, to any individual/ institution. All participants are required to sign an authorization for such release of contents contributed by them during and after the workshop. Recognition and citation will naturally be made for all contributors.

## How to Apply

Those wishing to attend this course should register online at <http://www.it.iitb.ac.in/nmeict/home.do>

**Enrollment will be strictly online, and no other mode of application will be entertained.**

The online form contains a list of remote centers. From this list, please select a center close to your institute, where you wish to attend the workshop. The last date for enrollment and for submission of permission letter is **9<sup>th</sup> May 2014**. A list of selected participants will be put up on this website on **10<sup>th</sup> May 2014**. The selected participants will also be informed by an automated email.

**LAST DATE FOR ONLINE ENROLLMENT:  
9<sup>th</sup> May, 2014**

## Mandatory requirement

It is mandatory that while registering for the workshop, the participants should submit a scanned copy of a letter from the principal/Head of the Institute mentioning in our pre-format letter. Registration without this letter will not be confirmed.

## Course Fee

Since the workshop is partly funded by the National Mission on Education through ICT (MHRD, Government of India), there is no course fee for participation.

## Accommodation & other support

Remote centers are being funded to provide tea/lunch on each day of the workshop, and for accommodation, wherever available\*, for a limited number of outstation participants. **Travel reimbursement upto Rs. 1000/- will be paid only to the outstation participants, if the distance travelled from their Institute to the Remote Center is more than 100 kms.**

*\*Accommodation is not guaranteed.*

## Course Content

The workshop will provide training to participants on teaching pedagogy to make extensive use of Technology, and will cover teaching of the following topics:

- Algorithms
- Elements of C/C++ programming languages
- Basic data types
- Sequential and conditional execution
- Iterative solutions, Functions
- Arrays, matrices, and their applications
- Basics of Sorting and searching
- Elements of string processing
- Introduction to pointers
- Software Engineering concepts
- Structures
- File processing
- Handling graphics
- Introduction to Object Oriented Programming
- Classes and Methods, C++ Standard Library

## Remote Centers

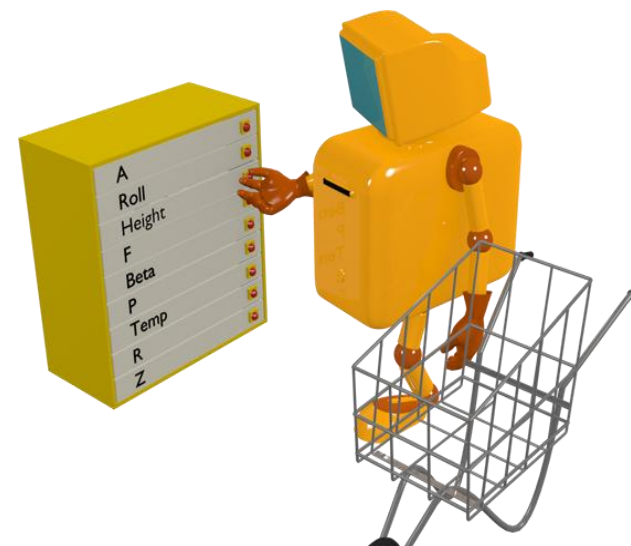
We have remote centers in the following states:

Andhra Pradesh, Assam, Chhattisgarh, Delhi, Gujarat, Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal

## Address for Communication:

**Dr. Mukta Atrey,**  
Sr. Project Manager  
Department of CSE,  
Kanwal Rekhi Building,  
Indian Institute of Technology Bombay,  
Mumbai - 400 076  
Tel.: +91-22-2576 4989  
Fax: +91-22-2572 0022  
Email: [eoutreach@it.iitb.ac.in](mailto:eoutreach@it.iitb.ac.in)

## TWO - WEEK ISTE WORKSHOP on Computer Programming Under the National Mission on Education through ICT (MHRD, Govt. of India)



**One week full time work to be completed online during  
11th May – 15th June 2014 (5 weeks)**

**Physical participation at Remote Centers during  
16th June – 21st June 2014**

**Conducted by IIT Bombay**



## Course Coordinators:

**Prof. D. B. Phatak and Prof. Sridhar Iyer**  
Dept. of Computer Science & Engineering  
Indian Institute of Technology Bombay  
Mumbai – 400076



## **IMPORTANT CLARIFICATION**

Teachers, who wish to participate in this workshop, should specifically note that this is NOT a workshop to learn computer programming. Applicants should already know programming using C/C++, and should be teachers for this subject in their college/institute for a regular degree/diploma program.

We understand that the subject using C/C++ is taught not only in engineering colleges and polytechnics, but also in several Science / Commerce and other colleges. All such teachers are eligible to apply.

Please note that only limited information is being collected in the registration form. Specific details about programming expertise and experience of the registered participants, will be ascertained through the online quiz/feedback, to be conducted during the week of 12 May to 17 May.

In this two week workshop, it is necessary that a participant completes all online weekly assignments during the five week period, from 12 may to 14 June, before coming to the Remote Centre for one week of physical interaction. Award of the ISTE certificate will depend upon the fulfillment of the above mentioned criteria including attendance and other timely activities.