BME SEMINAR SERIES

Please join us as Dr. Sam Sia presents:
Microfluidics for 3D Tissue Engineering and Personal Health Diagnostics

When: MARCH 14 @ 4 PM
Where: JOSE MILTON LEADERSHIP HALL, MCARTHUR ENGINEERING ANNEX, ROOM 202

Light refreshments will be provided

Bio:

Samuel Sia, a Professor of Biomedical Engineering at Columbia University, has developed novel technologies for microfluidics-based methods for point-of-care diagnostics, both in an academic and industry setting (as a founder and chair of scientific advisory board of Claros Diagnostics, a startup company that has recently garnered European regulatory approval for a diagnostics product). Dr. Sia’s work in global health diagnostics, specifically, has garnered coverage from Nature, Science, JAMA, Washington Post, BBC, NPR, Voice of America, Science News, Popular Science, Chemical and Engineering News, and MIT Technology Review. Sia is using the powerful techniques of microfluidics to build low-cost handheld devices for performing sophisticated medical tests on a small microchip. His lab-on-a-chip device has been tested in Rwanda to collect and analyze blood tests at a patient’s bedside to diagnose infectious diseases. Dr. Sia has a B.Sc. in Biochemistry from the University of Alberta, and a PhD in Biophysics from Harvard University. Dr. Sia completed a Postdoctoral program in Chemistry and Chemical Biology at Harvard University.

Abstract:

Dr. Sia will discuss the use of microfluidic techniques for two different applications: controlling 3D microenvironments of cells and tissues, and for developing low-cost point-of-care diagnostics for use in US and in developing countries. A number of microfluidic techniques have been developed in his group for controlling the 3D microenvironments of cells and tissues to high resolution. These techniques are useful for studying microvascularization in a number of organ systems, and for engineering implantable devices.

In the second half of the talk, he will discuss the development of lab-on-a-chip devices for personal health in the US, and for diagnosing diseases for global health. He will discuss his lab’s current efforts, in conjunction with partners in industry, public health, and local governments, to develop new rapid diagnostic tests for use in sub-Saharan Africa.