Completed Registration form should be sent to the Course coordinator:

Prof. Subhankar Karmakar
Centre for Environmental Science and Engineering,
Indian Institute of Technology Bombay, Powai,
Mumbai 400 076

Phone: (022) – 25767857
Fax: (022) –25764650
Email: **skarmakar@iitb.ac.in**,
subhankar.karmakar@gmail.com

The completed registration forms should be received by the Coordinators latest by:
29 April, 2016

Notification of acceptance:
5 May, 2016

- Incomplete application forms will not be entertained
- For additional copies of the registration form, please xerox or type in the format given

For further details:
< **www.qip.iitb.ac.in** >

Faculty

The teaching faculty constitutes experts of hydro-climatology from IIT Bombay.

Venue for Classes

Classes will be held in Victor Menezes Convention Centre (VMCC), IIT Bombay.

Lecture Notes

To fully realize the objectives of the course, the lecture notes / slides will be made available at the time of registration at IIT Bombay

Date & Time of Registration:

Monday 30 May 2016, 9.00 AM at Victor Menezes Convention Centre (VMCC), IIT Bombay.

For any further information regarding QIP programmes at IIT Bombay, contact:

Professor-In-Charge,
CE & QIP Indian Institute of Technology Bombay
Powai,
Mumbai – 400 076
Phone: (022) 2576 7006
Email: qip@iitb.ac.in

Quality Improvement Programme

Short Term Course

on

Impacts of Climate Change, Urbanization and Land-Use-Land-Cover Change on Water Resources

30 May – 3 June, 2016

Coordinators

Prof. Subhankar Karmakar & Prof. Subimal Ghosh

Centre for Environmental Science and Engineering
&
Department of Civil Engineering,
Indian Institute of Technology Bombay, Powai,
Mumbai 400 076, INDIA

BROAD OBJECTIVES

Hydrology treats all phases of earth's water and is a subject of great importance for people and their environment. It deals with the water of the earth: their distribution and circulation, their physical properties and interactions with the continuously changing environment. The knowledge of engineering hydrology is useful in managing and controlling water resources, particularly design and operation of hydraulic structures, water supply, hydropower generation, flood control, conjunctive use of ground and surface water, etc. In the recent years, climate change, rapid urbanization and land-use-land-cover change have been identified as the major causes of drastic weather changes and related hydrological and agricultural implications. Generation of spatio-temporal variability of water resource on long-term basis vis-à-vis varying anthropogenic and environmental stress require sophisticated modeling tools, such as, GCMs (dealing with large scale climate modeling and change) with both statistical and dynamical downscaling models, coupled to hydrological and agricultural models. Due to the complex geographical and hydrological features in India, it is essential to build integrated modeling platform capable of forecasting spatio-temporal variability of surface water and groundwater resources in response to different environmental (atmospheric forcing and rainfall variability) and anthropogenic stress. The basic goal of the proposed short-term course on hydro-climatology is to make participants aware of the basic and advanced topics of hydro-climatology, hydrological modeling and emerging applications in water resources management.

COURSE CONTENTS

The short-term course aims to include the following themes with particular emphasis to water resources:

- Conceptual hydrologic modeling
- Stochastic hydrology
- Introduction to climate and weather variables
- Indian monsoon
- Introduction to climate modeling
- Downscaling for assessment of climate change on hydrology
- Hydro-climatic extremes
- Risk analysis and uncertainty modeling
- Demonstrations of statistical downscaling, Dynamic regional modeling (using WRF with UCM), Hydrologic modeling (using VIC), Flood modeling (using MIKEFLOOD) and Drought modeling (data driven)

Experts with specializations in hydro-climatology will be delivering lectures in various sessions. Each session would be followed by interactive sessions on the subject matter.

ELIGIBILITY

Faculty members of engineering colleges recognized by AICTE are eligible to attend the course. They are entitled for sleeper class (Second Class) or III AC railway fare to and fro by the shortest route from nearest railway at their place of work to IIT Bombay. Accommodation will be provided in Student Hostel at IIT Bombay campus free of cost during the course period. Family members of the participants cannot be accommodated, since accommodation is limited. All outstation participants will be given auto fare from Vikhroli/Kanjurmarg/Andheri to IIT Bombay on the dates of arrival and departure. Local participants will be given TA charges daily as per the Institute rules.

REGISTRATION

There is no registration fee for the course. All shortlisted candidates are required to confirm their participation by sending a Demand Draft of Rs. 1,000/- in the name of "**Registrar IIT Bombay**" The above amount will be refunded to the participant if he / she attends the course. In case a participant does not attend the course, the above amount is forfeited.

Candidates should complete the enclosed registration form, and send it by postal mail and email to the Coordinators. Confirmation of eligible candidates will be on a first come first served basis up to a maximum of 30 candidates. The completed registration forms should be received by the Coordinators latest by: 29 April, 2016

QIP Short Term Course
on
"Impacts of Climate Change, Urbanization and Land-Use-Land-Cover Change on Water Resources"

30 May – 3 June, 2016

Registration Form

Name(in block letters): _____

_____

Designation: _____

Organization:_____

Mailing Address:_____

_____

_____

Telephone:_____

Fax:_____

Email:_____

Mobile:_____

Educational Qualification:_____

Specialization:_____

Experience:_____

Accommodation in Campus: YES / NO

Signature of Applicant:_____

Sponsorship and signature of Principal of the College / Institute (with date & seal)