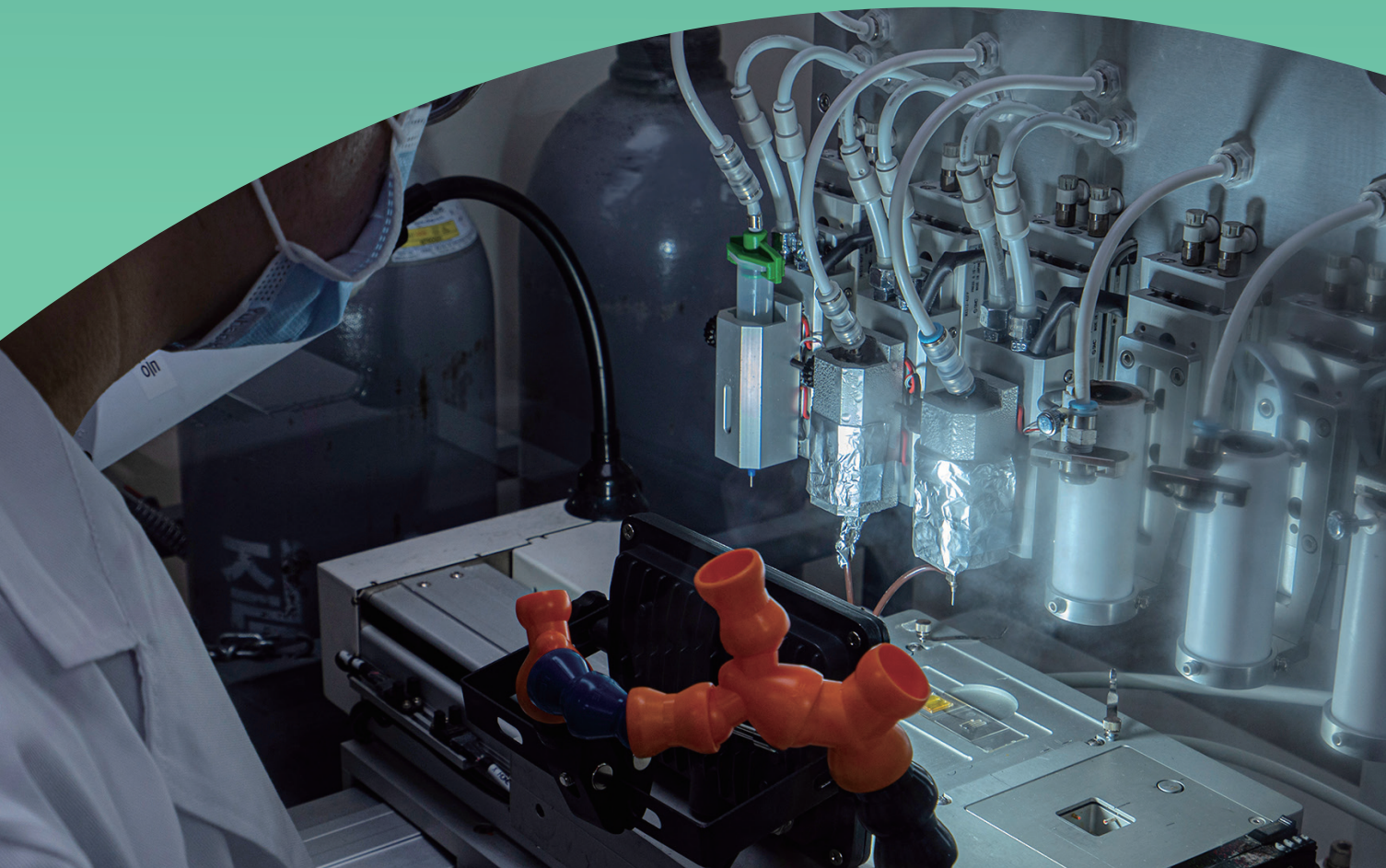


Spatio-temporal presentation of physical and biological cues in biofabricated constructs

2024. 7. 15. MONDAY 10:00
생명공학연구센터 1층 182호 공용 대강당

Abstract

3D Bioprinting requires specialized bioinks that is able to be printed but also protect the cells during the printing process. These bioinks are often biomaterials with specific rheological properties that allows spatial extrusion in a layer-by-layer manner, but also being cyto-compatible to support cellular viability and function. This lecture will cover the different design criteria required for bioinks, as well as the variety of materials being employed to manufacture these bioinks. Specific focus will be placed on the various chemistries used to synthesize polymers, photo-initiating systems to crosslink the polymers, as well as strategies to maintain bioprinted constructs' stability. Moreover, the ability of these chemistries to also provide spatio-temporal presentation of physical and biological cues to direct cell function will be explored.



Associate Professor
Khoon Lim

Biography

Associate Professor Khoon Lim is currently an Australian Research Council Future Fellow and the Director of the Light Activated Biomaterials research group at the University of Sydney, Australia.

He has generated >100 high impact journal publications (Chemical Reviews, Advanced Materials, Advanced Functional Materials), and raised a total of >\$7.8 Million research grant funding with \$5.4 Million as lead Chief-Investigator.

He is currently the President of the Australasian Society for Biomaterials and Tissue Engineering, Board of Directors of the International Society for Biofabrication, and Executive Board Member of the Medical Technologies Translator Programme (New Zealand).

He has won >20 competitive national/international awards and included in the World's Top 2% Scientist List by Stanford University for 2022 and 2023. His research has also led to commercialisation of biomaterials licensed to a US-based company and commercial contracts with industry partners.

He currently sits on the editorial board of Biomaterials Science, Tissue Engineering, Biofabrication, International Journal of Bioprinting, Macromolecular Bioscience, Biomedical Physics & Engineering Express and Journal of Materials Science: Materials in Medicine.