DEPARTMENT OF BIOMEDICAL ENGINEERING SEMINAR SERIES
PRESENTS

Jaya Chidambaram, PhD

Ophthalmologist and Senior Lecturer at the University of Manchester
Associate Medical Director, Roche Genentech

"More than meets the eye...predicting life and death of cells using the in vivo confocal microscopy in the living eye"

BIO: Dr. Jaya Chidambaram is an Ophthalmologist and a Senior Lecturer at the University of Manchester in the UK. She gained her BSc (Hons) in Neurosciences and her medical degree (MBBS) from Guy's, Kings & St. Thomas's Medical School in London, UK. She was awarded her PhD in the early diagnosis and treatment of infection in the eye from the London School of Hygiene and Tropical Medicine, which included image analysis of confocal microscopy images as well as transcriptomics to assess the human immune response to infections in the eye. Her recent research at the University of Manchester has included development of novel confocal microscopy techniques to image the living eye in patients, as well as development of new anti-fungal drug treatments and point of care diagnostic tests for fungi. She has recently joined Roche Genentech as an Associate Medical Director working on drug development for eye diseases affecting the retina, such as age-related macular degeneration and diabetic eye disease.

ABSTRACT: Infections of the front of the eye, the cornea, are major causes of blindness worldwide. More serious causes of ulceration of the cornea, such as fungi or acanthamoeba parasites, can be difficult to detect early due to limitations in our ability to grow these organisms in culture from very small samples from the surface of the eye. As such these ulcers often heal poorly, with extensive tissue damage, resulting in the need for corneal transplant surgery. Through the use of imaging techniques such as in vivo confocal microscopy, we are able to rapidly and accurately detect fungi and acanthamoeba within the patient's cornea, allowing the clinician to start the correct treatment early on. In this talk, I will give the audience an overview of the extent of this disease worldwide, how the cornea is affected at the cellular level, and a whistlestop tour of the features of the cornea seen using IVCM that allow us to predict life and death of these cells, i.e. imaging biomarkers that might aid in prediction of whether or not patients are responding to treatment.

Please join us on

Monday, October 7th, 2019
12:00-12:50 pm, Keating Bldg., Room 103
Refreshments will be available at 11:50 am
Host: Dr. DK Kang
dkkang@email.arizona.edu

Persons with a disability may request a reasonable accommodation by contacting the Disability Resource Center at 621-3268 (V/TTY).