



UCF

FACULTY RESEARCH TALKS

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Zoom talk | Friday, Sept. 29, 2023 | Noon to 1 p.m.



CO-PRESENTER 1:

CAROLINA CRUZ-NEIRA

Agere Chair Professor
Computer Science

Interactive and Immersive Visualization as a Tool for Knowledge Generation and Understanding

In the last 10 years, there have been several fundamental shifts in how data affects many areas of science, engineering and industry. The available data is becoming larger, more varied, and is generated at an ever-increasing pace. One of the central approaches to help people better understand and manage data is using visualization, either on the desktop or using immersive technologies. This talk will present examples of VARLAB activities from different areas like Digital Twins, drone swarm management and others in how visual representations and using visual approaches can make large amounts of data coming in at a high speed manageable and understandable. It will also try to spark ideas on how visualization and real-time simulation can help you understand your data better.

Dr. Carolina Cruz-Neira, a member of the National Academy of Engineering, is a pioneer in the areas of virtual reality and interactive visualization, having created and deployed a variety of technologies that have become standard tools in industry, government and academia. She is known worldwide for being the creator of the CAVE virtual reality system. She has dedicated a part of her career to transfer research results into daily use by spearheading several open-source initiatives, such as VRJuggler, to disseminate and grow VR technologies and by leading entrepreneurial initiatives to commercialize research results. *BusinessWeek* identified her as a “rising research star” in the next generation of computer science pioneers, and she is an IEEE Fellow and an ACM Computer Pioneer. Dr. Cruz-Neira received the IEEE Virtual Reality Technical Achievement Award and the Distinguished Career Award from the International Digital Media and Arts Association, among other national and international recognitions. She had given numerous keynote addresses and has been the guest of several governments to advise on how virtual reality technology can help give industries a competitive edge leading to regional economic growth.



CO-PRESENTER 2:

DIRK REINERS

Associate Professor
Computer Science

Dr. Reiners' research interests focus on realtime and interactive graphics technologies and architectures, both soft- and hardware, and how to apply them to a variety of industrial and scientific problems. He is co-directing the UCF Virtual and Augmented Reality Applications Laboratory (VARLAB), together with Dr. Carolina Cruz-Neira. He has an M.S. and Ph.D. degree in computer graphics from the Technical University of Darmstadt, Germany. Before joining UCF, he held positions at the University of Arkansas Little Rock, the University of Louisiana at Lafayette and Iowa State University. Before joining academia, he spent more than 10 years in industrial research at the Fraunhofer Center for Computer Graphics in Darmstadt, Germany.

Building Practical Automation for Software Engineers

In response to the growing complexity of software systems, the field of software engineering research has seen a recent focus on automating various development tasks in an attempt to facilitate or augment the abilities of engineers. Driving this line of work is a combination of deep learning techniques and the large amount of open-source data available in software repositories. In this talk, he will discuss his group's research agenda in leveraging deep learning to build the next generation of automated developer tools.



PRESENTER 3:

KEVIN MORAN

Assistant Professor
Computer Science
Cyber Security and
Privacy Cluster

Dr. Moran directs the SAGE research group. He graduated with a B.A. in physics from the College of the Holy Cross in 2013, and received an M.S. and Ph.D. from William & Mary in 2015 and 2018 respectively. His main research interest involves facilitating the processes of software engineering, security and maintenance by building developer tools enhanced by machine learning. He has published more than 30 papers at various software engineering and security conferences, and his research has been recognized with ACM SIGSOFT distinguished paper awards at ESEC/FSE 2019 and ICSE 2020, and a Best Paper Award at CODASPY'19. He was also recently recognized with the 2023 MOBILESoft Rising Star Award. Learn more about Dr. Moran at <http://www.kpmoran.com>.