

Title: Advances in High-Resolution 3D Modeling with Structured Light

Presenter: Jae-Sang Hyun

Affiliation: Department of Mechanical Engineering, Yonsei University

Abstract: Structured light illumination is widely utilized in fields such as medicine, manufacturing, and entertainment for 3D reconstruction. It offers advantages over other active illumination methods, particularly in capturing high-resolution geometry of objects with precision.

This presentation will discuss the development of algorithms that improve phase map quality in 3D reconstruction and introduce a new approach to acquiring 3D models through mechanical means. These advancements provide a foundation for further research and application in high-accuracy 3D modeling, showcasing the potential of structured light in various industrial applications.

Attendees will explore recent algorithmic improvements and mechanical techniques in structured light applications, understanding their impact on the accuracy and resolution of 3D modeling.

Bio



Jae-Sang Hyun is an assistant professor in the school of mechanical engineering at Yonsei University. He was a research scientist at ORBBEC 3D Technology in the U.S. and led the projects related to the structured light 3D scanning system. He received Ph.D. in the School of Mechanical Engineering at Purdue University in 2020 and B.S. at Yonsei University (South Korea) in 2015. The main focus of his research includes high-speed optical sensing to measure fast moving objects in 3-D and SLAM (Simultaneous Localization and Mapping) with 3D sensing technologies.