

UCR Department of Bioengineering Presents Colloquium Speaker

Liangzhong (Shawn) Xiang, PhD

Departments of Radiology and Biomedical Engineering

University of California, Irvine

Theranostics with Radiation-induced Ultrasound Emission (TRUE)

We explore new ways to generate ultrasound for imaging. Specifically, we use various radiations (X-ray, laser, and electrical field) to produce ultrasound waves for image-guided interventions. This talk will cover three primary research areas: 1) X-ray-induced acoustic computed tomography (XACT) for radiotherapy and radiological imaging; 2) electroacoustic tomography (EAT) for irreversible electroporation (IRE); and 3) photoacoustic imaging (PAI) for laser therapy. Prospects and challenges for the clinical implementation of these techniques will be discussed. The successful development of these technologies will expand the current clinical paradigm towards precision medicine.

Bio: Liangzhong (Shawn) Xiang is a tenured associate professor with joint appointments in the Departments of Biomedical Engineering and Radiology, and Faculty Innovation Fellow at University of California, Irvine (UCI). He is also a core faculty member in Beckman Laser Institute and Medical Clinic, and Chao Family Comprehensive Cancer Center at UCI. Dr. Xiang's lab focuses on biomedical imaging and image-guided treatment. Before joining UCI, he was awarded the *Lloyd G. and Joyce Austin* Presidential Professorship at The University of Oklahoma (OU). Prior to OU, he completed his postdoctoral fellowship training in medical physics at Stanford Medical School where he was awarded the DoD Prostate Cancer Postdoctoral Fellowship.



Dr. Xiang is the recipient of the NIH MERIT Award (R37), and Research Scholar from the American Cancer Society. Dr. Xiang has served as conference chairs for the 2019 AAPM annual meeting and 2018 CIOP. He served as an SPIE Student Chapter advisor, editorial board members of numerous international journals, and grant reviewer for the NIH, Department of Energy (DOE), Russian Science Foundation (RSF), Helmholtz Association of German Research Centre, and ETH Zurich.

Wednesday, April 7, 2021 at 11 AM

<https://ucr.zoom.us/j/91512204017?pwd=Z0xGYnpFb2dwckQvdXZHWE5PaXdJdz09>