

TEACHING & LEARNING

NTU VR Lab Training Module Selected for SIGGRAPH 2026

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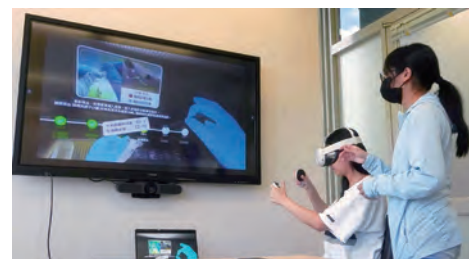
As Extended Reality (XR) and Artificial Intelligence (AI) become increasingly integrated into higher education, National Taiwan University's Digital Learning Center continues to advance digital teaching innovation by supporting faculty in developing Virtual Reality (VR) training modules that enhance student learning through immersive experiences. Among its recent interdisciplinary collaborations, a VR training module for laboratory mouse blood collection, jointly developed with Professor Hui-Wen Chen of the Department of Veterinary Medicine and the Laboratory Animal Center, has emerged as a flagship example of XR-enabled education. Combining gamification with the 3R Principles (Replacement, Reduction, and Refinement), the module promotes both effective learning and ethical animal research.



The elements of a fully immersive VR training module for laboratory mouse blood collection, jointly developed by the NTU Digital Learning Center and Professor Hui-Wen Chen of the Department of Veterinary Medicine.

The training module places students in an immersive VR simulation, where they practice conducting the blood collection procedure after mastering the necessary foundational knowledge. Students can repeat the procedure as many times as needed to build confidence and proficiency before working with live animals. The system also provides real-time assessment and feedback on key techniques—including animal restraint, blood collection spot, and blood collection volume—offering immediate guidance and corrective suggestions. By enabling repeated practice in a safe virtual environment, the module strengthens the students' practical skills while reducing their risk of errors during actual laboratory procedures.

To share this innovative educational approach with the international community, the Digital Learning Center and Professor Chen's team submitted the project to SIGGRAPH 2026. The VR training module was selected for the conference's Immersive Pavilion and showcased at the Los Angeles Convention Center, where it attracted considerable interest among educators, researchers, and attendees from around the world. The recognition highlights the growing potential of XR technologies in higher education, demonstrating how immersive learning can bridge the gap between theory and practice while opening new possibilities for the future of teaching and professional training



Students safely practicing the mouse blood collection procedure in an immersive VR environment; the goal is to achieve proficiency.



The VR training module for laboratory mouse blood collection was selected for the SIGGRAPH 2026 Immersive Pavilion and exhibited at the Los Angeles Convention Center.



Staff members from the NTU Digital Learning Center introducing the VR training module and demonstrate its operation to visitors.



Visitors explore the exhibits at SIGGRAPH 2026.