



National Workshop for Educators

on

# Integration of Building Heat Transfer in Engineering Curriculum

November 20, 2021

Sponsored by

Indo-Swiss Building Energy Efficiency

Project (BEEP)

$$\Delta S_{sys} + \Delta S_{surr} > 0$$

Organized by

Department of Mechanical Engineering  
Indian Institute of Technology Bhilai

**CHIEF PATRON**

**Prof. Rajat Moona**  
Director, IIT Bhilai

**CHIEF COORDINATOR**

**Dr. Udayraj**

Assistant Professor  
Department of Mechanical Engineering  
Indian Institute of Technology Bhilai

**CONTACT FOR CORRESPONDENCE**

**Dr. Udayraj**

[udayraj@iitbhilai.ac.in](mailto:udayraj@iitbhilai.ac.in)

7048971450

## ABOUT IIT BHILAI

Indian Institute of Technology Bhilai was established in the state of Chhattisgarh by Ministry of Human Resource and Development in the year 2016. IIT Bhilai offers BTech, MTech and PhD in various disciplines. The Institute is currently offering BTech and MTech programs in the departments of Computer Science and Engineering (CSE), Data Science and Artificial Intelligence (DSAI); Electrical Engineering (EE) and Mechanical Engineering (ME); and PhD program in the departments of Chemistry (CY), CSE, DSAI, EE, Mathematics (MA), ME and Physics (PH).

## DEPARTMENT OF MECHANICAL ENGINEERING

Department offers a thorough and well decorated academic structure for theoretical understanding and their practical applications. The department offers B.Tech, M.Tech and Ph.D program. We strive to contribute towards national progress by welding together the zeal and enthusiasm of the undergraduates with the knowledge and experience of the post-graduates. On the research front, department is actively involved in various research activities in all the traditional as well as modern areas of statics, dynamics, structural analysis, materials, fluid mechanics and heat transfer, thermal comfort, building energy efficiency, manufacturing etc..

## ABOUT BEEP

The Indo-Swiss Building Energy Efficiency Project (BEEP) is a bilateral cooperation project between the Federal Department of Foreign Affairs of the Swiss Confederation and the Ministry of Power, Government of India. The overall goal of the project is to reduce energy consumption in new commercial, public, and residential buildings in India through energy-efficient and thermally comfortable (EETC) design. The mandates of BEEP are to (a) design EETC buildings, (b) work on building technologies and policies, and (c) effectively transfer the knowledge to targeted stakeholder groups.

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## ABOUT THE WORKSHOP

This workshop is supported by BEEP as a part of its broader efforts to improve building science education in India and to develop skilled manpower in the domain of building energy efficiency.

The workshop is meant for educators working in the field of engineering education. Target participants of the proposed workshop are faculty members teaching undergraduate/postgraduate engineering subjects like thermodynamics, fluid mechanics, heat transfer, refrigeration & air conditioning, and building energy efficiency. Faculty members from various reputed institutes are expected to join the workshop. The main aim of the workshop is to sensitize the engineering educator and make them aware about the challenges and need of building energy efficiency in India. Participants will be introduced to the various problems developed related to building physics with the aim of inculcating building physics in engineering education. These problems will be beneficial for educators participating in the workshop and they will be able to deliver them effectively to the engineering students. It is expected that focusing and discussing such problems with students will be beneficial in propagating building energy efficiency topic to the mass of engineers.

Session	Sessions	Speakers
Session 1: Energy Efficiency in Buildings: An Introduction	Inaugural & Welcome Address	Dr. Saurabh Diddi, Director, BEE; Dr. Jonathan Demenge, Head of Cooperation, SDC Prof. Rajat Moona, Director, IIT Bhilai
	Introduction to Building Energy Efficiency Project (BEEP) & Building Science Education Initiative	Mr Prashant Bhanware, BEEP
	Keynote on “Importance of building energy efficiency and the integrated design approach to energy-efficient buildings”	Ar. Ashok B Lall, New Delhi
	Energy-Efficient Buildings: Thermal comfort and Building heat transfer	Dr. Udayraj, IIT Bhilai
Session 2: Design of Energy-Efficient Buildings: Role of Engineers	<ul style="list-style-type: none"> <li>• Integrated Design for Energy Efficient Buildings</li> <li>• Energy simulation and analysis tools</li> <li>• Case studies of Indian &amp; Swiss Energy-Efficient Buildings to explain application of energy simulation and analysis</li> </ul>	Mr. Pierre Jaboyedoff & Mr Prashant Bhanware, BEEP
	Integration of Building Physics in Heat Transfer Course: Demonstration	Dr. Udayraj, IIT Bhilai
	Closing Remarks & Vote of Thanks	Dr. Udayraj, IIT Bhilai

## REGISTRATION

- There is no registration fee.
- Interested participants are requested to send mail to the Coordinator to register ([udayraj@iitbhilai.ac.in](mailto:udayraj@iitbhilai.ac.in)).
- Workshop will be in online mode.
- Seats are limited.
- Faculty members teaching courses like thermodynamics, fluid mechanics, heat transfer, refrigeration & air conditioning, and building energy efficiency at UG/PG level.
- Last date of registration is November 16, 2021.