UNIVERSITY OF CENTRAL FLORIDA | ORLANDO

College of Engineering and Computer Science

FACULTY RESEARCH TALKS

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Zoom talk | Friday, Oct. 2, 2020 | Noon to 1 p.m.

PRESENTER 1:
YAN SOLIHIN
Director, Cybersecurity and Privacy Cluster, and Professor, Computer Science

Secure Execution Environment in the Cloud

In this talk, Dr. Solihin will discuss emerging problems in the security of computing environments in the cloud. Currently, cloud users must trust software provisioned by the cloud computing providers; any breach in such software completely compromises the user's data confidentially and computation integrity. A secure execution environment (SEE) provides a hardware root of trust that removes the need to trust the cloud providers. Dr. Solihin will discuss new mechanisms to provide SEE and novel applications of SEE, such providing information authenticity, privacy preservation, and performance improvement of persistent data. He will also give a short overview of the Cybersecurity & Privacy (CyberSP) Cluster at UCF.

Dr. Solihin leads the CyberSP Cluster at UCF, an inter-disciplinary research group with nine faculty members advising 45 Ph.D. students. Prior to joining UCF in 2018, he served as program director for the National Science Foundation and as professor of electrical and computer engineering at N.C. State University. Under his leadership, in the last two years, the CyberSP cluster has tripled the number of Ph.D. students and raised more than $10 million in external funding. Dr. Solihin founded ARPERS research group with 11 current Ph.D. students, and 14 Ph.D. alumni. His research interests are in the security, persistency and performance aspects of computer architecture and systems. His research is currently funded by the NSF, ONR, Intel, and Sophos. Dr. Solihin is an IEEE Fellow, and listed in ISCA Hall of Fame and HPCA Hall of Fame.

PRESENTER 2:
QIFENG LI
Assistant Professor, Electrical and Computer Engineering, RISES Cluster

Efficient, Smart and Resilient Multi-Energy Systems

In this talk, Dr. Li will introduce his team's efforts in applying emerging optimization and machine learning technologies and nonlinear system theories to improve the efficiency, intelligence and resilience of modern multi-energy systems, such as electric power systems and energy-water nexus. In addition to providing a big picture of his research, he will discuss an NSF-funded project of microgrid stability and a DoE-funded project of resilient power distribution systems.

Dr. Li received his Ph.D. in electrical engineering from Arizona State University in 2016. Before joining UCF in 2018, he was a postdoctoral associate in the department of mechanical engineering at Massachusetts Institute of Technology. His research interests include convex optimization, nonlinear system theory, machine learning, and their applications in multi-energy systems. His ongoing research is sponsored by NSF and the DOE.

ZOOM LINK: https://bit.ly/35unuVe | QUESTIONS? Email Jennifer.Sutton@ucf.edu

For more information, and to see previous talks, visit www.cecs.ucf.edu/faculty-research-talks

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PRESENTER 3:

A. H. M. ANWAR SADMANI

Assistant Professor, Civil, Environmental and Construction Engineering

Membrane-Based Hybrid Processes for the Removal of Contaminants of Emerging Concern (CEC) from Water Matrices

Trace concentrations contaminants of "emerging" concern (CECs) occur in streams and rivers, surface water sources that are used for potable water production, wastewater treatment plant effluents and even in finished drinking waters. Recent research regarding adverse impacts of CEC exposure on nontarget aquatic and terrestrial organisms, and humans via different routes, has fueled considerable public concerns. In this talk, Dr. Sadmani will showcase membrane-based hybrid processes to eliminate CECs from various water matrices.

Dr. Sadmani received his Ph.D. in civil engineering from the University of Toronto, Canada, followed by a postdoctoral fellowship at the same institution. He received his M.S. degree from the UNESCO-IHE Institute for Water Education, Delft, the Netherlands and B.S. degree from Bangladesh University of Engineering and Technology. Dr. Sadmani's current research focuses on advanced water and wastewater treatment processes including membrane treatment of contaminants of emerging concern, membrane fouling, membrane-micropollutant interactions, low-pressure membrane pre-treatment and nanoparticle-enhanced membrane-based hybrid processes to treat and reclaim water from impaired and unconventional sources.

PRESENTER 4:

JIHUA GOU

Professor, Mechanical and Aerospace Engineering

Science and Technology of Nanocomposite Materials for Structural and Multi-Functional Applications

In this talk, Dr. Gou will discuss the carbon nanotube buckypaper and its nanocomposites for structural and multifunctional applications such as high-strength composites, flame retardant composites, lightning strike protection, strain sensing and thermal protection. He will also discuss the potential collaboration with other CECS faculty.

Dr. Gou's composites research group focuses on synthesis, processing, manufacturing and testing of composite materials for structural and multi-functional applications. He has been a PI or Co-PI for more than 25 research projects funded by government agencies and industries. He has published five book chapters, holds five patents and has more than 100 journal papers and 110 conference papers in the field of composite materials. Dr. Gou received his bachelor's degree in 1993 and his master's degree in materials engineering in 1996 from Chongqing University. He earned his Ph.D. in materials engineering from Shanghai Jiao Tong University in 1999. He also received a Ph.D. in industrial engineering from Florida State University in 2002.

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