MBS School of Planning and Architecture, Dwarka (Delhi)

Presents National Online Faculty Training Program on

"EMERGING TECHNOLOGIES IN SUSTAINABLE BUILDING DESIGN"

8th - 12th JULY, 2024 | 10:30 AM - 01:45 PM

Preamble:

The "Emerging Technologies in Sustainable Building Design" Faculty Training Program is designed to equip educators with the tools to inspire and guide students, fostering a culture of innovation and sustainability within the academic community. With a focus on cutting-edge technologies such as artificial intelligence and data analytics, participants will explore methods to enhance building performance and efficiency while upholding principles of sustainability. By deepening their understanding of these innovations, faculty members will be empowered to seamlessly integrate them into their teaching curriculum, enriching the educational experience for their students. Distinguished guest speakers from various parts of the world and country will contribute valuable insights, offering diverse perspectives and real-world expertise at the forefront of the field. Furthermore, the program will highlight research opportunities, encouraging participants to explore new avenues and develop innovative solutions to address pressing challenges in sustainable building design.

Key takeaways for Participants

- In-depth Understanding of Emerging Technologies
- Strategies for Enhancing Building Performance
- Access to Expertise
- Opportunities for Research
- Professional Development and Networking
- Awareness of Current Trends and Future Directions
- Inspiration and Motivation
- Recognition and Certification

Registration fees: Rs. 1500/- (Rupees one thousand five hundred only)
Link to register:
https://forms.gle/Ao4XS2JH9E7PZRseA
Link for online payment:
https://eazypay.icicibank.com/eazypayLink?PI=KOOkQYjNFb8LZHkyuUDx6Q==
Link for Nomination form under CTP 2023-2024:
https://drive.google.com/file/d/1WVTAu2PqzFq-Avs2xGVBbqLZwK2Fi6-/view?usp=sharing
Deadline for registration: 28th June 2024

CONVENED BY
Prof Jayashree Deshpande
Director, COA-TRC, Pune

COORDINATED BY
Prof Bandana Jain
Professor, MBS SPA, Delhi
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Council of Architecture
Training and Research Center, Pune
In collaboration with
MBS School of Planning and Architecture, Dwarka (Delhi)
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DAY 1 - JULY 08, 2024 MONDAY

Session 1
Ar Krishna Murthy
Practitioner, Mumbai

Generative AI in Sustainable
Architecture

Session 2
Ar Suditya Sinha,
Practitioner, Delhi

Impact of AI & Machine Learning on
the Academia & Practice

DAY 2 - JULY 09, 2024 TUESDAY

Session 3
Assessing
Readiness:
Integrating AI
into
architecture
practice

Ar Tushar Gaur
Practitioner, Gurugram

Session 4
Role of
Sustainable
Architecture in
City Design and
Planning

Prof Kaustubh Das,
PhD Scholar IIEST SHIBPUR,
Kolkata

Session 5
Maximizing
Energy Efficiency
in Smart
Buildings

Dr (Prof) Rajat Gupta,
Director of OISD, Oxford Brookes
University, Oxford, UK

DAY 3 - JULY 10, 2024 WEDNESDAY

Session 6
Ar Pranav Chahande,
Hongkong, China

AI Driven Innovation, Shaping
the Future of Architecture

Session 7
Dr Prafulla Parlewar,
SPA Delhi

The Role of AI in Sustainable
Architecture

DAY 4 - JULY 11, 2024 THURSDAY

Session 8
Dr (Prof) Gaurav Raheja,
IIT Roorkee

Advancements in Universal
Design for Built Environment

Session 9
Dr Mohammad Saquib,
Delhi

The Application of AI in Designing
Sustainable Built Environment

DAY 5 - JULY 12, 2024 FRIDAY

Session 10 & 11
Ar Sabu Francis
Thrissur, Kerala

Computing & AI in architecture: Can Captivating Images Become a Design?

Notes:
- Teachers/ architects who wish to register for the training program either under Collaborative Training Program (CTP 2022-23) or as independent individuals may do so by filling up the Google form available on the given link.
- To confirm registration, kindly upload proof of payment towards the registration fees /nomination form on college letterhead before submitting the registration form.
- Link to join the program will be shared one day prior to the program
- This program is not for students.
- E-Certificate of said training program shall be send via email on registered email id of participants, after successful completion of training program by participant i.e. attending all sessions and submitting all assignments, EOPT and feedback form of training program.
- EoPT is scheduled on 12/07/2024 (Friday), 2:00PM - 3:00PM

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Overview/Preamble of Program

The "Emerging Technologies in Sustainable Building Design" Faculty Training Program is designed to equip educators with the tools to inspire and guide students, fostering a culture of innovation and sustainability within the academic community. With a focus on cutting-edge technologies such as artificial intelligence and data analytics, participants will explore methods to enhance building performance and efficiency while upholding principles of sustainability. By deepening their understanding of these innovations, faculty members will be empowered to seamlessly integrate them into their teaching curriculum, enriching the educational experience for their students. Distinguished guest speakers from various parts of the world and country will contribute valuable insights, offering diverse perspectives and real-world expertise at the forefront of the field. Furthermore, the program will highlight research opportunities, encouraging participants to explore new avenues and develop innovative solutions to address pressing challenges in sustainable building design.

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Schedule of Program

Day & Date	Monday 08.07.2024	Tuesday 09.07.2024	Wednesday 10.07.2024	Thursday 11.07.2024	Friday 12.07.2024
Session I **10:30 am - 12:00 pm**	**Session 1:** Ar. Krishna Murthy, Architect & Entrepreneur, Mumbai **Title:** Generative AI in Sustainable Architecture	**Session 1:** Ar. Tushar Gaur, Practitioner, Director Rhizome, Haryana **Title:** Assessing Readiness: Integrating AI into Architecture Practice	**Session 1:** Ar. Pranav Chahande, Associate at 10 Design, Hongkong, China **Title:** AI Driven Innovation, Shaping the Future of Architecture	**Session 1:** Dr. Prof. Gaurav Raheja, Professor & Former Head of Architecture & Planning, IIT Roorkee **Title:** Advancements in Universal Design for Built Environment	**Session 1:** Ar. Sabu Francis, Architect and multifaceted Professional, Thrissur, Kerala **Title:** Computing & AI in Architecture: Can Captivating Images Become a Design?
Break 15 minutes					
Session II 12:15 pm - 01:00 pm **Session II 01:00 pm - 01:45 pm**	**Session 2:** Ar. Suditya Sinha, Architect & Educator, Delhi **Title:** Impact of AI & Machine Learning on the Academia & Practice	**Session 2:** Prof. Kaustubh Das, PhD Scholar IIEST, Shibpur, Kolkata **Title:** Role of Sustainable Architecture in City Design and Planning **Session 3:** Dr. (Prof.) Rajat Gupta, Director of the OISD, Oxford Brookes University, Oxford, UK. **Title:** Maximizing Energy Efficiency in Smart Buildings: Advanced Strategies for Performance Evaluation and Data Analytics	**Session 2:** Dr. Prafulla Parlewar, Professor of Urban Planning, SPA Delhi. **Title:** The Role of AI in Sustainable Architecture	**Session 2:** Dr. Mohammad Saquib, Delhi, Faculty of Architecture & Ekistics Jamia Millia Islamia University **Title:** The Application of AI in Designing Sustainable Built Environment	**Session 2:** Ar. Sabu Francis, Architect and multifaceted Professional, Thrissur, Kerala **Title:** Computing & AI in Architecture: Can Captivating Images Become a Design?

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Abstract of Each Session

Day 1: Session: 1

Name of Speaker: Ar. Krishna Murty

Time: 10:30 am - 12:00 pm

Title: Generative AI in Architecture

Summary:

Generative Artificial Intelligence (AI) is revolutionizing architecture by employing algorithms to automate and enhance design processes. This abstract explores how AI algorithms empower architects to generate, evaluate, and refine designs based on specified criteria and constraints. By utilizing machine learning and neural networks, AI enables architects to explore diverse design possibilities and optimize solutions efficiently. This technology also promotes collaborative design efforts and accelerates innovation in architectural practice. However, ethical considerations and challenges related to creativity and data privacy warrant careful consideration as AI continues to reshape the architectural landscape.

Day 1: Session: 2

Name of Speaker: Ar. Suditya Sinha

Time: 12:15 am - 1:45 pm

Title: Impact of AI & machine learning on the Academia & Practice

Summary:

This Presentation explored how Artificial Intelligence (AI) and Machine Learning (ML) are reshaping architecture. AI enhances research with advanced data analysis and predictive models, while ML improves education through personalized learning tools and simulations. In practice, AI streamlines design processes, boosts efficiency, and supports sustainable decisions. Addressing ethical concerns and promoting collaboration are key to maximizing AI's potential in transforming architecture education and professional practice toward a more innovative and responsible future.

Day 2: Session: 1

Name of Speaker: Ar. Tushar Gaur

Time: 10:30 am - 12:00 pm

Title: Assessing Readiness: Integrating AI into Architecture Practice

Summary: The integration of Artificial Intelligence (AI) into architecture practice, focusing on readiness assessment. AI offers architects powerful tools for enhancing design efficiency, sustainability, and client engagement. This presentation examines key considerations such as data integration, algorithm transparency, and ethical implications. It explores how AI can streamline workflows, optimize decision-making, and foster innovative design solutions. By assessing readiness

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factors and promoting interdisciplinary collaboration, architects can effectively leverage AI to advance architectural practice into a more responsive, efficient, and visionary future.

Day 2: Session: 2

Name of Speaker: Ar. Kaustubh Das

Time: 12:15 am - 1:00 pm

Title: Role of Sustainable Architecture in City Design and Planning

Summary: This presentation explored the transformative role of Artificial Intelligence (AI) in sustainable architecture within city design and planning. AI empowers architects and urban planners to optimize energy usage, enhance resource efficiency, and mitigate environmental impact through advanced data analytics and predictive modeling. By integrating AI-driven tools for simulation, optimization, and decision-making, cities can achieve more resilient and environmentally conscious urban environments. This presentation highlights how AI fosters innovation in sustainable architecture, supporting initiatives that promote sustainable development goals and improve quality of life in urban communities.

Day 2: Session: 3

Name of Speaker: Prof. Rajat Gupta

Time: 1:00 am - 1:45 pm

Title: Maximizing Energy Efficiency in Smart Buildings: Advanced Strategies for Performance Evaluation and Data Analytics

Summary: This Presentation explored cutting-edge strategies for enhancing energy efficiency in smart buildings. By harnessing advanced data analytics and IoT technologies, smart buildings optimize energy use, improve occupant comfort, and reduce environmental impact. The presentation showcased real-world examples and case studies to illustrate how these innovations enable proactive energy management and sustainable practices. Architects and building professionals can leverage these insights to design and operate smarter, more efficient buildings that meet sustainability goals and enhance overall performance.

Day 3: Session: 1

Name of Speaker: Ar. Pranav Chahande

Time: 10:30 am - 12:00 pm

Title: AI Driven Innovation, Shaping the Future of Architecture

Summary: This abstract explores the transformative impact of Artificial Intelligence (AI) tools like Mid-Journey and Look X on the architecture profession. Mid-Journey AI facilitates design optimization by generating iterative solutions based on specified criteria, enhancing creativity and efficiency in architectural design processes. Look X AI enhances project visualization and client engagement through advanced rendering and virtual reality simulations, allowing stakeholders to experience

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architectural designs in immersive and interactive formats. By leveraging these AI tools, architects can innovate design workflows, improve decision-making, and deliver more sustainable and visionary architectural solutions for the future.

Day 3: Session: 2

Name of Speaker: Dr. Prafulla Parlewar

Time: 12:15 am - 1:45 pm

Title: The Role of AI in Sustainable Architecture

Summary: The transformative role of Artificial Intelligence (AI) integrated with Geographic Information Systems (GIS) in advancing sustainable architecture, using Nagpur City as a real-world example. AI enhances architectural design by analyzing GIS data to optimize building placement, energy efficiency, and environmental impact assessments.

Day 4: Session: 1

Name of Speaker: Dr. Prof. Gaurav Raheja

Time: 10:30 am - 12:00 pm

Title: Advancements in Universal Design for Built environment

Summary: Advancements in universal design focus on creating inclusive built environments that accommodate people of all abilities. Key improvements include integrating smart technologies, emphasizing sustainability, adhering to regulatory standards, and engaging communities in the design process. These advancements aim to enhance accessibility, usability, and safety for everyone, promoting a more inclusive society.

Day 4: Session: 2

Name of Speaker: Dr. Prof. Mahammad Shaqib

Time: 12:15 am - 1:45 pm

Title: The application of AI in Designing Sustainable Built Environment

Summary: The Application of AI in Designing Sustainable Built Environment" AI tools like Julius, Claude, and ChatGPT 4 are transforming the design of sustainable built environments by enabling precise environmental data analysis, predictive modeling for energy efficiency, and optimization of building materials and methods. These technologies empower architects and planners to make informed decisions that minimize resource use and environmental impact, advancing sustainable development goals in urban and architectural design.

Day 5: Session: 1 & Session 2

Name of Speaker: Ar. Sabu Francis

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Time: 10:30 am - 1:45 pm

Title: Computing & AI in architecture: Can Captivating Images become a Design?

Summary: This paper explores the practical integration of computing and artificial intelligence (AI) in architecture, specifically examining the process of translating captivating images into functional design solution. Rather than glorifying buzzwords, the focus should be on practical software development. It outlines essential steps for architects and developers to effectively program AI applications that enhance architectural creativity and efficiency. This presentation encouraged the learning and mastery of software writing skills necessary to leverage AI responsibly and innovatively in architectural practice.

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Certificate of Appreciation:

Council of Architecture

CERTIFICATE OF APPRECIATION

This certificate is awarded to

MBS School of Planning and Architecture (SPA), Delhi

For successful coordination of

ONLINE TRAINING PROGRAM

"EMERGING TECHNOLOGIES IN SUSTAINABLE BUILDING DESIGN"

From 8th July 2024 to 12th July 2024

Conducted by Council of Architecture Training & Research Centre (COA-TRC)

Convened by

Prof. Jayashree Deshpande, Director, Council of Architecture Training & Research Centre, Pune

Coordinated by

Prof. Bandana Jain, Professor, MBS SPA, Delhi

Ar. Prof. Abhay Purohit
President, COA

Shri Raj Kumar Oberoi
Registrar, COA

Ar. Prof. Jayashree Deshpande
Director, COA-TRC, Pune

16.07.2024
Date

Council of Architecture
Training & Research Centre
TRC
Pune

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10. About the Speakers

Ar. Krishna Murthy:

Architect Krishnamurthy is the founder and lead architect of Folds Design Studio based in Mumbai. Architect Krishnamurthy is an innovative architect and entrepreneur renowned for pioneering parametric architecture and leveraging cutting-edge technologies. Their studio excels in robotics, 3D printing, CNC machining, laser cutting, and other advanced techniques, consistently pushing the boundaries of architectural innovation. Architect Krishnamurthy's visionary approach integrates computational design principles to create groundbreaking projects. They are committed to education and mentorship, organizing prestigious design competitions like UNFOLDS. During the COVID-19 pandemic, Folds Design Studio played a crucial role by manufacturing essential medical equipments, including patented innovations that enhanced healthcare safety.
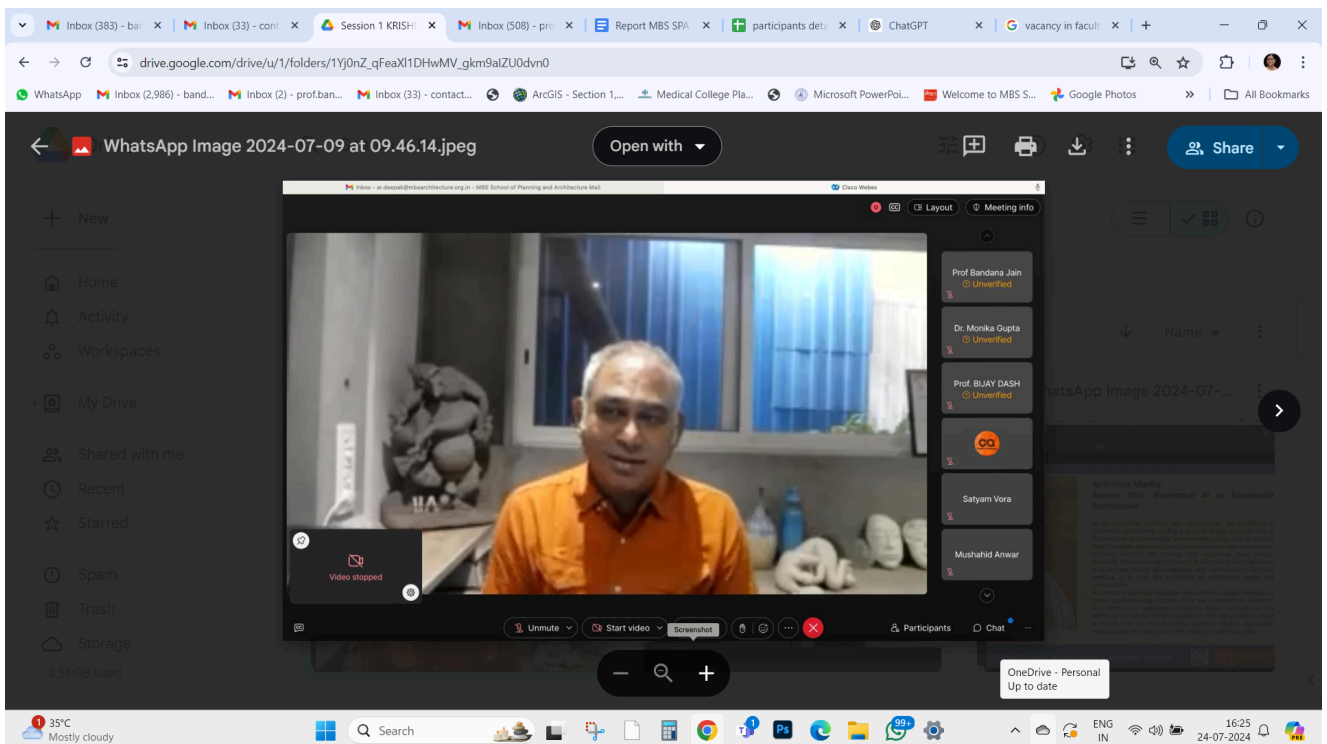
Ar. Suditya Sinha:

Architect Suditya Sinha is the founding partner of Space Matters, a leading design practice based in New Delhi since 2005. With over eighteen years of experience, Suditya has been instrumental in spearheading diverse architectural projects, ranging in scale and nature.
His expertise spans in architecture, interior design, project management, and technological integration, with a notable focus on sustainable building practices. Architect Suditya has collaborated with esteemed global firms such as Snohetta and IBI, and served as an Assistant Professor at the School of Planning & Architecture, New Delhi. His commitment to architectural excellence is reflected in numerous award-winning projects, exhibitions, and publications. Architect Suditya believes in architecture's potential to shape a healthier and more equitable society, emphasizing innovation and cultural preservation in his work.

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Ar. Tushar Gaur:

Architect Tushar is an accomplished architect and the founder of Rhizome. He holds a B.Arch. from UPTU, Lucknow, an M.Arch. from CEPT University-Ahmedabad, and was awarded the prestigious Erasmus Mundus scholarship to study at Milan Italy. He leads Rhizome, an esteemed international architecture firm based in Gurugram and Sydney, renowned for its expertise in hospitality and real estate design. Rhizome is currently engaged in several prestigious projects, including Marriott - Jim Corbett, Marriott - Chikmanglur, Intercontinental Varanasi, and Khyber, Srinagar. Tushar's architectural research focuses on exploring deeper meanings in architecture, evident in his design philosophy and writings. Prior to founding Rhizome, he gained valuable experience working with Prof. Utpal Sharma (Dean CEPT), Pritzker Laureate Architect B. V. Doshi, and Design Forum International, New Delhi. Tushar has also served as a lecturer and jury member at various esteemed architecture schools, including SPA, Jamia Millia Islamia, Ansal University, and Politecnico di Milano.
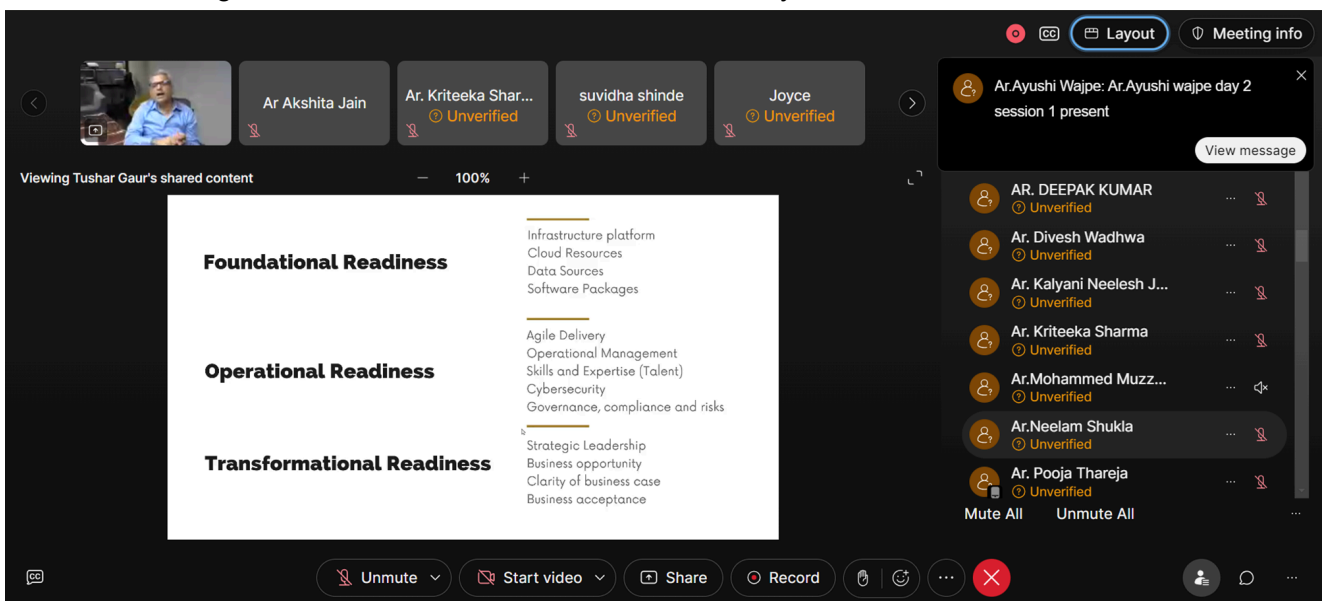
Ar. Kaustubh Das:

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Architect Kaustubh Das has over 20 years of combined academic and professional experience, currently serving as Professor at a leading institution. With a degree in Masters of Architecture from CEPT University, Ahmedabad, and nearing completion of his PhD from IIEST, Shibpur, Prof. Kaustubh has presented papers at prestigious international conferences. His expertise spans project management, consultancy, and teaching across various renowned institutions, reflecting his dedication to advancing architectural education and practice.

Prof. Rajat Gupta:

Dr. Rajat Gupta is the Director of the Oxford Institute for Sustainable Development and heads the esteemed Low Carbon Building Research Group at Oxford Brookes University in the United Kingdom. Renowned for his leadership in sustainable architecture and climate change, he holds a distinguished senior professorial chair at the highest level. Dr. Rajat's pioneering research focuses on decarbonizing the building sector through innovations in energy efficiency, renewables, and smart energy systems. With a track record of securing over 13 million pounds in research grants, he has led transformative interdisciplinary projects on local energy solutions, climate adaptation, and scaling up energy retrofits. Rajat plays a pivotal role in advising government bodies, contributing to national climate assessments, and shaping technical standards in sustainable building practices.

Ar. Pranav Chahande:

Architect Pranav brings over 14 years of architectural expertise, currently serving as an Associate at 10 Design in Hong Kong. His career spans significant roles at global firms including AECOM, WOW Architects in Singapore, Serie Architects in India, and SK DAS Associated Architects. Pranav is renowned for his leadership in large-scale projects encompassing residential, hospitality, mixed-use, civic centers, workplaces, and infrastructure developments across Asia and beyond. His approach integrates rigorous design with a focus on addressing typological, technological, and socioeconomic challenges through innovative methodologies. As a registered architect in India, Pranav's portfolio includes iconic projects all over China, reflecting his commitment to excellence and sustainable design solutions.
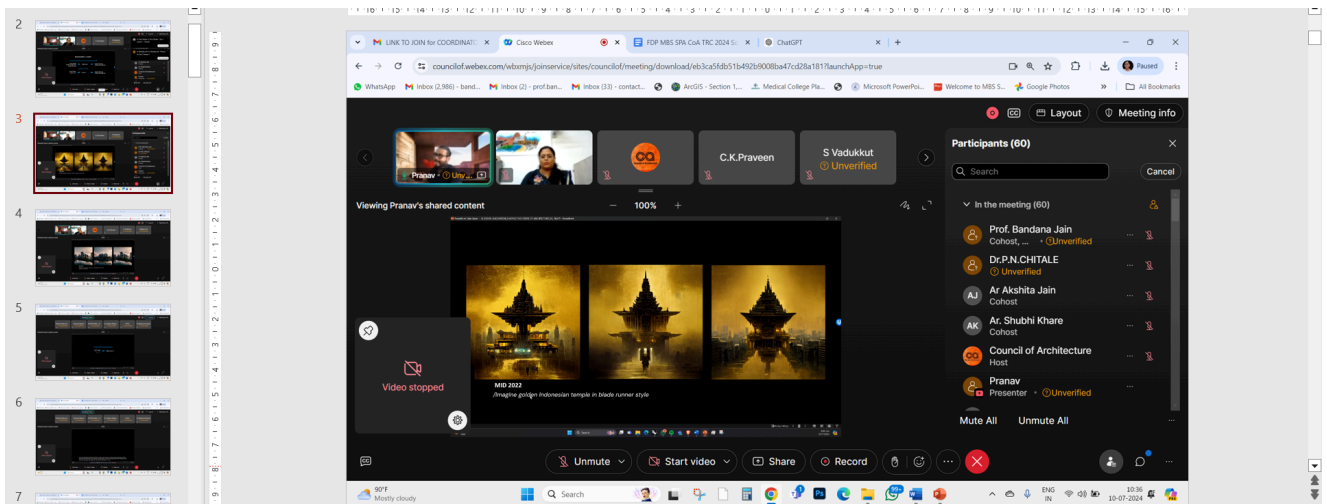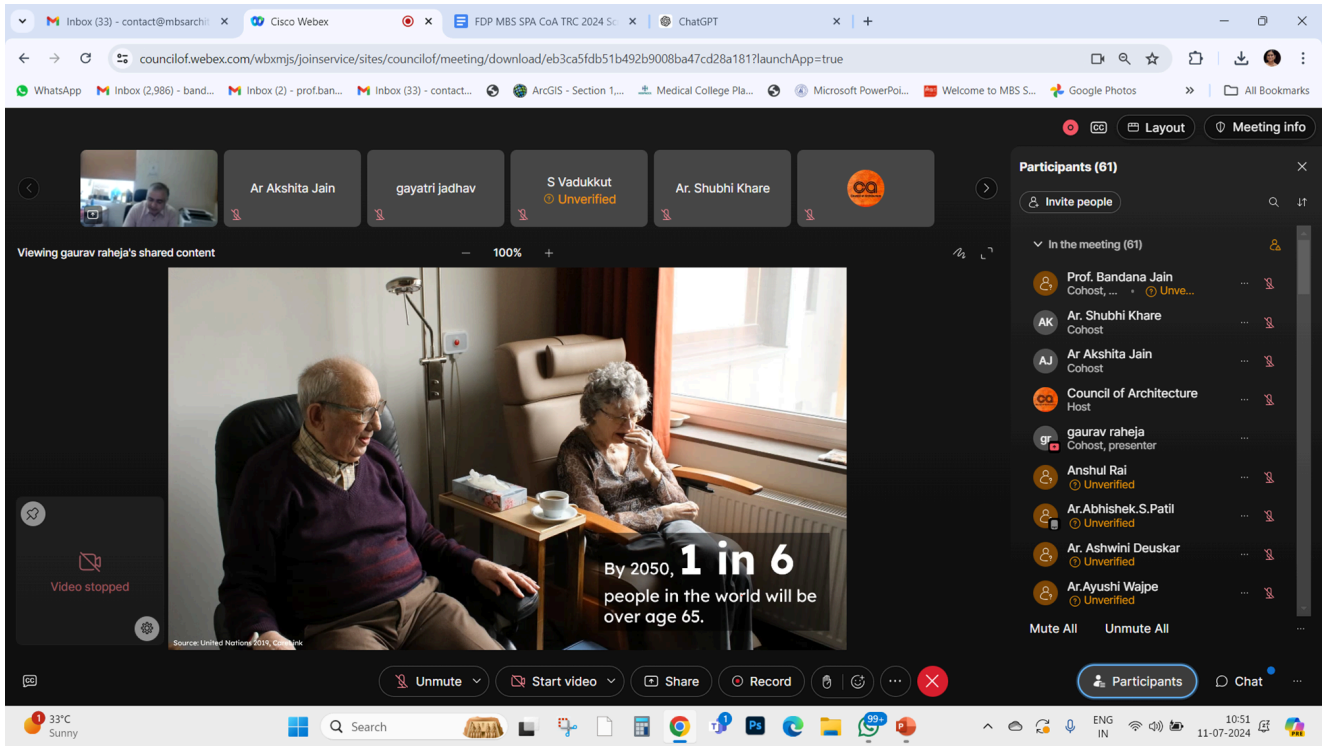

Dr. Prafulla Parlewar:

Dr. Prafulla Parlewar is an esteemed urban planner, architect, and Professor of Urban Planning at the School of Planning and Architecture, Delhi. Dr. Parlewar brings a wealth of expertise in Smart Cities and Artificial Intelligence, coupled with a profound commitment to advancing the fields of architecture and urbanism. His distinguished career spans across international experiences in India, Japan, USA, and Europe, enriching his perspective on global urban challenges and innovative solutions. Dr.

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Parlewar is celebrated for his visionary approach in conceptualizing and implementing high-precision projects that uphold the highest technological standards. In addition to his scholarly achievements, Dr. Parlewar is recognized for his outstanding communication and presentation skills, effectively communicating complex ideas to colleagues and students alike. His leadership and dedication to global collaboration and interdisciplinary research make him a pivotal figure in the field of urban planning and architecture.
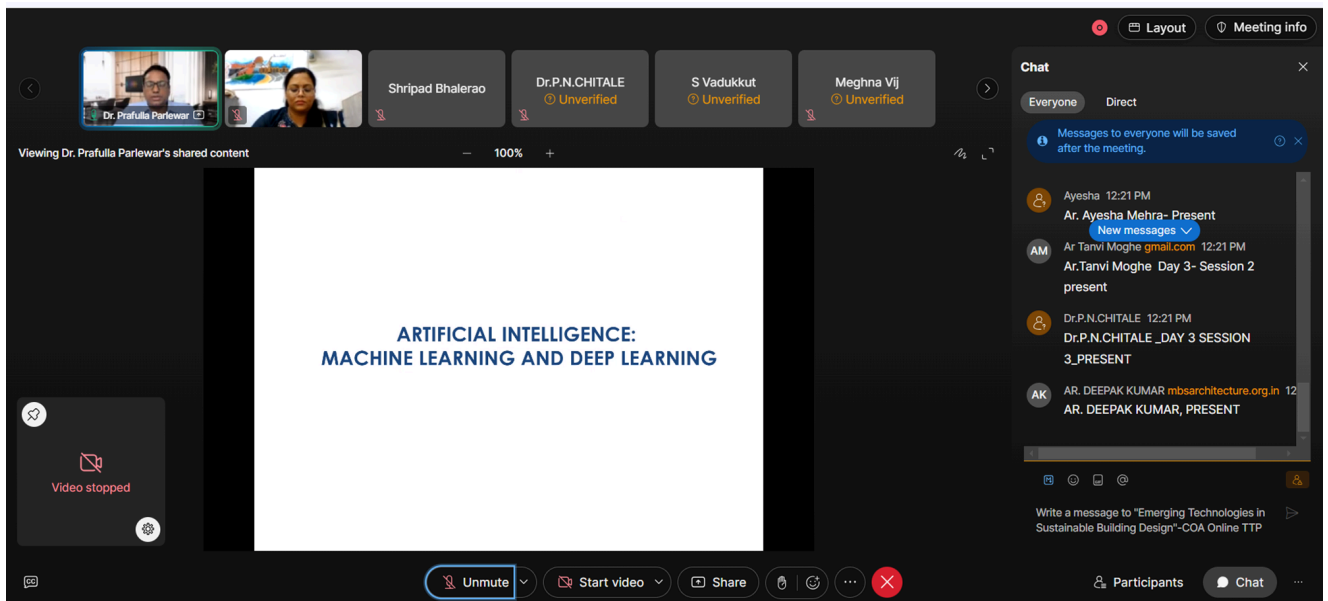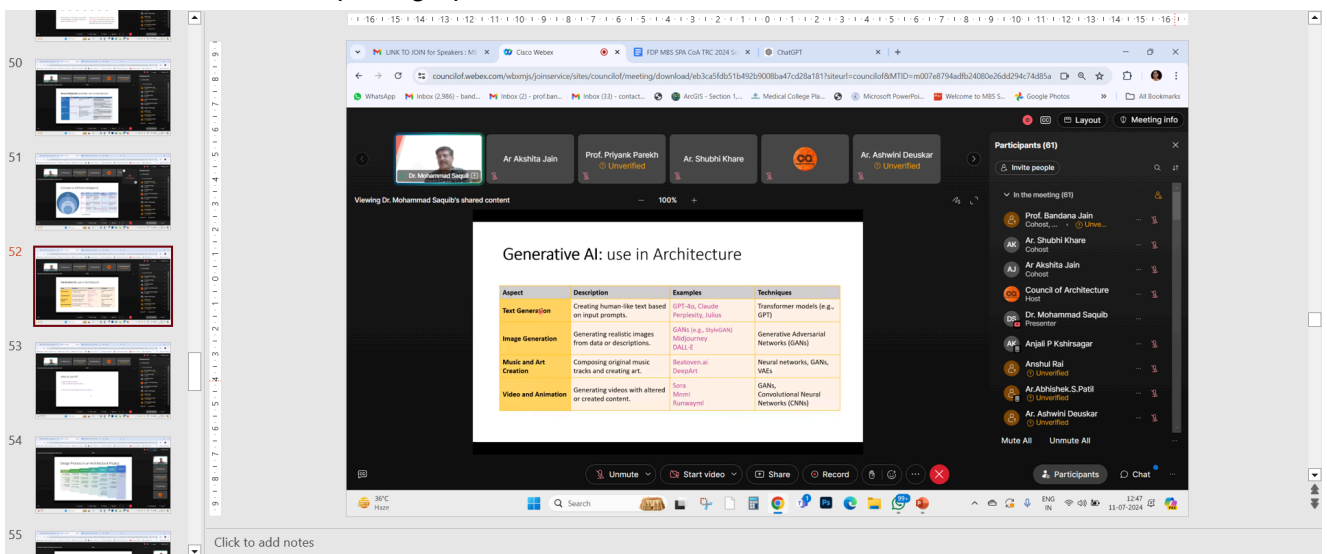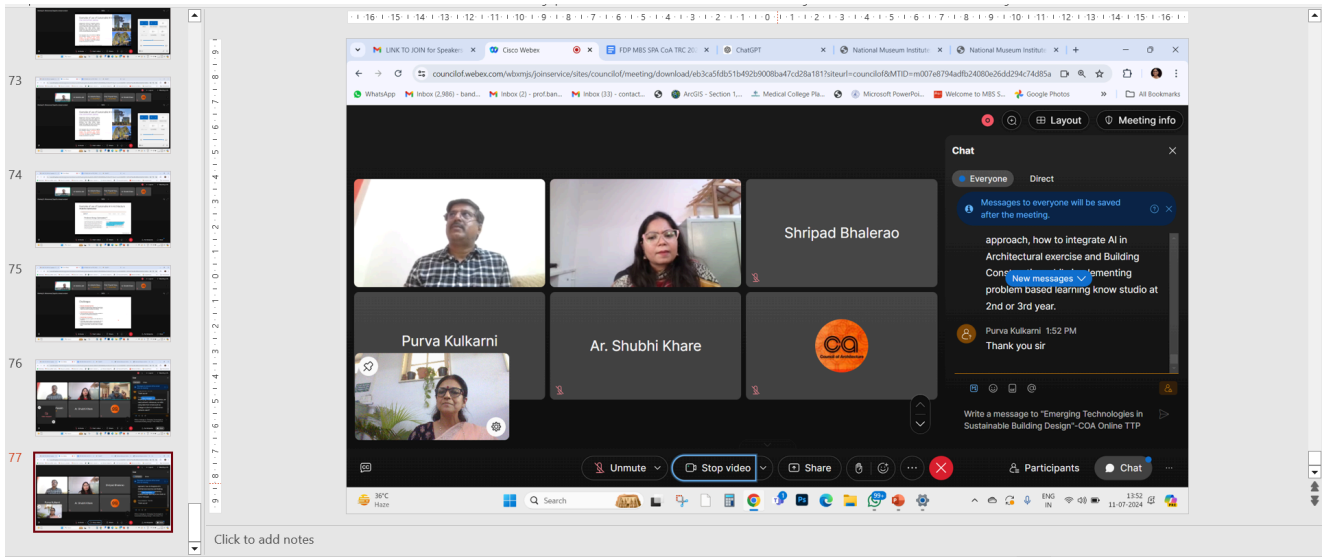

Dr. Prof. Gaurav Raheja:

Dr. Gaurav Raheja is a Professor and former Head of Department of Architecture & Planning at IIT Roorkee with over seventeen years of experience. He focuses on universal accessibility and inclusive design. He founded and established the Laboratory of Inclusive Design (LID) at IIT Roorkee undertaking several research initiatives on inclusive design for diverse human intersectionality including persons with disabilities. He has advised on major national projects, including the Prime Minister's Office and IGI Airport, and authored key accessibility guidelines for the Government of India. Dr. Raheja received the NCPEDP Mphasis Universal Design Award in Two thousand ten. He is currently involved with Mumbai Suburban Railways as a consultant to steer accessibility for various rail stations in Mumbai and serves on advisory boards to various organizations and institutions. He is the Professor In-charge for Inclusion and Accessibility Services (IAS) for IIT Roorkee.

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Dr. Prof. Mohammad Shaqib:

Dr. Mohammad Saquib has over 21 years of academic and professional experience. He presently coordinates the doctoral programme in Architecture. He developed and coordinated the master's programme in Architecture Pedagogy for around a decade. He has attempted to transform the postgraduate and undergraduate studios into an experimental ground for architectural research through a research-based approach to teaching. His key research interests include architectural research, architecture education, public interest design, digital design, visual communications, and architectural history. He has regularly published research papers in journals, reviewed and presented papers in conferences. He has been invited to speak at various
academic institutions as a speaker, as an external member of BOS, and as a jury member at the postgraduate and undergraduate levels. He has undertaken professional consultancy for architectural projects in various capacities. He also takes keen interest in photography and has participated in national and international photographic exhibitions.

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Ar. Sabu Francis:

Ar Sabu Francis is a multifaceted professional whose expertise spans architecture, computer-aided design, knowledge management, artificial intelligence, and web technology. Trained as an architect at the prestigious IIT, Kharagpur, in 1984, Ar Sabu's career trajectory has been characterized by innovation, research, and leadership. His pioneering work in architecture representation systems earned him the esteemed Journal of Indian Institute of Architects special award for research in 1991. Sabu Sir's exploration of mathematical principles in architecture has led to the development of TAD Designer Lite, one of the earliest truly object-oriented architectural design software still in use today. His software has been instrumental in shaping architectural projects, particularly in the early design stages, and has been cited by researchers all over the world.

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