



Workshop on Designing Structures for Fire Safety

IIT Bhubaneswar has recently organized a one-day international workshop on Designing Structures for Fire Safety. The workshop was organized in collaboration with the Odisha State Disaster Management Authority (OSDMA), as part of the Scheme for Promotion of Academic and Research Collaboration (SPARC) Scheme, Ministry of Education, Govt. of India. The workshop was inaugurated by Prof. Venkatesh Kodur, Distinguished Professor, Michigan State University, USA and Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar.





This workshop gave a thorough introduction to the principles, practices, and strategies of fire safe design in modern constructions. Topics included designing steel and concrete structures for fire safety and using Big Data and AI for knowledge discovery in fire engineering. Another research-focused discussion covered the instability of thin-walled structures due to fire induced localized thermal loading. Through the demonstration of case studies and practical exercises, participants gained an opportunity to learn to integrate fire safety considerations into the design process, ensuring that buildings not only comply with regulations but also enhance occupant safety and resilience in case of a fire.

Several keynote sessions were delivered by different stakeholders. Prof. Kodur, Dr. Malay Pradhan from OSDMA, Prof. M.Z. Naser from Clemson University (USA) and Prof. Rajesh Kumar from BITS Pilani were the eminent speakers in the workshop.

The workshop was organized by Prof. Sarat Kumar Panda and Dr. Santhoshkumar G., Faculty members from School of Infrastructure, IIT Bhubaneswar. In conjunction with this workshop, a 15-days Short Course on "Structural Fire Engineering" is being conducted at the School of Infrastructure from 9th to 23rd July 2024, with Prof. Kodur as the Course Instructor.

Major Participants of the workshop were from OSDMA, Industrial Infrastructure Development Corporation (IDCO), PWD Department, Odisha, RITES, AIMIL Limited, OUTR, Bhubaneswar and IIT Bhubaneswar.



Inauguration of SiC RIC

The Silicon-Carbide Research & Innovation Centre (SiC RIC) has been inaugurated on 7th July 2024 by Prof. Shreepad Karmalkar, Director of the Institute. This Research & Innovation Centre has come up in line with a Memorandum of Agreement signed between SiCSem Private Limited and IIT Bhubaneswar with an aim to collaborate on research in the field of Compound Semiconductors. The centre will work towards indigenizing Silicon Carbide (SiC) crystal growth at IIT Bhubaneswar. Among others, Prof. P. V. Satyam (Coordinator), Mr. Rajeev Kumar from SicSem, Prof. Dinakar Pasla, Dean SRIC were present on the occasion.



Pervious Concrete Pavements to Combat Urban Flooding & Heat Islands

Rapid urbanization in India has led to widespread construction of impervious pavements like bituminous and concrete surfaces. These exacerbate storm water runoff during rainfall, causing flood-like conditions in many cities. Additionally, increased impervious surfaces and urban population have significantly depleted groundwater reserves, impacting urban dwellers' quality of life. Recognizing that urban spaces like parking lots, cycle tracks, and pedestrian walkways do not need impervious pavements due to light traffic, researchers at IIT Bhubaneswar developed a solution: pervious concrete pavements. This innovation aims to mitigate storm water runoff and promote groundwater recharge.

The School of Infrastructure at IIT Bhubaneswar recently implemented pervious concrete pavements in the cycle parking area, covering 150 square meters with 18 slabs. Students from the Transportation Engineering Section participated, placing 150 mm thick pervious concrete slabs, 3.5 by 2.5 meters, over a 250–300 mm reservoir layer atop the subgrade. The system can store over 20 cubic meters of water without runoff. Pervious concrete, produced at a ready-mix concrete (RMC) plant, facilitates stormwater infiltration, promoting percolation into the subgrade and aiding groundwater recharge.

Dr. Anush K. Chandrappa, a faculty member from the School of Infrastructure, along with his students, conducted extensive research on the benefits of pervious concrete pavements. Their findings demonstrate that these pavements not only reduce runoff but also mitigate urban heat island (UHI) effects due to their increased porosity and latent heat flux. During the summer season at IIT Bhubaneswar, the surface temperature of bituminous pavement was approximately 20°C higher than that of pervious concrete pavement, significantly contributing to the urban heat island phenomenon. The project received extensive support from Prof. Sumanta Haldar, Head of the School of Infrastructure.



Plant for Mother Campaign

As part of the Plant for Mother (एक_पेड़_मॉ_के_नाम) Campaign, initiated by Hon'ble Prime Minister Shri Narendra Modi, a plantation drive was conducted on 6th July 2024. The drive was conducted near the Ganga Hall of Residence, in which female students of the Institute participated with great enthusiasm. Prof. Rajesh Roshan Dash, Dean-Student Affairs, Dr. Partha Pratim Dey, Chairperson Warden Council, Dr. Meenu Ramadas, Warden of Ganga Hall of Residence, Dr. Sivaiah Bathula,NSS Coordinator and Horticulture staff of the Institute were present on the occasion.



New Student Orientation



IIT Bhubaneswar has welcomed the new Ph.D and MS by Research students with a great enthusiasm. The admission of these students, followed by the counselling session for the parents were held on 9th July 2024. An orientation programme for the students was held on 10th July. The new members of the campus were briefed about various academic and non-academic facilities of the Institute by Deans, Senior Faculty Members and Officials of the Institute, in the presence of Prof. Shreepad Karmalkar, Director. The queries and concerns of the students and parents were addressed during these sessions.



इष्टान्देशाञ्जलद विचर प्रावृषा संभृतश्री र्मा भूदेवं क्षणमपि च ते विद्युता विप्रयोगः ||

...wander, O Cloud, with your splendour enhanced by the rainy season, over regions desired by you. May you not suffer separation, even for a moment, from (your spouse) lightning!

—Meghadūta by Kālidāsa

Picture Credit: Mr. Mrinal Datta