

DEPARTMENT OF MECHANICAL ENGINEERING

WILLIAM MAXWELL REED SEMINAR SERIES

“Development of an immersive virtual reality application for engineering mechanics classroom instruction and its implications for other engineering subjects”

Dr. Oai Ha

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Abstract: Visualization and visual representations have proved to be powerful media to support and improve cognitive processes of engineering students, such as problem-solving and knowledge acquisition. Virtual reality has been considered one of the most potential and promising media to provide immersive learning experiences and enhance motivation and learning across various engineering fields, student development levels, and instructional settings. This seminar talk will describe the presenter's efforts to develop an immersive virtual reality application and assess its usability in improving Engineering Statics students' learning experiences at the classroom level. Students' achievement in this course depends on not only their competencies in mathematics and physics but also the ability to visualize 3D structures from 2D textbook pictures and retrieve correct spatial information for solving problems. Some of the implications of deploying immersive virtual and augmented reality in the instruction and research for other engineering subjects will be discussed.

Bio: Oai Ha holds a Ph.D. in Engineering Education (Utah State University), an M.S. (Cal Poly, San Luis Obispo) and a B.S. (Vietnam) in Mechanical Engineering, and an M.S. (Belgium & Vietnam) in Management. He joined Western Carolina University as a faculty in Mechanical Engineering in 2017 after obtaining one-year postdoctoral training at the Engineering Cognition Lab at Oregon State University. He received training in developing virtual reality applications for spatial cognition research at the Department of Psychological and Brain Sciences at the University of California at Santa Barbara. His main research interests include spatial visualization skills and applications of emerging technologies of virtual and augmented reality in engineering education, virtual and remote laboratories, and industrial workforce training.

Date: March 3, Wednesday

Time: 3-4 pm (CST); 4-5pm (EST)

Place: <https://uky.zoom.us/j/83008957257?pwd=MmVWeW9MODBJaW1HZXpPaEkzSko2Zz09>

Attendance open to all interested persons



Paducah Engineering Seminar Series

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