THE UNIVERSITY OF ARIZONA
COLLEGE OF ENGINEERING
Biomedical Engineering

DEPARTMENT OF BIOMEDICAL ENGINEERING SEMINAR SERIES

PRESENTS

Srinivasan Vedantham, PhD, DABR, FAAPM

Professor, Department of Medical Imaging (DMI)
Associate Director, Biomedical Imaging Innovation/Clinical translation – Next-Gen CT
Director, Office for Project Statistical and Design Support – DMI
University of Arizona

"Beyond Tomosynthesis: Advancing Fully 3D, Quantitative, Breast Cancer X-ray Imaging"

BIO: Srinivasan Vedantham is a Professor in the Department of Medical Imaging. He joined the University of Arizona after serving as a faculty at the University of Massachusetts Medical School and prior to that at Emory University. He received his PhD in Biomedical Engineering from Worcester Polytechnic University. He is a board-certified diagnostic medical physicist and a Fellow of the American Association of Physicists in Medicine. His research interests are in the design, development and clinical translation of novel x-ray imaging systems and imaging techniques with particular focus on oncological and interventional imaging. He along with his collaborators and colleagues have made major contributions to breast cancer imaging including small-field digital mammography for stereotactic core-biopsies, full-field digital mammography and digital breast tomosynthesis. Currently, he is working on developing and clinically translating advanced tomographic techniques and systems for breast cancer imaging.

ABSTRACT: Mammography screening in conjunction with advances in breast cancer treatment has demonstrated mortality reduction. However, tissue superposition from 2D mammography contributes to false-positive exams and missed cancers. Also, the sensitivity of mammography is dependent on breast density. Digital breast tomosynthesis was developed to partially alleviate the tissue superposition problem. While it has shown clinical benefits, it suffers from several artifacts due to limited-angle tomography. Dedicated breast computed tomography (CT) is a fully 3D, tomographic, x-ray imaging technique. Design, development and clinical translation of high-resolution breast CT operating at radiation dose levels comparable to mammography is being actively investigated to provide a platform for multiple imaging needs from breast cancer screening through monitoring treatment response. These ongoing developments can potentially transform clinical practice by enabling fully 3D quantitative imaging and without physical compression of the breast.

Please join us on

Monday, September 16th, 2019

12:00-12:50 pm, Keating Bldg., Room 103

Refreshments will be available at 11:50 am

Host: Drs. DK Kang and Minkyu Kim

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