

HANDS ON WORKSHOP

ON

OUTDOOR MICROCLIMATE ANALYSIS USING ENVI-MET SOFTWARE

16 JULY 2026 TO 20 JULY 2026

Organized by



**DEPARTMENT OF ARCHITECTURE & PLANNING
MANIT, BHOPAL**

in association with

**INSTITUTE OF TOWN PLANNERS, INDIA
MP CHAPTER**

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About MANIT Bhopal

Maulana Azad National Institute of Technology (MANIT), Bhopal was established in 1960 as Maulana Azad College of Technology (MACT) and was accorded the status of National Institute of Technology in 2002. Recognized as an Institute of National Importance, MANIT is one of India's leading technical institutions, offering undergraduate, postgraduate, and doctoral programs in engineering, architecture, planning, management, science, and humanities. Situated on a picturesque 650-acre campus in Bhopal, the institute provides excellent academic and research infrastructure, modern laboratories, and residential facilities. MANIT is committed to excellence in education, innovation, and research, producing skilled professionals who contribute to national development and global progress.

About ITPI MP Chapter

The Institute of Town Planners, India (ITPI) is the premier professional body of planners in the country, established in 1951 to promote the profession of town and country planning. ITPI advances planning education, research, professional practice, and policy advocacy for sustainable urban and regional development. The Madhya Pradesh Regional Chapter of ITPI actively promotes professional development through workshops, seminars, training programs, and collaborative initiatives involving academia, government agencies, and practicing professionals. The chapter serves as a platform for knowledge exchange and

capacity building in areas such as urban planning, environmental sustainability, climate resilience, and infrastructure development.

About the Department

The Department of Architecture and Planning, MANIT Bhopal, is one of the premier centres for education and research in the fields of architecture, planning, and the built environment. With over 55 years of academic excellence, the department offers undergraduate programmes in Bachelor of Architecture (B.Arch.) and Bachelor of Planning (B.Plan.), along with postgraduate programmes in Urban Planning and Real Estate, and doctoral research opportunities. The department actively promotes interdisciplinary research and professional engagement in areas such as sustainable urban development, climate-responsive design, environmental planning, GIS and remote sensing, transportation planning, housing, and urban resilience, contributing to the creation of sustainable and inclusive human settlements.

Course Objective

The workshop on "Outdoor Microclimate Analysis using ENVI-met Software" aims to equip participants with theoretical knowledge and practical skills for assessing and improving outdoor environmental conditions in urban areas. The program focuses on understanding urban microclimate processes and their relationship with urban form, vegetation, materials, and human thermal comfort.

Participants will be introduced to ENVI-met, a

three-dimensional microclimate simulation software widely used for analyzing the impacts of urban design interventions on temperature, wind flow, humidity, solar radiation, and thermal comfort. Through hands-on exercises and real-world case studies, participants will learn how to create simulation models, analyze environmental performance, and develop climate-responsive planning and design solutions for sustainable urban development.

Topics Covered

- Introduction to Urban Microclimate and Thermal Comfort
- Urban Climate Parameters and Data Requirements
- Introduction to ENVI-met Interface and Modules
- Software Installation and Project Setup
- Model set up - Buildings, Vegetation, and Soil Data
- Climate Data Preparation and Boundary Conditions
- ENVI-met Simulation
- Simulation Optimization
- Thermal Comfort Assessment using PET and UTCI
- Visualization and Mapping of Simulation Results
- Urban Design Applications of Microclimate Analysis
- Heat Mitigation and Climate-Responsive Design Strategies
- Case Study Demonstration

Course Outcomes

Upon successful completion of the workshop, participants will gain a comprehensive understanding of urban microclimate processes and their implications for sustainable urban planning and design. They will acquire practical skills in developing, simulating, and analyzing urban microclimate models using ENVI-met software, including the assessment of thermal comfort through indices such as PET and UTCI. Participants will be able to interpret simulation outputs, evaluate the effectiveness of climate-responsive design interventions, and apply microclimate analysis techniques to real-world planning, architecture, and landscape projects. The workshop will enable them to integrate scientific evidence into decision-making processes aimed at enhancing urban livability, thermal comfort, and climate resilience.

Who Should Attend?

The workshop is designed for undergraduate and postgraduate students, research scholars, faculty members, and professionals from the fields of Urban and Regional Planning, Architecture, Landscape Architecture, Civil Engineering, Environmental Engineering, Geography, and related disciplines. It will be particularly beneficial for individuals interested in urban climate studies, thermal comfort assessment, sustainable urban design, climate-responsive planning, and environmental simulation techniques. The program welcomes participants seeking practical experience

in applying microclimate analysis tools for research, academic projects, and professional practice.

How to Apply

Interested participants can register by completing the online registration form through the QR code or link provided in the workshop brochure. Registrations will be accepted on a first-come, first-served basis due to limited seats. Participants are advised to register early to secure their place in the workshop.

Link for Registration: <https://lnkd.in/dGpa2mSf>



Registration Fee: Rs. 500/-

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