GRADUATE STUDENT RESEARCH SEMINAR SERIES (2019)

A METHOD TO RAPIDLY CHARACTERIZE NUMEROUS SINGLE CELLS SIMULTANEOUSLY IN ORDER TO ESTIMATE THE DIELECTRIC PROPERTIES OF THE CELL WALL, CELL MEMBRANE, AND CYTOPLASM FOR A GIVEN CELL POPULATION

SPEAKER: DEVIN KECK

Dielectrophoresis (DEP) is an established technique to separate cells through exploiting the interaction of targeted cells with a non-uniform electric field. The strength and direction of the DEP force on a targeted cell is dependent on the frequency of the applied electric field as well as the dielectric properties of the cell and suspending media. The aim of this work is to show how light induced dielectrophoresis (Li-DEP) can be used to rapidly characterize the DEP response of numerous single cells in a population and how these results can be used to estimate the dielectric properties of the cell wall, cell membrane, and cytoplasm.

MONDAY, NOVEMBER 11 3:00 PM

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