

Nanowire Photonics: From High Efficiency Micro-LEDs to Stable Solar Fuel Production

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Abstract— I will present some recent advances of nanowire photonics, including the realization of high efficiency micrometer scale LEDs that are critical for VR/AR applications and the achievement of stable hydrogen fuel production through solar-powered artificial photosynthesis.

Zetian Mi is a Professor in the Department of Electrical Engineering and Computer Science at the University of Michigan, Ann Arbor. His teaching and research interests are in the areas of low dimensional semiconductors and their applications in photonic, electronic, clean energy, and quantum devices and systems. Prof. Mi has received the Science and Engineering Award from W. M. Keck Foundation in 2020 the David E. Liddle Research Excellence Award in 2021, the Young Scientist Award from the International Symposium on Compound Semiconductors in 2015, the IEEE Photonics Society Distinguished Lecturer Award, in 2020 and the IEEE Nanotechnology Council Distinguished Lecturer Award in 2023. Prof. Mi currently serves as the Editor-in-Chief of Progress in Quantum Electronics the Serial Editor of Semiconductors and Semimetals, and Vice President for Conferences of IEEE Photonics Society. Prof. Mi is a fellow of IEEE, APS, SPIE and Optica.

