



THE UNIVERSITY OF ARIZONA

Wyant College
of Optical Sciences

INDUSTRIAL AFFILIATES WORKSHOP

FACULTY SPEAKER PROFILE



AMIT ASHOK, ASSOCIATE PROFESSOR OF OPTICAL SCIENCES

Wyant College of Optical Sciences
Advisor: Tsu-Te Judith Su

Tuesday, February 15, 2022 | 2:17 p.m.

Title: "Quantum-inspired Optical Super-resolution Imaging"

Abstract: Traditionally, the resolving power of passive optical imaging systems is understood to be determined by the Rayleigh resolution limit. However, a rigorous analysis of the two-point resolution problem, using Quantum information theory, has demonstrated that the Rayleigh limit is not fundamental. In this talk, I will discuss our work on pursuing a broader understanding and analysis of the quantum limits of passive optical imaging in the sub-Rayleigh domain (i.e., optical super-resolution) for complex scenes (such as point source constellations, continuous line sources etc.).

Bio: Dr. Amit Ashok is an Associate Professor in the College of Optical Sciences and the Department of Electrical and Computer Engineering at the University of Arizona. His research interests include computational/compressive imaging and sensing, Bayesian inference, statistical optics, and information theory and its applications to imaging modalities spanning RF to EO/IR and X-ray domains.



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