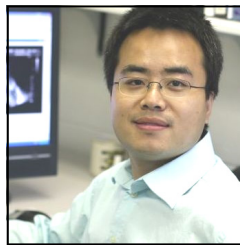# UNIVERSITY OF CENTRAL FLORIDA

CENTER FOR RESEARCH IN COMPUTER VISION

Dr. Pingkun Yan

Philips Research

"Multi-modality Image Fusion for Interventional Guidance"
Monday, September 23, 2013 · 2:00PM · HEC 101

ABSTRACT

With the guidance of 3D medical imaging, physicians nowadays are able to perform interventions like biopsy or minimal invasive treatment at locations hidden from normal visual view. However, although significant advances have been made in medical imaging technologies, each imaging modality still has its own advantages and limitations in the same time. There is often a clinical need for combining multiple imaging modalities to achieve better outcome. In this talk, we will discuss the technical challenges in multi-modality image fusion with more focus on the design of efficient and robust medical image segmentation and registration techniques. A multi-modality image fusion system for fusing real-time ultrasound and pre-procedural diagnostic CT/MR images is presented. We show the benefits of having live image fusion for guiding cancer biopsy and minimal invasive treatment, which have been proven through clinical studies.

BIOGRAPHY

Dr. Pingkun Yan is a senior clinical site scientist of Philips Research working at the National Institutes of Health (NIH). He received his Ph.D. degree in Electrical and Computer Engineering from the National University of Singapore (NUS). Dr. Yan was a research associate at the University of Central Florida (UCF) from 2005 to 2007. His research interests include Computer Vision, Machine Learning and their applications to Medical Image Analysis and Image Guided Interventions. Dr. Yan received the MICCAI 2005 Award for the best presentation on image segmentation and analysis. He is also a recipient of Innovation in Industry Award 2008 Finalist, New York Academy of Sciences, for breakthrough technologies to overcome image guidance limitations for prostate cancer diagnosis and therapy. He is a senior member of IEEE.