

Quantum Meta-Photonics

V SHALAEV^{1,2}

¹*School of Electrical and Computer Engineering, Birck Nanotechnology Center and Purdue Quantum Science and Engineering Institute, Purdue University, West Lafayette IN, USA*

²*Quantum Science Center (QSC), National Quantum Information Science Research Center of the U.S. Department of Energy (DOE), Oak Ridge TN, USA*

Contact Email: shalaev@purdue.edu

We discuss important challenges in the emerging quantum technology and possible means to address them with ultrafast plasmonic metamaterials, scalable photonic material platforms and advanced machine-learning designs.