

Department of Civil Engineering

One-Day Workshop

“Innovative Applications of UAV and GIS Technology for Civil Engineering Projects”

The Department of Civil Engineering organized a One-Day Workshop on “Innovative Applications of UAV and GIS Technology for Civil Engineering Projects”. The workshop aimed to expose students and faculty members to the latest technological advancements in the use of Unmanned Aerial Vehicles (UAVs) and Geographic Information Systems (GIS) in the field of Civil Engineering. The event featured three expert talk sessions delivered by distinguished speakers covering topics from drone dynamics to real-world applications in civil, architectural, and water projects.

No.	Title of Expert Talk	Expected Learning Outcomes
Session I	On-site Field Data Collection Using Drone and Data Processing Techniques	<ul style="list-style-type: none"> - Learn step-by-step procedures for drone-based data collection in the field. - Develop understanding of photogrammetry and image processing methods. - Apply UAV data for terrain modeling and surface analysis. - Gain hands-on insight into converting raw drone data into usable GIS outputs.
Session II	Introduction to Drone Dynamics, Processors, Sensors, DGCA Rules, and Drone Types	<ul style="list-style-type: none"> - Understand the basic principles of drone flight and control. - Identify key components, sensors, and processors used in UAV systems. - Gain awareness of DGCA guidelines for drone operation and compliance. - Distinguish between various drone types and their civil engineering applications.
Session III	Visualization and Practical Applications of UAV and GIS Data in Civil, Architectural, and Water Projects	<ul style="list-style-type: none"> - Understand the process of integrating UAV outputs into GIS for project analysis. - Interpret and visualize drone-generated 3D models and maps. - Evaluate UAV applications in civil, architectural, and hydrological projects. - Enhance capacity to use UAV-GIS technologies for sustainable and innovative solutions.



The workshop successfully enhanced participant's understanding of drone technology, GIS integration, and their innovative applications in Civil Engineering. The session's motivated students and faculty to explore new research areas, emphasizing technological innovation and practical problem-solving in the construction and infrastructure sectors.

Workshop Coordinator
(Dr. V.M.Patel)

Head of Department
(Dr. N.J.Dalal)