

8. TWELFTH WORKSHOP UNDER THE ENERGY EFFICIENT BUILDINGS WORKSHOP SERIES ON “LOW CARBON MATERIALS AND BUILDING SYSTEMS”

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Department of Civil Engineering, Centre for Sustainable Technologies and Karnataka State Council for Science & Technology, the Indian Institute of Science are involved in developing and disseminating large number of low carbon building materials since the last three decades. More than a dozen energy efficient building technologies have been developed and disseminated. Large numbers of buildings have been built using these new materials. Such buildings are energy efficient and result in at least 50% reduction in carbon emissions. There is a demand for the knowledge on low carbon building materials and systems.

Details of the workshop

The twelfth workshop under the Energy Efficient Buildings Workshop Series on “Low Carbon Materials and Building Systems” was held during 24 – 29th July, 2017. The Workshop comprised of lectures, hands-on training and demonstration of construction techniques. Broad topics covered include Energy in buildings, Green building concepts, low carbon building materials (stabilised soil blocks, rammed earth, fly ash bricks, soil based building products, materials from solid wastes, etc.), alternative roofing systems, masonry vaults and domes, Bi-PV and climate responsive architecture. In addition, the afternoon sessions was mainly focused on hands on training and demonstration classes on the production of stabilised soil blocks, fly ash blocks and rammed earth elements, masonry bonding, masonry domes, precast elements, etc. and field visits.

The experts include the faculty/scientists from Department of Civil Engineering, Centre for Sustainable Technologies, IISc., and Karnataka State Council for Technology. Prof Peter Walker and Prof Daniel Maskell from University of Bath, United Kingdom shared their experience in alternate building technologies from European context. Prof Shaju from Locus Architects and Architect Ms. Mala Sugantha were invited to share their expertise in construction of buildings using alternate technologies.

The workshop has generated a good amount of response and there is growing demand for the workshop recently because of the course content and hands on training imparted during the workshop. This workshop was partly sponsored by “HT Parekh Foundation – A CSR initiative of HDFC Limited”.



Participants of 12th Workshop Valedictory Function



Program Schedule: 24th to 29th July, 2017

24.07.2017

09:30 – 10:45 Introduction to green buildings concepts and Sustainability

10:45 – 11:00 Tea Break

11:00 – 13:00 Stabilised soil blocks, masonry & mortars

14:15 – 14:45 Soil identification and testing

14:30 – 17:30 Stabilised soil block production and masonry construction

25.07.2017

09:30 – 10:45 Earthquake resistant masonry buildings

10:45 – 11:00 Tea Break

11:00 – 12:00 Masonry vaults and domes

12:00 – 13:00 Alternative roofing systems

14:00 – 15:00 Slide show on vaults and domes

15:00 – 17:30 Demonstration of dome and vault construction

26.07.2017

09:30 – 10:30 Rammed earth for walls

10:30 – 10:45 Tea Break

10:45 – 12:00 Energy, Environment, Buildings and sustainability

12:00 – 13:00 Fly ash blocks, bricks and building materials from solid wastes

14:00 – 17:30 Rammed earth, adobe, jack-arch panels and precast elements demonstration

27.07.2017

09:30 – 10:30 Lighting and BiPV

10:30 – 10:45 Tea Break

10:45 – 11:45 Thermal comfort in buildings & thermal performance (OTTV)

11:45 – 13:00 Green rating systems & examples, Energy assessment in buildings

14:00 – 17:30 Visit to RE class room, demonstration of block & masonry testing, and shock Table (video)

28.07.2017

09:30 – 10:00 Challenges & opportunities in Alternative building technologies

10:00 – 11:00 Domestic roof water harvesting

10:00 – 11:15 Tea Break

11:15 – 13:15 Guest Lectures – University of Bath

14:00 – Field visits

29.07.2017

09:30 – 10:30 Introduction to solar passive architecture & building simulation techniques

10:30 – 10:45 Tea Break

10:45 – 11:45 Guest lecture

11:45 – 12:45 Guest lecture

12:45 – 13:15 Feedback & discussion