Maharaja Agrasen Institute of Technology, Delhi
Department of Mechanical Engineering

Webinar on "Net Zero Water Building"

The Department of Mechanical Engineering, in collaboration with the Institute Innovation Council (IIC) and the ASHRAE MAIT Student Branch, organized a webinar on the topic **"Net Zero Water Building"** on April 23, 2022, to commemorate World Earth Day (April 22). The event was started with an introductory note given by Dr. Sumit joshi, Member, IIC MAIT who highlighted the importance of Earth and its ecosystem. Dr. Vaibhav Jain. SBA, ASHRAE Student Chapter MAIT welcomed the dignitaries and participants with his kind words. Mr. Ashish Rakheja graced the occasion as the keynote speaker of the online event.

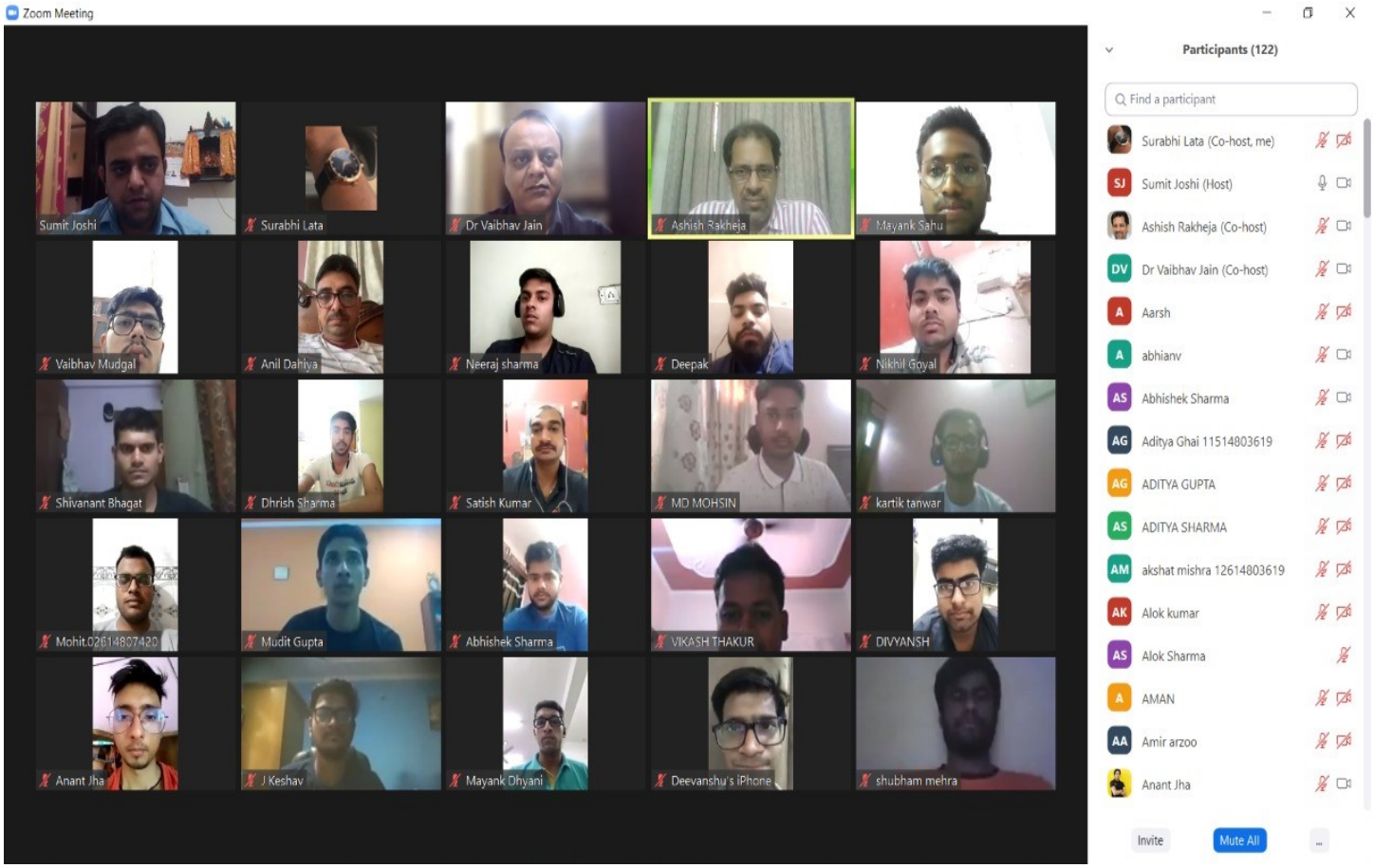
Mr. Ashish Rakheja is a managing partner at AEON Consultants and has a post-graduate degree in Thermal Engineering from IIT Delhi with over twenty-eight years of work experience. Mr. Rakheja is also associated with ASHRAE as Director at Large (DAL), ASHRAE Board of Directors. He is a seasoned Consulting Engineer who has designed over 2000 projects including Hotels, Airports, Hospitals, Retail, Residential, Commercial, High rises and Industrial projects. Mr Rakheja specializes in high-performance buildings and has been actively involved in leading design activities of electro-mechanical services for ten Net Zero Energy Buildings and over sixty Platinum rated green projects in India. He is spearheading the green building movement in India in the capacity role of Chairman, Technical Committee of the Indian Green Building Council (IGBC). Mr Rakheja has won many awards and delivered over 1000 talks on various facets of building design across the world. He is an active member of over 20 Technical societies and regularly contributes his time to writing Standards, codes & position papers for Government bodies & Technical societies. He is involved in imparting training to budding Architects in the field of Building Services and a visiting faculty at leading schools in India.

Mr. Ashish Rakheja delivered a very beautiful talk on the topic **"Net Zero Water Building".** The lecture was primarily focused on the conservation of water. Various techniques for water treatment and distribution were highlighted and explained. The innovations in water savings like low flow fixtures, toilet fixtures, and wall-mounted sensors were presented. The

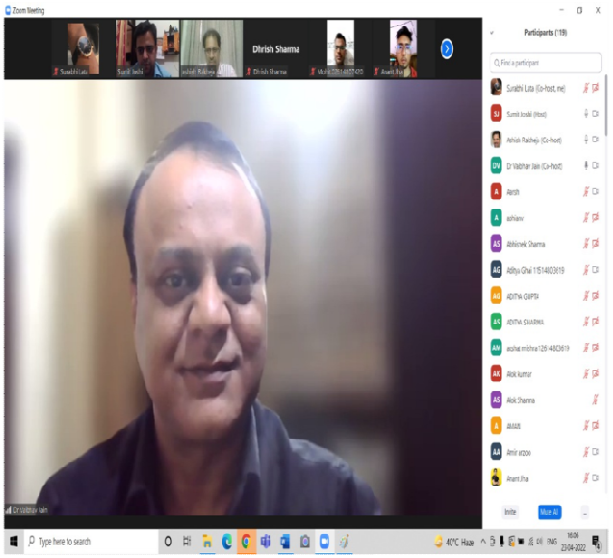
speaker highlighted the world water use and the current situation of water in India. The lecture presented various rating systems of energy conservation such as IGBC, GRIHA, LEED, MOEF and IPC standards. The concept of carbon neutrality and green building footprint was also presented. The lecture ended with a short eye-opening video on Earth and its ecosystem. The speaker stressed the call for the conservation of water among participants.

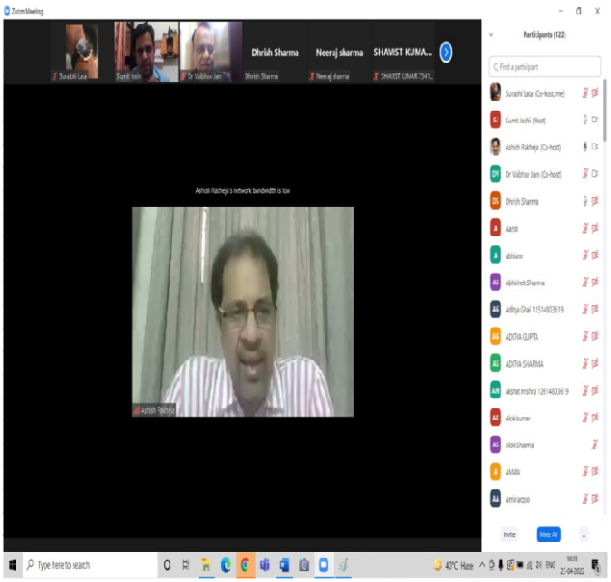
Finally, the event ended with a Q & A session. More than 100 participants attended for the same and the event was a grand success.

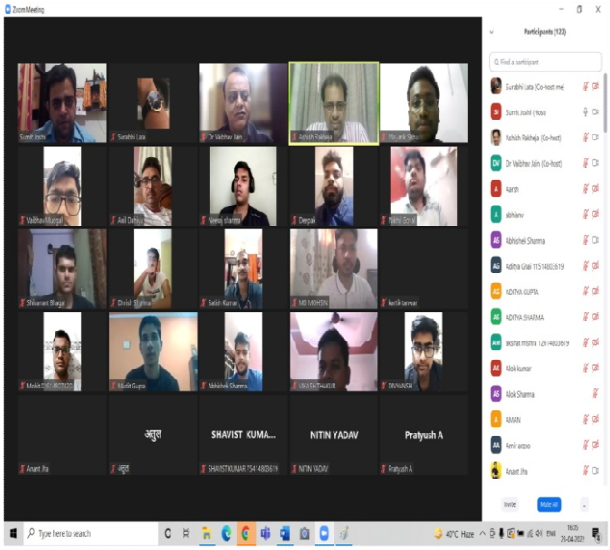
List of Participants

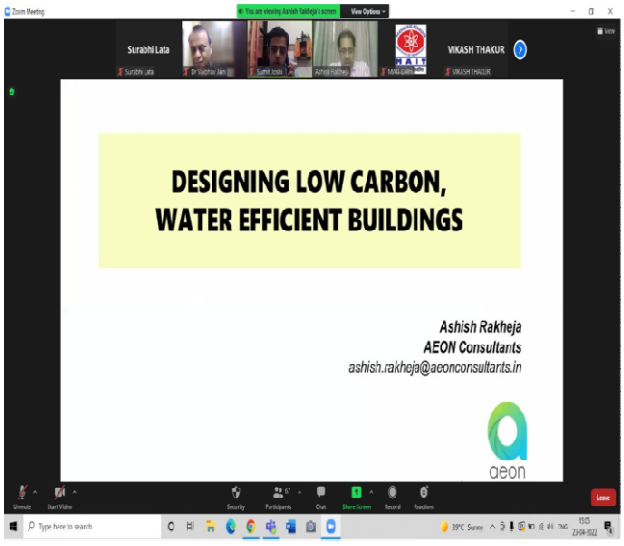



INSTITUTION'S INNOVATION COUNCIL
MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING (MAE)
in association with
INSTITUTE INNOVATION COUNCIL (IIC) & ASHRAE MAIT STUDENT BRANCH
celebrates
WORLD EARTH DAY (22ND APRIL)
Faculty Coordinator:
Dr. Sumit Joshi
Member, IIC MAIT
TOPIC: NET ZERO WATER BUILDING
DATE: APRIL 23, 2022 (SATURDAY)
TIME: 03:00 PM-04:00 PM
PLATFORM: ZOOM
Keynote Speaker
Mr. ASHISH RAKHEJA
Managing Partner, AEON Consultants
Director at Large (DAL), ASHRAE Board of Directors
DR. NAND KISHORE GARG
FOUNDER & CHIEF ADVISOR, MAITES
SHRI VINEET KUMAR GUPTA
CHAIRMAN, MAITES
PROF. NEELAM SHARMA
DIRECTOR, MAIT
PROF. S.S. DESWAL
DEAN ACADEMICS, MAIT
PROF. NAMITA GUPTA
PRESIDENT, IIC MAIT
MR. ALOKKUMAR SHARMA
CONVENER, IIC MAIT
Prof. V.N. MATHUR
HOD, MAE
Dr. VAIBHAV JAIN
SBA, ASHRAE STUDENT CHAPTER MAIT


Dhrish Sharma


Dhrish Sharma
Neeraj sharma
SHAVIST KUMA...
Ashish Rakheja's network bandwidth is low


अमुल
SHAVIST KUMA...
NITIN YADAV
Pratyush A


Surabhi Lata
VIKASH THAKUR
DESIGNING LOW CARBON,
WATER EFFICIENT BUILDINGS
Ashish Rakheja
AEON Consultants
ashish.rakheja@aeonconsultants.in
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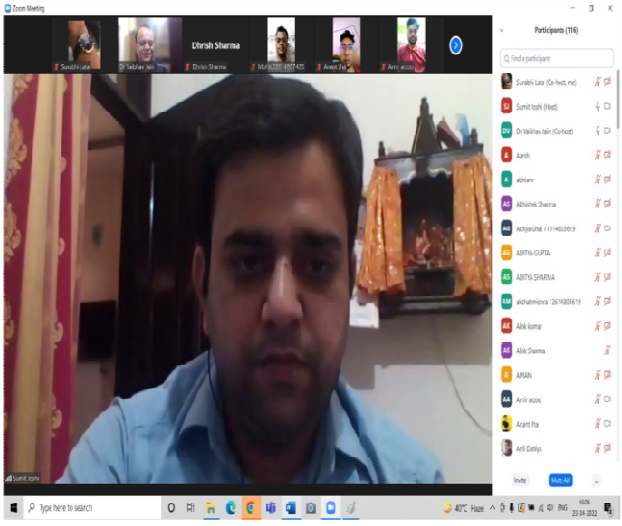
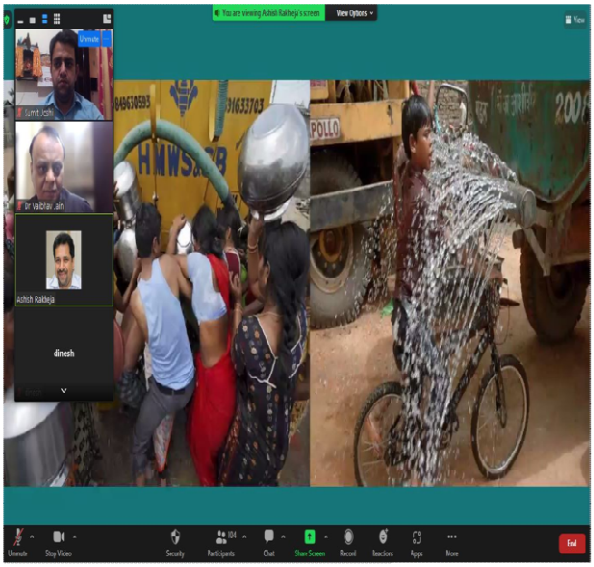

Dhrish Sharma

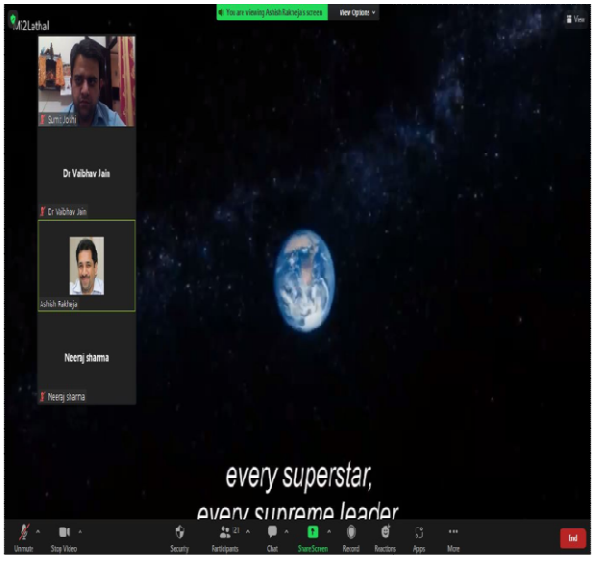
Concept Of Carbon Neutrality

Carbon Neutral refers to achieving net zero carbon emissions by balancing a measured amount of carbon release with an equivalent amount sequestered/ offset/buying enough carbon credits to make up the difference.

Water conservation strategy for toilet fixtures

S.No	Description	Spiral Flush or Tornado flush	Vacuum Water Toilets	Siphonic water toilet
1	Working Principal	• Design of toilet bowl usually is round to facilitate the water to flow in circular motion • The centrifugal force helps for better flushing	• They are flush toilets that use a negative pressure (vacuum) to suck faces away. • Suction effect increase hygiene quality.	• The toilet uses a simple suction principle to flush the waste efficiently
2	Water Use per Flush	• 3.5 GPF (13 LPF)	• 1.6 Gallon or 6 liter flush toilets	• 4 Liter/Flush and also 3 Liter/flush





Water SAVINGS: Innovations

- The intelligent device measures the amount of water going down the plug hole when you shower and memorizes it.
- It uses a series of "traffic lights" flashing gently from green to red whenever you finish showering. The device allows the user to fractionally reduce shower time to make sure that the device is always flashing green.