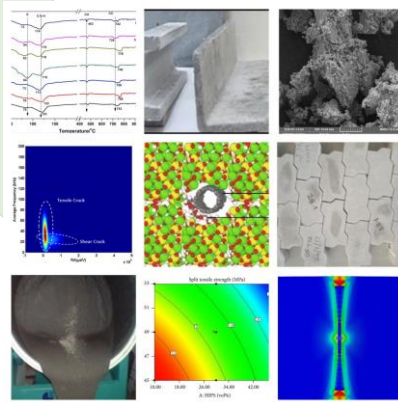


Online Advanced Course on Microstructural Characterization Techniques and Mix Design of Special Concretes

09 – 11 September 2020



Organized by

CSIR-Structural Engineering Research Centre
(An ISO 9001-2015 Certified Organization)
CSIR Campus, Taramani
Chennai – 600 113, India

CSIR - Structural Engineering Research Centre

CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai, India is one of the national laboratories under the Council of Scientific & Industrial Research (CSIR), India. CSIR-SERC has built-up excellent facilities and expertise for the analysis, design and testing of structures and structural components. Services of SERC are being extensively used by the Central and State Governments and public and private sector undertakings. Scientists of CSIR-SERC serve on many national and international committees and the Centre is recognized at the national and international levels as a leading research institution in the field of structural engineering. CSIR-SERC has been certified as ISO: 9001 quality institution.

Objective

CSIR-SERC is conducting skill development programmes with the motive of creating skilled work force for the industrial/societal requirements, as a part of the skill initiative programme of CSIR. COVID-19 has posed several challenges to entire world & various establishments of health, education, R & D, etc. In these challenging times, emerging technologies, played a significant role in their diverse forms, providing solutions and mitigating the current COVID-19 impact. Due to the COVID-19 pandemic, this year CSIR-SERC is offering advanced course on microstructural characterization techniques and mix design of special concretes through webinar mode to reach out to many people during this difficult time.

Contents of Course

The course is planned to provide the necessary background and exposure to the participants on recent advancements in microstructural characterization techniques and mix design of special concretes. The course will brief expert lectures on ultra high performance concrete, e-waste concrete, geopolymer concrete, lightweight concrete, fibre-reinforced concrete, nano engineered concrete, recycled aggregate concrete and 3D printing. Several characterization tools and

modelling techniques to monitor early age hydration, strength development, durability assessment and damage in concrete will be discussed using XRD, TGA, SEM, calorimetry, micro-mechanical & numerical modelling and embedded sensors technology.

Fees and Registration

Rs.1500/- per participant inclusive of GST for Indian delegates and US \$40/- for foreign delegates. Participation certificate shall be provided to all the registered participants. The brochure and details of the registration can be downloaded from the CSIR-SERC web site <https://serc.res.in>.

The course registration can be completed via online, (<http://forms.serc.res.in/view.php?id=33087>). Kindly select the present course in the form and fill all the particulars. The registration fee for the course can be paid by clicking the **SBI collect** in the registration form.

Duration

09 -11 September (3 days); 10:00 am to 05.00 pm (IST)

Requirements for the Webinar

Desktop/Laptop/Smartphone with good internet speed and sufficient data pack. A web link will be sent to the registered participants for joining the course.

Coordinators

Dr. Prabhat Ranjan Prem, Senior Scientist
Dr. Senthil Kumar K, Scientist
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Experts for Advanced Course on Microstructural Characterization Techniques and Mix Design of Special Concretes



Presentation about
CSIR-SERC
3.30 pm

Day 1 (09-09-2020)



Welcome address
Prof. Santosh Kapuria
Director, CSIR-SERC
10.00 am



Ultra high performance
concrete
Dr. Prabhat Ranjan Prem
CSIR-SERC
10.25 am



Embedded sensors technology
application in concrete
Prof. Arnaud Deraemaeker
Université Libre de Bruxelles
Belgium
11.45 am



E-waste in concrete
Dr. Senthil Kumar. K
CSIR-SERC
2.15 pm

Day 2 (10-09-2020)



Testing techniques &
numerical models for
cementitious materials
Dr. Branko Šavija
TU Delft, Netherlands
10.00 am



3D printing of concrete
Dr. Biranchi Panda
IIT Guwahati
11.30 am



Characterization tools and
techniques- XRD/XRF, SEM-
EDAX, TGA, Calorimetry
Dr. S. Maheswaran
CSIR-SERC
1.45 pm



Development of nano-
engineered cementitious
composites
Dr. B.S. Sindu
CSIR-SERC
2.45 pm



Reaction kinetics of high
performance fly ash concrete
Mr. Vijaya Bhaskara GS
CSIR-SERC
3.45 pm

Day 3 (11-09-2020)



Geopolymer concrete
Dr. P.S. Ambily
CSIR-SERC
10.00 am



Lightweight cementitious
composites
Dr. Kim Hung Mo,
University of Malaya
11.30 am



Fiber reinforced concrete
Dr. Nawal Kisor Banjara
CSIR-SERC
1.45 pm



Recycled aggregate concrete
Dr. Bhashya Vankudothu
CSIR-SERC
2.45 pm



Textile reinforced concrete
Dr. Smitha Gopinath
CSIR-SERC
3.45 pm