



## All-Dielectric Terahertz Metasurfaces and Meta-Devices

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Recent advances in plasmonics and metamaterials have opened up a pathway toward integrated functional terahertz devices. Composite materials comprised of subwavelength-sized resonators arranged in a periodic array may be designed to interact with the terahertz field of propagating or surface waves in ways not observed in natural materials. However, meta-systems made from thin metallic films are subject to strong ohmic losses inherently decreasing the efficiency. We study all-dielectric metasurfaces using the state-of-the-art terahertz time-domain spectroscopy and terahertz near-field spectroscopy in both free space and near-field with an ultimate goal of developing high-efficiency next-generation integrated devices and components functioning at terahertz frequencies.

### SHORT BIO:

Weili Zhang joined the faculty of Tianjin University in 1992 and Oklahoma State University in 2002. He is currently professor of Electrical Engineering at Oklahoma State University and visiting professor of the Center for Terahertz Waves at Tianjin University. His research interests include terahertz optoelectronics, nano- and micro-structured materials optics, and ultrafast phenomena. He serves as Associate Editor of *Photonix*, Topical Editor of *Chinese Optics Letters*, and Editorial Board Member of a number of peer-reviewed journals. He is a Fellow of the Optical Society (OSA).