

PROGRAM BROCHURE

CEPT
UNIVERSITY
| FACULTY
OF TECHNOLOGY



**M.TECH BUILDING
ENERGY PERFORMANCE
(MBEP)**

**FACULTY OF
TECHNOLOGY**



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About CEPT University

CEPT University, established in 1962, is focussed on understanding, designing, planning, constructing, and managing human habitat. Its teaching programs are designed to build thoughtful professionals and its research programs aim to deepen the understanding of human habitat. CEPT University also undertakes advisory projects human habitat. CEPT University also undertakes advisory projects.

CEPT University has been recognized as a Centre of Excellence by the Government of Gujarat. CEPT's alumni are leaders in their respective fields in private practice, consulting firms, government organizations, multilateral institutions, and academic institutions across the world.

The University comprises of five faculties,

Faculty of Architecture (FA)

Faculty of Planning (FP)

Faculty of Technology (FT)

Faculty of Design (FD)

Faculty of Management (FM)

Faculty of Technology at CEPT University

With the Indian construction industry rapidly expanding multifold, there is an increasing need for efficient and qualified professionals to sustain this growth. Our courses lays the foundation for students to engage in the dynamics of the industry and understand the construction and design process. With a strong foot-hold on fundamentals and well-rounded exposure, students step out well-equipped to plan, design and construct human habitats.

CEPT established the School of Building Science and Technology (SBST) in 1982 that focuses on issues concerning Planning, Design, Construction & Management of Human Habitats. SBST has now been renamed as Faculty of Technology (FT).

FT offers total of 5 programs:

Bachelor's in Civil Engineering (Honors) - (BCE)

Master's in Building Energy Performance - (MBEP)

Master's in Construction Engineering & Management - (MCEM)

Master's in Geomatics - (MGEO)

Master's in Structural Engineering Design - (MSED)

What is unique about programmes at FT?

Studio Based Pedagogy:

- o Teacher Student Ratio 1:8
- o Creative Problem Solvers
- o Innovative Engineers

Pre-Admission Scholarships

Earning while Learning

Practical Training

Cutting edge Library and workshops NABL accredited laboratory

- o Engineering Materials
- o Earthquake engineering
- o Fluid Mechanics
- o Geotechnical Engineering
- o Concrete Technology
- o Non-Destructive Testing
- o Surveying & Levelling
- o Building Energy efficiency
- o Environmental Engineering
- o Conservation lab.

Computer lab

- o Auto Desk Products
- o ArcGIS
- o Bentley Education Suite
- o ENVI
- o ERDAS
- o Design Builder
- o Light Stanza
- o Primavera
- o ETABS

Master's in Building Energy Performance (MBEP)

Buildings having a low environmental footprint are a social and economic imperative for India and other tropical regions that will see the high growth in the next few decades. Energy use largely determines the environmental footprint of a building over its life span. New research, environmental challenges, green buildings rating programs, and policy are making building energy performance an area of growth and career opportunities. Increasingly, a new cadre of professional is needed as part of building design and operations team to help achieve energy efficient and climate responsive buildings.

At CEPT University's Master's in Building Energy Performance (M.Tech BEP) program, the students get an opportunity to:

1. Learn building energy performance through scientific principles including heat and mass transfer, day lighting, thermal comfort and electro-mechanical systems.
2. Work with state of art infrastructure to evaluate building energy performance and master the digital simulations.
3. Embark upon complex technical problems and participate in a multidisciplinary environment.
4. Influence the design and operation of energy-efficient buildings, while considering all building systems such as HVAC, Controls, Lighting, architecture, occupant health and comfort.

M.Tech BEP program has been recognized internationally through awards and student placements. The students get the benefit of our background in high quality research and practical experience with energy efficiency and net-zero energy buildings. CEPT University's focus on design, operation and management of human habitat provides a supportive eco- system for learning about building energy performance. Our faculty members consist of academicians, industry experts, experienced practitioners and researchers who have a solution-oriented approach. They come from engineering, architecture, physical science and social science background. CEPT University have a world-class research facility that houses the latest equipment for testing and measuring thermal and luminous effects in buildings.

India and other tropical regions are experiencing an unprecedented economic growth and environmental concerns. Regulations, green building rating systems, and owners' preferences have created a demand for building energy professionals. With a focus on warm climate, the graduates of this program are attractive candidates for job markets in India, South-east Asia, and the Middle east, and for research careers in Europe and North America. Our students have secured research internships in the USA and have been placed at high profile firms throughout India. They work with energy consulting firms, building design teams, building owners, and government agencies to pursue energy efficiency with a whole building perspective.

Dean's Message



Dr. Aanal Shah
Dean
Faculty of Technology

“CEPT University offers teaching programs, aimed to build thoughtful professionals, where the students are engaged with studios offering well-designed life-like problems. This objective is realized by collaborative work of eminent practicing professionals and faculty members of the university. Faculty of Technology is one of the five faculties of CEPT University offering a Postgraduate Program in Building Energy Performance.

The Master's in Building Energy Performance (MBEP) program is a technologically enriched course imparting multiple skills to the students leading to energy efficiency in built habitats. With hands-on experience in conducting simulations, assessing energy consumption of the buildings and linking with its occupant's comfort level, this program develops a unique group that tackles energy related issues of built habitat.

The graduates from this program are working in energy consulting firms, building design teams, with building owners and government agencies, taking a leading role for pursuing energy efficiency with a whole-building perspective.”

Program Chair's Message



Dr. Rashmin Damle
Program Chair
Building Energy Performance

“Energy efficiency of buildings has become a national imperative to reduce the environmental impact of buildings over their life cycle. Factors like building codes, green building rating systems, and owners' preference for efficient yet comfortable buildings have created a need for a new kind of professional in this domain. Such a professional needs to understand energy issues and systems, be equipped to quantitatively recommend and evaluate innovative solutions towards building efficiency and possess the core competency needed to design and operate buildings without harming the environment. To meet this crucial demand, the Master's Program in Building Energy Performance (MBEP) at CEPT University deals with building strategies, theoretical calculations, and simulations based on first principles to quantitatively ensure low energy use and high performance.”

Teaching Team



Rajan Rawal
(PhD)



Rashmin Damle
(PhD)



Minu Agarwal
(PhD)



Yashkumar Shukla
(PhD)



Deepa Parekh
Associate Director |
Environmental Design
Solutions
ECBC Master trainer



Rajendra Pandya
Retired Sr. Project
Executive & HOD |
GEDA



Smita Chandiwala
Founder, Energe-se |
Building Energy
Narratives



Swati Puchalapalli
Founder, /Director Terra
Viridis Consultants LLP

Course Pedagogy

At MBEP, a hands-on learning by doing approach is followed in all our studios. Design challenges and functionality are realized on scientific and quantitative grounds. A studio is divided into 3 basic modules, namely; concepts and practices (C&P), measurement & experimentation (M&E), and building simulation.

The C&P module helps students understand the fundamentals of a given topic in building physics. In the M&E module students learn to use different instruments for measurement of environmental variables. They get an idea of what to measure, how to measure and where to measure. Finally in the simulation module, different scenarios are developed and building simulations are carried out. The potential of different energy conservation and energy efficiency measures is evaluated based on quantitative information and appropriate metrics. Parametric studies are also carried out for optimizing the building performance.

The key aspects of our pedagogy are:

- Hands-on learning using the learning-by-doing approach
- Realization of design challenges and functionality by scientific and quantitative assessments
- Course delivery through a studio based setting
- Exposure to industry-relevant concepts and practices, as well as new advancements and innovations
- Experimentation and analysis through measurements
- Interactive teaching through simulations

Core Competencies

To reduce the environmental impact of buildings over their life cycle, energy efficiency of buildings has taken prime importance, and building energy performance has become a substantial area of research and innovation. Within this context, there is an increasing need for a new kind of professional who can provide support to the design team to achieve energy efficient and comfortable built environment. Such a professional should be competent enough to use state-of-the-art tools for building modelling and incorporate all the input details for a realistic and complete simulation. The post-process and analysis of the simulation output plays an important role to identify and quantify strategies for energy efficiency. The representation of the observations in appropriate graphs and tables is another aspect needed to demonstrate the energy savings quantitatively. Knowledge of measurement and experimentation is also valuable to carry out post occupancy surveys and on-site measurements.

The MBEP program's learning pedagogy is geared towards equipping young professionals with the skills they will need to meet the sector's problems and changing dynamics. The professional competencies of our graduates include:

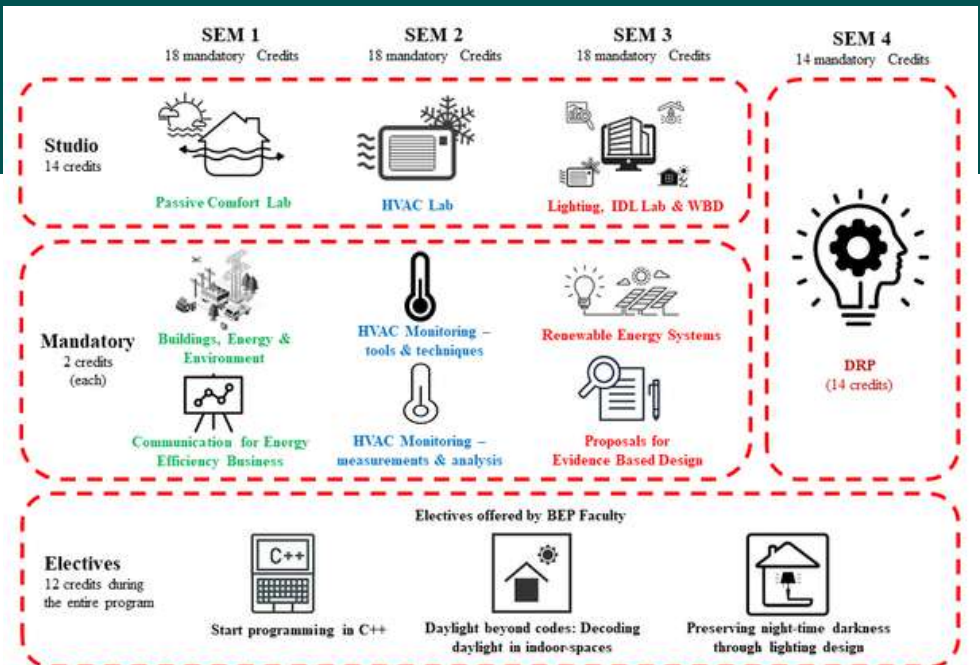
- Proficiency in using state of the art tools to conduct modelling, evaluations, simulations and assess building energy performance
- Effectively communicate quantitative information of energy savings and propose innovative solutions
- Provide technical support for policy formulation in the area
- Ability to tackle complex technical problems and participate in a multi disciplinary environment
- Contribute to and influence the design of energy-efficient buildings, while considering the architecture and environment, occupants' behaviour, health and comfort



Course Curriculum

The Master of Technology in Building Energy Performance is a unique program that aims to fill the need for a new kind of professional who can influence the design, construction, and operation of buildings to ensure low energy use and high performance. The program uses the tropical climate as the context to prepare professionals who will tackle the challenges in the economies that are expected to grow in the next two decades. CEPT University's focus on design and management of human habitat provides a supportive ecosystem and context for a building energy performance program. Research work done at Center for Advanced Research in Building Science and Energy (CARBSE) at CEPT University, its net-zero-energy building, and the array of testing and metering equipment will be used in the learning environment. 24 students with a background in various disciplines of architecture and engineering will form the cohort (Please refer eligibility criteria).

The coursework is designed to be hands-on in nature combination of lectures and studio-based learnings. In the first three semesters, students take up one 14 credits lab studio course and mandatory courses worth 2 credits. The studio courses comprise of three modules each, the semester starts with focus on core subjects' concepts, theory and practices, digital simulations for virtual experimentations, and measurements for physical experimentations. The mandatory courses complement studio learning and widen the domain knowledge. The fourth semester is dedicated to directed research project (DRP) and industry internships.



Course Summary

Passive Comfort Lab (Studio)

The Passive Design and Comfort Lab addresses the fundamental aspect of building envelope optimization in the context of the energy efficiency of buildings. The building envelope plays a substantial role in determining the energy required for space conditioning. In the first half of the semester, students get introduced to a variety of topics in building physics which are essential for understanding the energy interaction of the building envelope with indoor and outdoor environments. These include climate analysis, shading analysis, heat transfer, moisture transfer, load calculations, psychometry, etc. Simultaneously, students also learn to measure environmental variables and evaluate conditions for human thermal comfort. Additionally, students apply concepts in building physics to carry out a course project where they measure and quantify the thermal performance in relevant metrics. Finally, in the simulation module, students learn to geometrically model and simulate buildings at the envelope level with schedules for occupancy and equipment.

HVAC Lab (Studio)

The HVAC Lab is designed to introduce the discipline of Heating, Ventilation, and Air Conditioning within the context of energy efficiency and energy performance. Engineering concepts of HVAC include vapor compression cycles and associated thermodynamics; heat transfer, psychometrics, pressure and flow; fan/blower selection; indoor air quality/air contaminants, and filtration theory. The concepts module goes along with the hands-on experience in measurements of infiltration and ventilation rates; air pollutants; low measurements, monitoring refrigeration cycle, power consumption. Finally, simulation of different HVAC systems is carried out and possibility of low/hybrid energy cooling systems is explored. Concepts of commissioning, best practices, thumb rules are also presented with case studies by experts in the field.

Lighting, Integrated Design Lab (IDL) and Whole Building Performance (WBD) studio

This studio includes visual needs, climate response, lighting and day lighting concepts, shading analysis, technologies, strategies, and failure modes. It combines concepts and practices simulation techniques, model calibration, physical measurement, and data comprehension. This lab integrates the learning over the three semesters to explore energy code interpretation, integrated design, and whole building design.

Course Summary

Buildings, Energy, and Environment (Course)

This course provides an introduction to building energy use, strategies for reducing use and integrating renewable energy in the building stock. It builds a larger context with an overview of the energy sector, highlighting the current status of conventional resources, technologies, supply and demand, and potential of renewable energy deployment. Using case studies, exercises, and class discussions, the course covers challenges and approaches to sustainable energy planning.

Communication for Energy Efficiency Business (Course)

This course introduces the basic communication for doing and getting energy efficiency work in the profession. Students learn about techniques for reading early design documents and communicating the potential for low-energy strategies reading construction documents, communicating errors and omissions, preparing compliance reports, and writing project proposals.

HVAC Monitoring: Tools and Techniques (Course)

This course provides a fundamental understanding of HVAC performance verification, covering both theoretical concepts and practical aspects. Students be equipped with the tools and techniques essential for monitoring the performance of Heating, Ventilation, and Air Conditioning (HVAC) systems. This includes gaining knowledge about a variety of HVAC monitoring instruments and practical measurement approaches.

HVAC Monitoring: Measurements and Analysis (Course)

This course offers insights into measurement and verification approaches designed for assessing the performance of HVAC systems. The course aims to demonstrate how these metrics can be effectively utilized to verify that HVAC systems achieve intended performance goals and comply with industry standards and building codes. Topics include data cleansing, data analysis techniques, and key performance metrics.

Renewable Energy Systems (Course)

This seminar course introduces the different types of renewable energy systems and their economics. Students do field trips to review installations, monitor the performance of an installed system, learn to assess on-site generation potential, and review integration issues for renewable technologies.

Course Summary

Proposal for Evidence Based Design (Course)

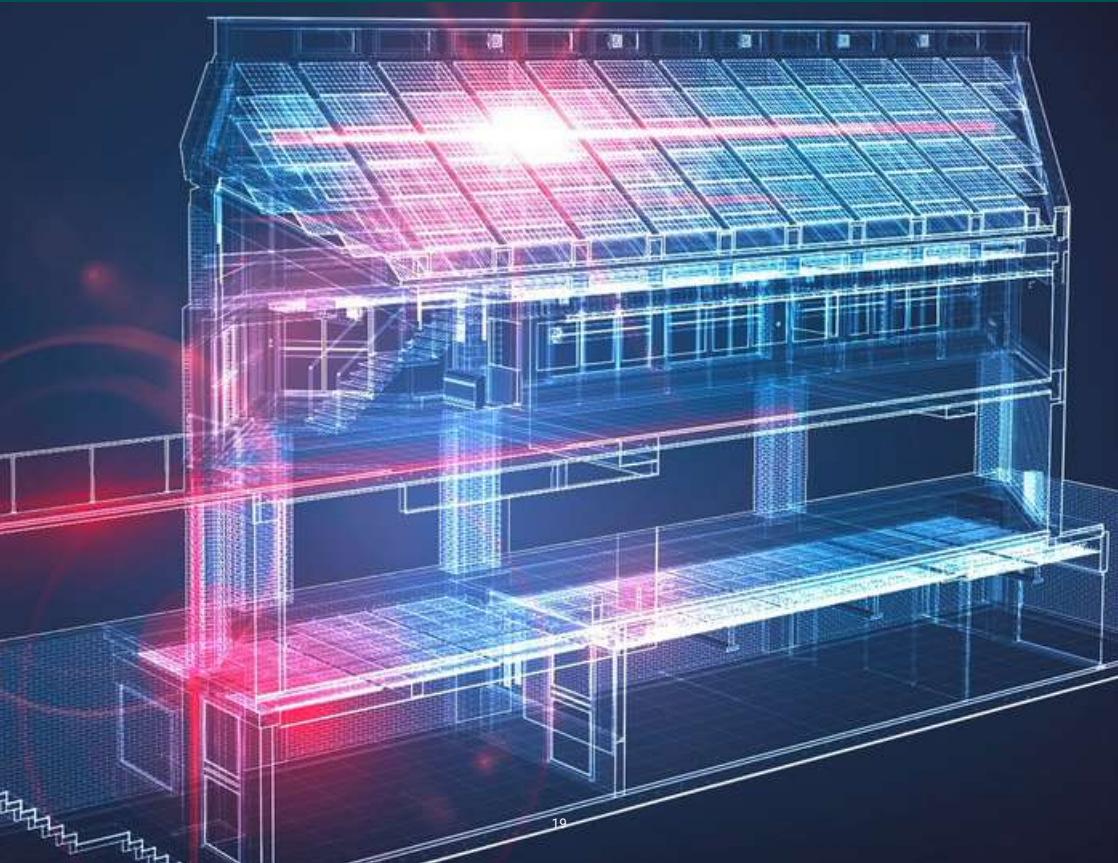
This course enables students to address gaps in current design approach towards high-performance building through first data-gathering/experimentation or meta-analysis. This class provides introduction to various components of research including identifying a knowledge gap, framing a research question around the gap, doing background study and collecting data, choosing an appropriate methodology for analysis, drawing inferences and concluding the research. This course demystifies the research process with exposure to implicit assumptions and warnings against common pitfalls. The course is conducted in a seminar format with high expectations from students in terms of weekly readings, class participation and regular assignments and presentations. At the end of this course the student will be able to carry out literature review on a given topic, propose appropriate methodology and scope of work that can be executed within a given time frame.



Electives & Summer Winter School

CEPT University cherishes the individual interests and abilities of its students. Students get a chance to chart their own learning paths by completing a portion of their credits by choosing from a wide range of elective courses offered at any of the five faculties at the University, to suit their practice orientation. It gives them a greater exposure to a wide range of disciplines related to built-environment and an opportunity to collaborate on a multi-disciplinary campus.

The Summer Winter School (SWS) programs differ from the regular semesters in terms of structure, approach and content. The key words that capture the spirit of SWS are experiment, variety and innovation. They explore emerging areas, provide space to test new ideas and methods, facilitate in situ experience, help understand critical sites and situations, and create opportunities to learn by making. The courses in SWS are intense and are for short durations of between two to four weeks.



Electives offered MBEP

Preserving night-time darkness through lighting design

In this elective students understand the term “light pollution” and physical properties of common sources of lighting pollution (e.g., outdoor lighting for buildings, street lighting, signage and displays). We delve into physical properties of night time lighting that has the most potential for interfering with a) biological processes b) visibility of night time sky. Student assess commonly available outdoor light fixtures assess them on the BUG rating method (IES TM-15-11) and suggest dark-sky friendly applications of the light fixtures.

Start Programming in C++

This course provides a basic understanding of programming for beginners. Students become conversant with the program syntax and start developing programming logic to solve problems. The initial part of the course focuses on the basics of programming which remains common across all the programming languages. The latter part of the course is dedicated to an object-oriented approach in C++ which opens up new avenues in programming.

Indicative list of elective courses opted by students:

- Accounting and Financial Management Basics
- Applied Statistics with Python and Excel
- Construction Economics and Finance
- Digital Representation
- ERP for Construction Industry
- Future Cities and Technology
- Geotechnical Engineering
- Managing projects
- Mechanical Electrical
- Plumbing and Firefighting
- Programming with Excel and R Studio
- Public-Private partnership in Infrastructure Projects
- Resource Efficient Built Environment
- Start Programming in C++
- Tackling Urban Climate Change using Systems Thinking
- Urban Planning: Practices and Case Studies

Lectures & Webinars

Guest lectures are organized within each studio unit by inviting experts in the respective field. These lectures are intended to give an industry perspective and include real-life experiences and challenges involved in the field. Students also attend the frequent talks arranged at the Faculty of Technology and Centre for Advanced Research in Building Science and Energy (CARBSE) at the CEPT University and are encouraged to attend the webinars arranged by the Bureau of Energy Efficiency (BEE), Allianz for Energy Efficient Economy (AEEE), International Building Performance Simulation Association (IBPSA) and other organizations in the field of energy efficiency. Following is an indicative list of lectures and webinars organized for our students:

Lectures

Green Transition in Denmark and EU: Policy and Market Interface

-By **Peter Andreas Sattrup**, (Head of the Green transition, Nordic construction Company, Denmark)

ASHRAE DL: Bedroom Ventilation- what do we know and what are the current standards telling us?

-By **Dr. Chandra Sekhar**, (Professor, University of Singapore)

Design of indoor environment by creating shared values

-By **Dr. Arsen Melikov**, (Professor Emeritus, Technical University of Denmark)

Climate-adaptive Strategies to Cool Garment Factories

-By **Dr. Mohataz Hossain**, (Senior Lecturer, Sheffield Hallam University, England)

Slipping through the net: Can Data science help target Energy Transition & Policy interventions. -By **Dr. Ruchi Choudhary**, (Professor, Engineering Department at University of Cambridge)

Planning and Automating O&M of Solar Assets

-By **Shankaransh Srivastava**, (Vice President Marketing, Smart Helio)

Understanding India's Net-Zero commitment

-By **Dr. Vaibhav Chaturvedi**, (Fellow, Council of Energy, Environment & Water)

Save the night! Curb light Pollution through design

-By **Sudeshna Mukhopadhyay**, (Consultant & Vice president, Havells India Ltd.)

CATE conference conducted by CEPT from 12th - 15th December, 2023

Save the night!
Curbing light pollution through design

22nd May (Monday), 2023
6:00 PM
NZEB basement, Kasturbhai Lalbahai campus, CEPT University

Sudeshna Mukhopadhyay
Lighting industry maestro with 30+ years of experience)
Lighting Strategy and Learning Consultant, Cummins (International and R&D Division at various India HQ)

HAVELLS Lighting

Organized by
CEPT UNIVERSITY
FACULTY OF TECHNOLOGY
Summer school - 2023

CARBSE Lecture Series



Dr. Arsen Møllerup
Professor Emeritus
Technical University of Denmark

Monday
27th February 2023, 9:00 pm
NZEB Seminar Hall
CEPT University



CARBSE

Indoor environment affects occupants' health, comfort and performance. Energy used for heating, cooling, ventilating, and air conditioning of buildings is substantial. Yet, in many buildings indoor environment is mediocre. Today artificial energy saving goals are achieved in many countries, so it is possible to design indoor environment that improves occupants' health, comfort and performance and saves energy compared to the present practice! This will create shared values for employees, well-being and comfort, for employers increased performance of staff and less energy use and for the whole society less sick leave days, decreased healthcare costs, energy saving. There is need for a change from design of collective indoor environment to design of individually controlled micro-environments for each occupant. This will be discussed and several solutions easy to be implemented in practice will be presented.

Dr. Arsen Møllerup, Fellow ASHRAE, Fellow IESVE, is professor emeritus at the International Centre for Indoor Environment and Energy, Department of Environmental and Resource Engineering (ENR), Technical University of Denmark. The results of his research are included in engineering handbooks and guidelines as well as in international, European and national standards. He is author and co-author of 390 scientific papers published in 13 languages. He has received numerous awards, including the Halding Gould Medal of the Scandinavian Federation of Heating, Ventilation and Sanitary Engineering Associations in Denmark, Finland, Iceland, Norway and Sweden.

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CARBSE Lecture Series



Dr. Chandra Sekhar
Professor
University of Singapore

Saturday
23th February 2023, 06:30 pm.
NZEB Seminar Hall
CEPT University



CARBSE

On an average, we spend roughly a third of our life either sleeping or attempting to do so. Although we may realize that sleep is important for our health and wellbeing, we often do not pay much attention to the adequacy and quality of sleep. This is strongly influenced by the bedroom environmental factors, most important of which would be the bedroom ventilation and bedroom air quality. This lecture is a review of field studies involving ventilation and CO₂ measurements conducted in bedrooms in residential settings across different climates. It will also include an overview of what some of the international standards are stipulating in terms of bedroom ventilation and CO₂ requirements. With a focus on enhancing sleep quality, the lecture will conclude with suggestions to improve ventilation and air quality in sleeping environments.

Chandra Sekhar, Ph.D., Fellow ASHRAE & IAQ, is currently a Professor and Programme Director MS in Building Performance and Sustainability in the Department of the Built Environment at the National University of Singapore. His research interests include thermal comfort, ventilation and IAQ, airborne infection control, energy efficient HVAC systems and building energy analysis. He has more than 300 publications in these fields in international journals and conferences. He has delivered several keynote talks in international conferences around the world. He has been an ASHRAE Distinguished Lecturer since 2006 and is regularly invited as a speaker around the world.

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PETER ANDREAS SATTRUP

Peter is the Head of Green Transition at Nordic Construction Company, Denmark - a Swedish construction company, second largest in the Nordic region. Their operations include commercial property development, building and infrastructure project contracting, and asphalt and stone materials production. Peter Andreas previously served as the Head of Sustainability at the Danish Association of Architects and was also the Member of Management Board at the Green Building Council Denmark.

Denmark and EU are undergoing rapid green transition with various new initiatives and market regulations for new products, projects and services. In his talk, Peter Andreas will give insights into these changes and how the companies are navigating through them. He will also talk about the EU's Sustainable Finance Taxonomy and the Danish Strategy for Sustainable Construction.

THURSDAY
18th, 23th Feb evening
NZEB Seminar hall,
CEPT University

Organized by: Centre for Advanced Research in Building Science and Energy, CEPT University

CRDF

GUEST LECTURE

The Net-zero Debate-energy and carbon

An edifying talk on the current scenario, highlighting the importance of net zero energy targets in unison with a net zero carbon approach.

15th Sept 2022
10:00 AM onwards
NZEBS basement, CEPT University, Kasturbhai Lalbahai Campus

Vaidyanathan Chidambaram
Note: Guest in Energy Transition and Energy

Vaidyan is an economist who leads The Council's work on Low-Carbon Pathways. His research focuses on energy and climate change mitigation policy issues, especially those impacting India, within the integrated assessment modelling framework of the Global Change Assessment Model.

Organized by
CARBSE **CRDF** **CEPT UNIVERSITY**

Site Visits

Environmental Sanitation Institute, Sughad



Synergy Agro Tech Pvt Ltd, Santej, Rakanpur



Site Visits

Muni Seva Ashram, Vadodara



ICE Make refrigeration Ltd, Dantali Industrial Estate, Kalol





Student Achievements

2016

- Student selected for ECOSPERITY Young Leader's Dialogue 2015, Singapore

2017

- Students won US DOE Race to Zero Student Design Competition Student awarded the BHAVAN Internship 2016

2018

- Student team was a finalist at US DOE Race to Zero Student Design Competition Student awarded the BHAVAN Internship 2018
- Student awarded Linda Latham Travel Scholarship

2019

- Student won the ASHRAE RAL International Competition at Jordan
- Students' ISHRAE journal article selected as magazine cover article
- Student-team was a finalist at US DOE Race to Zero Student Design Competition
- Two students awarded the BHAVAN Internship 2019 by the Indo-US Science & Technology Forum (6-month internship at US)

2020

- Student team won the Merit Award of ' Architecture at Zero 2020'

2021

- Runner-Up at IBPSA Student Modelling Competition in September 2021
- The student received an honourable mention for Clarity in a Project StaSIO competition for the "Daylight + Glare" Challenge.

2022

- A student won Project StaSIO's Spring competition focusing on "Natural ventilation." Students won an energy modelling hackathon that focused on providing creative answers for determining and forecasting the energy needs for transit-oriented development in Bengaluru

2023

- Student team won BS2023 Competition organized by IBPSA, 2023
- A student won Project Stasio's 2023 Annual competition, in "Students Category" for "The impact of occupant behavior on daylight availability in homes"
- Two students won Honourable mention in Project Stasio's 2023 Annual competition



Winning team of IBPSA Building simulation Competition



Technical Competitions



National & International Design Competitions

Learning Environment & Campus Life

The atmosphere on CEPT campus is lively and conducive to free thinking. The University invites some of the brightest minds from around the world to speak to students on cutting-edge developments in construction, architecture, planning, design, urban habitat development, and other global issues. Interdisciplinary learning is encouraged and students get to collaborate with other built-environment professionals within the ecosystem of CEPT University.

Students have full access to workshops and other infrastructure such as the NZEB, Living Lab with the state-of-art equipment's. They also get a chance to work on a top- of-the-line software for climate, energy and lighting.

The state-of-the-art library has a wide variety of books, foreign journals, and other resources available to all students, making CEPT University one of the best for built- environment resources in the country. In-house IT support, premium printing and stationery facilities, student service of office, university press and other services are some additional facilities that enhance the learning environment at the university.



Student Activities

CEPT University boasts of its multifarious and multifaceted culture on and off campus ensuring all-round development of its students. The multicultural aspect of CEPT University makes it possible for students to celebrate traditional and regional festivals on campus with zest. Sports competitions such as the Amity Cricket Cup, Volleyball Tournament, Box Cricket League, and others, fosters a positive environment, giving ample opportunities to participate.

MBEP students also participate in national and international student competitions organised by IBPSA, Solar decathlon India, ASHRAE etc. They have consistently done well in such competitions and secured prizes. This gives them experience in solving real-life problems with a holistic approach. Students are encouraged to be members of ASHRAE which helps them to get access to the ASHRAE database and journals.



Why hire us?

1. Beyond Four Walls

The teaching pedagogy of CEPT emphasizes on the practical application of knowledge. The complete life cycle of a project is studied, and the theory involved in managing a project is supplemented with real-life examples in the studio. Further, exposure to live projects in the form of internships and expert lectures, provide limitless learning to the students, extending far beyond the four walls of the classroom.

2. Future Ready

Incorporating futuristic technology-dependent learning, the MBEP program ensures that the students possess the necessary software skills that are required in the industry. The knowledge of theory coupled with technical skills helps the students to adapt faster on the site, making them competent in finding the perfect blend between diverse disciplines.

3. Master of all Trades

The university offers scholars a large variety of elective courses across all disciplines in the university, to widen their horizons and broaden their scope. It allows them to work on their soft skills and gives them a learning experience that goes beyond the classroom. The flexibility to choose a topic of their interest and to integrate it into their skill-set helps them to stand out from their peers.

4. Guided by the Best

The students in the MBEP program are not only guided by excellent academia, but also by industry leaders associated with reputed institutes and organizations. The review, evaluation, critique, and guidance of the best from the field help mould these young minds and provides a blueprint for the institution and the students to evolve in academic prospects.

5. Balancing Act

CEPT University perseveres to produce students with a holistic personality. Presentations form an integral part of the curriculum, equipping the students with the much-needed soft skills along with the technical know-how. The comprehensive development inculcates a sense of conceptual clarity, and leadership ability, also training the students to structure their ideas logically.

6. Assortment of the Best

The batch consists of students from architecture and civil engineering disciplines, who The batch consists of students from architecture and civil engineering disciplines, who creates a conducive environment for positive learning and productive discussion which further benefits their overall development.

7. A Class of its Own

The culture at MBEP helps the graduates become complete professionals with proficiencies ranging from technical understanding to artistic skills. Today, our alumni are some of the most sought-after executives in India and abroad. We have created some of the best leaders in the field and continue doing so every year.

8. We Adapt

CEPT University aims to create leaders who do not stop due to obstacles and effortlessly adapt to changes. This fundamental outlook has helped the management and students work through situations of uncertainty, such as a global pandemic, without any impact on the quality of work. Delivering the best outcome on time forms the foundation of the MBEP graduates.





Past Recruiters

 sustainable by design A TATA Enterprise				
				
				
		 Asahi India Glass Ltd.	 Building a better working world	
 Putting Sustainability into Practice				
	 Consulting & Strategy			 The FUTURE. Built Smarter.
	 International giz German Engineering International Growth through Cooperation			

Alumni Testimonials



Founder, Monk Spaces

As Monk Spaces' founder, Mili emphasizes simplicity, concentration, and mindfulness for both people and buildings. Leading projects on carbon quantification, net-zero goals, and carbon offset measures, she also conducts life cycle assessments for carbon reduction. Mili organizes workshops on embodied carbon and carbon reporting for startup incubators like Villgro and companies such as Infosys.

Mili Jain



Energy Analyst, Smart Joules

Awatans, an energy analyst at Smartjoules Pvt. Ltd., is a key member of the central Design team, specializing in energy-efficient cooling solutions for commercial buildings nationwide. His role involves designing HVAC systems with real-time data and simulations. The CEPT faculty and campus played a crucial role in his growth during the two-year building energy performance program. His thesis research focused on the interrelation of carbon emissions and thermal comfort in India's affordable housing sector.

Awatans Tripathi



Ass. Programme Manager, Shakti Sustainable Energy Foundation

Sakshi Nathani, an Architect and Building Energy Analyst in New Delhi, specializes in designing low-carbon, high-performance buildings with a focus on occupant well-being. As Assistant Programme Manager at Shakti Sustainable Energy Foundation, she actively supports initiatives for decarbonizing the building sector, contributing to evidence-based policy interventions for climate-friendly solutions. Her work combines strategic philanthropy, policy research, stakeholder engagement, and recommendations addressing climate and energy challenges.

Sakshi Nathani



PhD researcher, Next generation Cities institute, Concordia University

Kartikay, a PhD researcher at Concordia University, is a key member of a multidisciplinary team addressing innovative solutions for urban energy systems. His expertise spans building-scale solutions, urban greenery, data science, and 3D city modeling. Kartikay's research focuses on managing geospatial data, optimizing urban building energy modeling workflows, and contributing to a data-driven archetype model for Montreal and Concordia University's decarbonization plan. He also serves on the IBPSA educational committee and has led the development of a 3D urban energy model for Ahmedabad at CEPT University.

Kartikay Sharma



Macha Bhargav

Senior Analyst, EDS Global

Bhargav, an EPSRC-funded doctoral researcher at UCL's Bartlett School, is investigating the impact of low-energy buildings on occupant health. His research covers indicators like indoor environmental quality, occupant comfort, cognitive performance, and absenteeism compared to conventional buildings. Previously, he served as a senior analyst at Environmental Design Solutions, focusing on energy analysis, policy, and framework development. Bhargav, a registered architect with the CoA, is a member of ASHRAE and holds multiple credentials, including WELLAP, LEED GA, IGBC AP, GRIHA CP, and GEM CP.



Sandhiya Jayakumar

Senior Sustainability consultant, Ensphere, London

Sandhiya, a senior sustainability consultant in building physics, currently leads the energy team at Ensphere, London. Previously, she served as a computational analyst in Amsterdam and was an Academic Fellow at Transsolar Energietechnik GmbH, Stuttgart. Her role involved lectures, tutorials, and project work, providing a comprehensive blend of theoretical background and hands-on experience. Before Transsolar, Sandhiya worked as a Senior Green Building Analyst at Environmental Design Solutions, New Delhi, and as a Green Building Consultant at Conserve Consultants, Chennai.



Nikhilesh Singh

Associate Sustainability Designer, Bryden Wood, London

Nikhilesh Bist, an Associate Sustainability Designer at Bryden Wood, London, specializes in high-performance building design, detailed energy simulation using ApacheHVAC, ASHRAE 90.1 compliance, and climate-based daylighting. In the Building Physics team, he prepares internal calculation protocols and checklists for Part L, conducts overheating analysis (CIBSE TM52/59), and provides teaching and mentoring. Nikhilesh played a role in HVAC system design, integrating MEP and Sustainability principles at AECOM, contributing to the IPD approach.



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