Seminar

Department of Biomedical Engineering
香港城市大學
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Can We Do That with Ultrasound?

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Date: 20 September 2023 (Wednesday)
Time: 2:30 p.m.
Venue: B6605 College Conference Room, Blue Zone, 6/F, YEUNG

Abstract

Ultrasound is undoubtedly popular as a medical physics modality in today's clinical practice. Overall, we are blessed with ultrasound's versatile applicability in biomedicine. However, as of the present day, we are still scratching the surface in unleashing the vast potential of ultrasound. Can we intuitively track complex flow with ultrasound? Can we use ultrasound to derive biomarkers of atherosclerosis and stroke risk? Much remains to be established. This seminar will introduce our research lab's ongoing quest to devise next-generation ultrasound imaging innovations to address unmet healthcare needs in today's aging society. We shall particularly highlight our advances in ultrasound vector flow imaging technology with >1000 fps frame rates. We will also discuss the design of a new quantitative imaging framework for wall shear stress mapping. Related engineering science principles and clinical translation studies will be presented throughout the seminar.

Biography

Alfred Yu is Assistant Vice-President (Research & International) and Professor (BME, ECE) at the University of Waterloo. He leads the NSERC Collaborative Research Training Program on "Next-Generation Innovations in Ultrasonics" in Canada. Alfred has a long-standing research interest in ultrasound imaging and therapeutics. He is a Fellow of AIUM and EIC. He is the recipient of a number of prestigious prizes, including the NSERC Steacie Memorial Fellowship, the ISTU Frederic Lizzi Award, the IEEE Ultrasonics Early Career Investigator Award, the Ontario Early Researcher Award, and various best paper awards. He is now the Editor-in-Chief of the IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, the Program Chair of 2023 IEEE Ultrasonics Symposium, and a Community Leader of the AIUM Basic Science and Instrumentation Group.

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