

Hyperspectral Information Processing and Dimensionality Reduction

M-G SUH¹

¹*PHI Lab, NTT Research, Sunnyvale, CA, USA*

Contact Email: myoung-gyun.suh@ntt-research.com

In this talk, I will present our latest research on hyperspectral information processing using optical frequency combs, with applications spanning artificial intelligence (AI) hardware acceleration and AI-assisted biomedical imaging. By fully utilizing the optical parallelism of both frequency and two-dimensional spatial domains, we demonstrate new capabilities for data-intensive tasks. In such hyperspectral information processing systems, dimensionality reduction in both data and hardware is crucial to minimizing the burden associated with the massive volume of hyperspectral information.