WELDON SCHOOL OF BIOMEDICAL ENGINEERING

PURDUE UNIVERSITY

Wednesday, October 11, 2023
9:30 – 10:20am, MJIS 1001 or via zoom
Students registered for the seminar are expected to attend in-person.

https://purdue-edu.zoom.us/j/5593290378?pwd=eFBOZFlNTU50ZDA2S2gwcnpyOWIwUT09

"Advanced analytical methods for assessing the bioactivity of regenerative medicine cellular products"

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Abstract: Multipotent stromal cells (MSCs) have become popular sources for manufacturing regenerative medicine cellular products due to their ability to undergo lineage-specific differentiation. MSCs, on the other hand, are heterogeneous and responsive to their surroundings, resulting in distinct subpopulations of cells with potentially different properties required for product functional bioactivity. Because there are numerous biochemical and biomechanical factors that influence MSC function, developing reliable high-throughput assays that allow for the efficient exploration of large and complex parameters for evaluating cellular function is critical. Microphysiological systems offer a viable solution to this unmet need. This presentation will provide an overview of regenerative medicine cellular product regulation as well as easy-to-use, microscale technologies that improve throughput, relevance, and reliability. How such technologies could be used to evaluate the efficacy of regenerative medicine cellular products will also be discussed.

***Biography*:** Dr. Kyung Sung is the Chief of the Cellular and Tissue Therapies Branch in the Office of Cellular Therapy and Human Tissue at the Center for Biologics Evaluation and Research, U.S. Food and Drug Administration. In addition to overseeing regulatory science research programs, she is responsible for overseeing the regulatory review process for cell and tissue therapeutic products and medical devices. Her research team studies the effects of interactions between living cells and biomaterials by developing novel quantitative assays using a variety of biomedical engineering tools. The overarching goal is to understand how these interactions affect the production and characterization of regenerative medicine cellular products. She earned her Ph.D. in Chemical Engineering from the University of Michigan, Ann Arbor, and completed her postdoctoral training at the University of Wisconsin, Madison. Before joining the FDA in 2015, she had experience working as a patent examiner in Biotechnology at the US Patent and Trademark Office.

~ BME Host: Young Kim ~