Introduction

The Government of India has announced the SMART cities project for over a 100 cities and AMRUT project for 500 cities. "Stormwater drains to reduce flooding" is one of the thrust areas for these cities. The Inter-Governmental Panel on Climate Change (IPCC) has identified that there will be an increase in the number of extreme flood events in the future as a consequence of climate change. We need to ensure that these cities do not get disrupted due to hydrological natural disasters like cyclones and flooding caused by severe rainfall as was experienced by Chennai, Gurgoan, Bengaluru, Hyderabad, etc. during 2015-16. There is therefore an urgent need to implement appropriate drainage practices so that the essential services can continue to function 24x7 with minimum disruption during severe rainfall events.

This course presents the most recent international state-of-the-art technologies and drainage practices which can prepare our cities to manage floods. Urban flood early warning systems (UFEWS), solutions along with case studies for situations where expansion of drainage systems is limited due to space availability are specifically presented.

Course Objectives

1. Capacity building for the organizations dealing with drainage systems, especially for planning for SMART/AMRUT/other cities;
2. Familiarize the participants with the latest international technologies and practices in urban drainage management with case studies from India and abroad;
3. Enable the participants to ensure adequate design of drainage systems and identify appropriate strategies for the local conditions in their cities to minimize flooding; and
4. Provide a common platform for the participants to discuss problems and appropriate solutions of mutual interest.

Over 1400 officers and engineers from 200+ organizations in India and abroad have so far benefitted from 41 earlier courses in the last 17 years. The course has been updated based on the interactions with the participants and now presents practical solutions to common drainage and flooding problems in India.

Course Content and Sessions:

<table>
<thead>
<tr>
<th>Thu 1000 to 1700</th>
<th>Review of Urban Drainage and Urban Flood Disaster Management Guidelines; Climate Change and Urban Flooding - Climate Resilient (Smart) Cities; Removal of Urban Solid Waste and Sediment Deposits from Stormwater Drains; Urban Flood Early Warning Systems and Flood Risk Assessment –Mumbai Case Study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat 1000-1600</td>
<td>Local Field Trip (1000-1600)</td>
</tr>
</tbody>
</table>

Venue: Ground floor Conference Room, Jal Vihar Guest House, IIT Bombay

Who may benefit

Senior officers/engineers and consultants working with SMART and AMRUT cities, roads and drainage departments, city municipal corporations, city development authorities, roads, railways and airports, public sector undertakings, MES, CPWD, PWD and other government and research organizations engaged in the analysis, design, planning, construction, operation and maintenance of urban drainage systems would benefit from the proposed program.

Course Co-ordinator and Faculty

Kapil Gupta, Professor, Dept. of Civil Engineering, IIT Bombay has been involved with urban drainage projects in India and abroad as expert advisor, consultant and trainer for various national and international organizations. He is a member of the various national and international expert committees/ working groups on urban storm drainage and flood disaster mitigation for the past 20 years. Invited experts and other IIT faculty will also be making presentations at the course.

Course Fees, Registration Deadlines and Accommodation details

The fee for the three-day course is Rs. 19,000/- plus 15% service tax (= Rs. 21,850/-) for the first participant and Rs. 17,000/- plus 15% service tax (= Rs. 19,550/-) for each additional participant from the same organization. International participants: USD 600/- + 15% service tax (= USD 690/-) per participant. Please note that no income tax is to be deducted at source from the course fee, as IIT Bombay is exempt from the same.

The course fee includes one copy of course notes, presentations and reference material (Drainage manuals and codes) on memory stick, field trip, lunch and coffee/tea during the course.

Officers planning to attend this course are requested to register for the course and email /fax post/whatsapp their nominations along with the course fee by 4th February 2017.

All course fees should be paid by demand draft / cheque drawn in favour of "The Registrar, IIT Bombay - CEP Account" and sent by SPEEDPOST to:

Prof. Kapil Gupta
Department of Civil Engineering
Indian Institute of Technology Bombay
Powai, Mumbai - 400 076
Phone : 022 2576 7324 (O); 022 2576 7060 (CEP office)
Mobile : (0) 9820 409 433
Fax : 022 2576 7324 / 022 2572 3480
Email : kgw@iitb.ac.in; profkgupta@gmail.com

We regret that post-payments are not acceptable. In very exceptional cases, fee may be paid by cash on 11 February 2017 during registration (ATMs are located opposite the conference hall).

Accommodation charges are not included in the course fees and are to be paid directly at the guest house counter. For outstation participants, limited accommodation on twin-sharing basis from 8th February to 11th February is available at the New Guest House (Van Vihar – 24 h. check-in) in IIT campus. Accommodation would be confirmed after receipt of registration fees. *(2016 rates: approx. 1200/- per person per night (including breakfast) on twin sharing basis)*

For further details regarding CEP courses conducted by IIT Bombay, please visit: http://www.iitb.ac.in/~cep/
REGISTRATION FORM

Three-day CEP Course on
Urban Drainage Management: State-of-the-Art
9-11 February 2017

(Please return the form by email/ FAX/whatsapp to: kgupta@civil.iitb.ac.in or M (9820409433)

NAME (BLOCK LETTERS): Dr./ Mr./ Mrs./ Ms._

ACADEMIC QUALIFICATION ________________________ BRANCH ________________________

DESIGNATION: ________________________ YRS. OF EXPERIENCE ________________________

ORGANIZATION: _________________________________________________________________

MAILING ADDRESS: _______________________________________________________________

______________________________________________ PIN ____________________________

EMAIL (in capitals):

MOBILE: ________________________

PAYMENT: D.D. No.: ________________________ Dt. ________________________ Rs.____________________

MEAL PREFERENCE: VEG □/ NON-VEG □

ITGH requirement for outstation officers (twin-sharing basis from 8-2-17 to 12-2-17):
*Guest House bill is to be paid directly by participant and is not included in course fees

□/ YES □/ NO

Arrival Date/Time: ________________________ Flight/Train No. ________________________

Departure Date/Time: ________________________ Flight/Train No. ________________________

Date: ______________________________________ Signature of Applicant

Course Fees, Accommodation and Registration Deadlines
The fee for the three-day course is Rs. 19,000/- plus 15 % service tax (= Rs. 21,850/-) for the first participant and Rs. 17,000/- plus 15 % service tax (= Rs. 19,550/-) for each additional participant from the same organization. [Demand draft/cheque should be drawn in favour of "Registrar, IIT Bombay (CEP A/c)" and sent on or before 4th February 2017 to: Prof. Kapil Gupta, Dept of Civil Engg., IIT Bombay, Mumbai 400076 by speedpost/courier.

Office of Continuing Education and Quality Improvement Programmes

Indian Institute of Technology Bombay
Powai, Mumbai 400 076