DEPARTMENT OF BIOMEDICAL ENGINEERING

2020 – 2021 Seminar Series

Heart valve mechanobiology: implications for HV disease and treatment



Heart valve interstitial cells live in a highly dynamic heterogeneous environment. Yet to date, much of what has been learned about mammalian cell function has been gleaned from in vitro studies of cells cultured on stiff glass or plastic substrates. Based upon the relatively recent realization that cells are acutely sensitive to mechanical cues, many researchers have adopted model systems with tunable, dynamic mechanical environments, and the field of mechanobiology has rapidly emerged. This seminar will focus on studies in our laboratory which highlight novel experimental and computational approaches for investigating how mechanical cues regulate heart valve cell behavior, with implications for calcific heart valve disease and tissue engineering of heart valve substitutes.

Kristen Billiar Department Head & Professor Department of Biomedical Engineering Worcester Polytechnic Institute Worcester, MA

Wednesday, January 27th @ 11:45AM





Stony Brook University

Faculty Host: Yi-Xian Qin