

Bioprinting Strategies to Address Critical Barriers in Tissue Engineering and Regenerative Medicine

Dr. Wei Zhu

Chief Technology Officer (CTO) of CELLINK



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Time: 10:00 am

Venue: YEUNG-Y5305, 5/F
Yeung Kin Man Academic Building

Abstract

Bioprinting has emerged as a transformative technology at the intersection of biology and engineering, offering new solutions to longstanding challenges in tissue engineering and regenerative medicine. In this talk, he will highlight strategies enabled by different bioprinting modalities from extrusion to light-based and high-throughput systems and showcase recent progress in fabricating complex tissue models and functional constructs.

Beyond tissue engineering, he will discuss how bioprinting is driving advances across diverse areas of medicine and healthcare, including drug discovery, personalized medicine, and biosensor development. Importantly, bioprinting provides an ethical path forward, supporting the global momentum to reduce reliance on animal testing while improving human-relevant models.

By converging cutting-edge engineering with biological insight, bioprinting has the potential not only to accelerate discovery but also to reshape the future of healthcare. This presentation will share recent discoveries, practical strategies, and an outlook on how bioprinting can empower researchers to overcome critical barriers and achieve breakthroughs in science and medicine.

Biography

Dr. Wei Zhu is the Chief Technology Officer (CTO) of CELLINK, a global leader in 3D bioprinting technologies within the BICO Group. He is recognized as a pioneer in digital light processing (DLP)-based 3D printing and bioprinting, with several landmark contributions to the field.

Dr. Zhu earned his bachelor's degree from Zhejiang University, China, and his Ph.D. from the University of California, San Diego, under Professor Shaochen Chen. He introduced Dynamic Optical Projection Stereolithography (Advanced Materials, 2012, >410 citations), the first dynamic and continuous 3D printing method for hydrogels.

Dr. Zhu co-developed a direct in-well, high-throughput bioprinting platform (Biofabrication, 2020), which has been commercialized as the BIONOVA X, now CELLINK's flagship light-based bioprinter, widely adopted by research institutes, biotech and pharmaceutical companies.

At CELLINK, Dr. Zhu leads global R&D, advancing technologies that empower researchers in regenerative medicine, cancer, organoids, and drug discovery.