



UCF

UNIVERSITY OF CENTRAL FLORIDA | ORLANDO

College of Engineering and Computer Science  
**FACULTY RESEARCH TALKS**

**LISTEN. LEARN. COLLABORATE.**

**Zoom talk | Friday, Sept. 4, 2020 | Noon to 1 p.m.**



PRESENTER 1:

**XUN GONG**

Professor,  
Electrical and Computer  
Engineering

**Multifunctional Antennas and RF Front-End Systems**

Dr. Gong will introduce his research in filter antenna integration, reconfigurable antenna arrays and low cost, beam-steerable antenna systems. His research strongly impacts next-generation communication systems by providing wide bandwidth, high efficiency and multifunction. This research also contributes to novel wireless passive sensors for harsh environment and health monitoring applications.

Dr. Gong received his B.S. and M.S. degrees in electrical engineering from Fudan University and his Ph.D. degree in electrical engineering from the University of Michigan, Ann Arbor. Prior to UCF, he was a postdoctoral research associate at Birck Nanotechnology Center at Purdue University. His current research interests include microwave filters and passive components, wireless passive sensors for harsh environment applications, antennas, phased arrays, reflectarrays, flexible electronics, micromachining, advanced packaging, ceramic materials, polymer materials, ferroelectric materials, metamaterials, and material characterization. He has published 133 refereed journal articles and conference papers, and received the NSF CAREER Award in 2009.



PRESENTER 2:

**JOON-HYUK  
PARK**

Assistant Professor,  
Mechanical and  
Aerospace Engineering,  
Disability, Aging and  
Technology Cluster

**Wearable Mechatronics (Sensors and Robots) for Real-World Applications**

Wearable devices are used in many fields of research and engineering to monitor human health, assist and rehabilitate people with disabilities, or augment physical performance. In this talk, Dr. Park will discuss his group's efforts in developing methods to improve human-wearable robot interaction and to close the loop using human biofeedback. He will share three topics: cable-driven upper-body exoskeletons; movement biomechanics measurement suits; and performance analysis of soldier-operational tasks.

Dr. Park is focused on developing tools and techniques for real-time monitoring and feedback of human biomechanics and physiologic parameters using wearables, and designing wearable interface/mechanisms and human-in-the-loop controllers to improve the usability and practicality of assistive robots. He received his Ph.D. in mechanical engineering from Columbia University in 2016 and worked at the U.S. Army Research Laboratory for three years as a National Academy of Sciences research associate before joining UCF in 2019.

**ZOOM LINK:** <https://bit.ly/35unuVe> | **QUESTIONS?** Email [Jennifer.Sutton@ucf.edu](mailto:Jennifer.Sutton@ucf.edu)

For more information, and to see previous talks, visit [www.cecs.ucf.edu/faculty-research-talks](http://www.cecs.ucf.edu/faculty-research-talks)



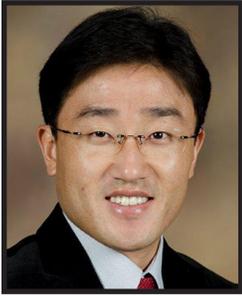
UCF

UNIVERSITY OF CENTRAL FLORIDA | ORLANDO

College of Engineering and Computer Science  
**FACULTY RESEARCH TALKS**

LISTEN. LEARN. COLLABORATE.

Zoom talk | Friday, Sept. 4, 2020 | Noon to 1 p.m.



PRESENTER 3:

**BOO HYUN NAM**

Associate Professor,  
Civil, Environmental  
and Construction  
Engineering

**Sinkhole and Subsidence: Detection, Characterization and Engineering**

In this talk, Dr. Nam will discuss his team's efforts to develop and improve engineering methods and tools for detecting and characterizing sinkholes and subsidence (natural and man-made). Particularly, the presentation will include physical and numerical modeling of sinkhole and subsidence, hydrogeological and geotechnical engineering assessment of karst sinkholes, and state-of-the-art sinkhole detection techniques and technologies (i.e. nondestructive evaluation, remote sensing and machine learning). The talk will end with potential collaboration opportunities on sinkhole science and engineering for both undergraduate research and K-12 education.

Dr. Nam received his M.S. and Ph.D. in civil engineering at The University of Texas at Austin. His research areas include sinkhole and subsidence (natural and man-made), site characterization and subsurface exploration, geomaterials and geotechnical engineering, and civil infrastructure materials. Dr. Nam serves on multiple technical committees of the ASCE Geo-Institute and the Transportation Research Board, and organization committees of The Sinkhole Conference and AEG Karst Hazards Forum. He leads Florida's Sinkhole Research Group and is involved with the ASCE-UCF student chapter, earning Faculty Advisor of the Year in 2016.



PRESENTER 4:

**PAM**

**WISNIEWSKI**

Associate Professor,  
Computer Science

**Risk and Resilience: A Teen-Centered Perspective on Teens and Technology Use**

Dr. Wisniewski's research takes a teen-centric approach to understanding adolescent online risk experiences and how teens cope with these risks, and challenges the assumptions about how to protect teens online. Parents are often not authoritative figures when it comes to the risks their teens are experiencing online, and developmental psychologists have shown that some level of autonomy and risk-seeking behaviors are a natural and necessary part of adolescent developmental growth. New approaches that empower teens by enhancing their risk-coping, resilience and self-regulatory behaviors can help them learn to more effectively protect themselves from online risks.

Dr. Wisniewski's research lies at the intersection of social computing and privacy. She is an expert in the interplay between social media, privacy, and online safety for teens. Dr. Wisniewski was one of the first researchers to recognize the need for a resilience-based approach to adolescent online safety. She has been awarded more than \$2.91 million in external grant funding, and her research has been featured by ABC, NPR, *Psychology Today*, and *U.S. News and World Report*. Dr. Wisniewski received the NSF CAREER Award for her innovative, teen-centric approach to adolescent online safety, "Safety by Design: Protecting Adolescents from Online Risks."

ZOOM LINK: <https://bit.ly/35unuVe> | QUESTIONS? Email [Jennifer.Sutton@ucf.edu](mailto:Jennifer.Sutton@ucf.edu)

For more information, and to see previous talks, visit [www.cecs.ucf.edu/faculty-research-talks](http://www.cecs.ucf.edu/faculty-research-talks)