



UCF

UNIVERSITY OF CENTRAL FLORIDA | ORLANDO

College of Engineering and Computer Science
FACULTY RESEARCH TALKS

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Zoom talk | Friday, Nov. 13, 2020 | Noon to 1 p.m.

100th speaker



PRESENTER 1:

GRIFFITH PARKS, PH.D.

Associate Dean for Research, College of Medicine

Director of Burnett School of Medical Sciences

Professor of Medicine

Update on Research and Collaborations with the College of Medicine

Research activities in the UCF College of Medicine have changed over recent years, with new programs, new faculty, growth in students and research, and in new leadership. In this talk, Dr. Parks will give an overview of the structure and growth of the College of Medicine research enterprise and of the research faculty. He will showcase some of the research happening at COM and discuss in more detail some of the collaborative projects between COM and CECS.

Dr. Parks is a virologist working on basic science questions related to the replication of human viruses, including parainfluenza viruses, bunyaviruses, Zika virus and coronavirus. In addition, his lab works on developing oncolytic viruses — recombinant viruses which selectively infect and kill tumor cells. New research projects also include studies on nanoparticles designed to kill human pathogenic viruses. Dr. Parks received his Ph.D. in biochemistry from the University of Wisconsin-Madison and was an American Cancer Society Fellow at Northwestern University. He was on the faculty at Wake Forest School of Medicine for 22 years, with nine years as professor and chair of the Department of Microbiology and Immunology. He joined UCF in 2014 as director of the Burnett School of Biomedical Sciences.

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 2:

YUANLI BAI

Associate Professor,
Mechanical and
Aerospace Engineering

Comprehensive Mechanical Testing, Modeling and Finite Element Simulations with Applications

In the fast era of emerging and important engineering materials, full mechanical characterization, multi-axial testing and accurate mechanics modeling become key steps in lightweight and safe design of vehicles. Dr. Bai's lab has developed strong testing capabilities and unique modeling methodologies in these areas, which find many applications in metal sheets and automotive industries. The similar approach is applied to the emerging additive manufacturing, battery safety of electric vehicles and new material designs.

Dr. Bai obtained his Ph.D. in mechanical engineering from Massachusetts Institute of Technology in 2008, and his B.S. and M.S. degrees from Tsinghua University in 2000 and 2003. Prior to joining UCF in 2011, he was a mechanical engineer at the General Electric Global Research Center in Niskayuna, New York. Dr. Bai leads the Lab of Solid and Structure Mechanics. He received the UCF Research Incentive Award and the Excellence in Graduate Teaching Award from CECS. Dr. Bai has graduated one M.S. student and seven Ph.D. students at UCF, and has published more than 100 papers in his field's most highly-rated journals and conference proceedings.



PRESENTER 3:

**HANSEN
MANSY**

Associate Professor,
Mechanical and
Aerospace Engineering

Biomedical Vibro-Acoustics Smart Auscultation Technologies for Medical Diagnosis and Patient Monitoring

This talk describes applications of new technologies for patient monitoring and medical diagnosis based on bio-acoustic and related signals. In this approach, we combine knowledge in novel sensor design, computerized measurements, flow induced vibrations and wave propagation, digital signal processing and machine learning to find the acoustic correlates of certain pathologies. This technology offers several potential advantages, including low cost, portability, noninvasiveness, low-skill requirements and suitability to telemedicine.

Dr. Mansy joined UCF as an associate professor in 2013 and was previously an assistant and associate professor of bioengineering at Rush Medical College in Chicago. He received his Ph.D. from Illinois Institute of technology and postdoctoral training at Rush Medical College. Dr. Mansy specializes in developing new, low-cost technologies for non-invasive medical diagnosis and patient monitoring based on audible- and sub-audible-frequency bio-acoustics. He received the Whitaker Foundation Career Award and has received uninterrupted support from the National Institutes of Health for more than 20 years.

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