지역혁신 선도연구센터(RLRC) 4차년도 세미나

❍ **일정** : 2023년 10월 24일(화), 17:00~18:00

❍ **연사** : UIUC 공현준 교수

❍ **주제** : Fighting Against Cellular Aging for Sustained Biologics Manufacturing

❍ **Abstract** :

Cell-derived biologics such as growth factors, cytokines, and extracellular vesicles (EVs) have been studied as a new generation of therapeutics. In particular, mesenchymal stem cells derived from bone marrow and adipose tissue have been extensively studied as sources of these biologics; however, *in vitro* culture often leads to changes in the cellular secretome. Such heterogeneity is further exacerbated by cellular senescence, which is heavily influenced by the oxidative state of the cell. To resolve this challenge, we have been developing toolsets that reverse reactive oxygen species-induced senescent cells to normal conditions and further stimulate secretion activities of desired biologics. This talk will highlight **m**icromaterial **a**ssembly for **s**enescence **c**ontrol (MASC) and further demonstrate the efficacy of resulting biologics to repair defective tissues and assemble microphysiological systems and brain computers.

❍**Biography** Hyunjoon Kong is a Robert W. Schafer professor in the Department of Chemical and Biomolecular Engineering, Carle Illinois College of Medicine, and Pathobiology at the University of Illinois at Urbana-Champaign (UIUC). He received his engineering education from the University of Michigan at Ann Arbor (Ph. D.) and performed post-doctoral research at the University of Michigan and Harvard University. He joined the University of Illinois in 2007. He received the NSF Career Award, the Center for Advanced Study Fellowship, UIUC Engineering Dean's Award for Research Excellence, Centennial Scholar, and Promotion Award. He was elected an American Institute of Medical and Biological Engineering (AIMBE) Fellow. To date, he has published 187 papers in various peer-reviewed journals. He is currently leading a multi-cellular engineered living systems (MCELS) theme in the Institute for Genomic Biology of UIUC. He also serves as an editorial board member of Biomaterials and Biofabrication journals and an associate editor of Biomaterials Research.