Double-layer disordered metasurfaces for predictable spatial-spectral mixing

Mooseok Jang[1*]
[1]*Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology (KAIST); Daejeon, 34141, South Korea.*
**E-mail: mooseok@kaist.ac.kr*

This talk will explore ways to predictably mix and demix optical information in a random fashion. I will introduce a random dispersive element—a double-layer disordered metasurface—that predictably mixes optical information in the spatial-spectral domain. As an application example, I will present a proof-of-concept for an on-sensor spectrometer based on a demixing process using computer-generated speckle libraries, along with examples of hyperspectral imaging and holographic microscopy.