



Presenter

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### Abstract

**Title:** *Slow Wave Structures in Micro and Nano Photonics*

The reduction of the velocity of light in slow-wave structures is a phenomenon of fundamental interest in micro and nano-photonics. Practically, slow-wave structures are used in traveling wave amplifiers, delay lines, linear accelerators, free electron lasers, photonic crystals, and the distributed feedback structure for optical filters and lasers. The slow-wave (tight-binding) model is also the only established physical waveguiding mechanism at the sub-wavelength (nanophotonic) scale.

This talk discusses our recent work on optical slow-wave structures and investigating just how slow light can be in a practical slow-wave structure, which has some disorder or roughness.

S. Mookherjea and A. Oh, "Effect of disorder on slow light velocity in optical slow-wave structures", *Optics Letters*, Vol. 32, pp. 289-291 (2007).

### Biography

**DR. MOOKHERJEA** is an Assistant Professor in the Electrical and Computer Engineering department at UCSD. He received the BS degree with honors in Electrical Engineering from Caltech (1999), the SM degree from MIT (2000) and the Ph.D. from Caltech (2003), where for his thesis research in the group of Amnon Yariv, he was awarded the Charles Wilts prize. At UCSD, he was appointed as Chris and Warren Hellman Faculty Fellow (2004-2005) and received the NSF CAREER award (2007-2012).

Dr. Mookherjea leads the Micro/Nano-Photonic Group (<http://mnp.ucsd.edu>) whose research topics include the design, fabrication and testing of optical resonator based devices for sensors, signal processing, laser amplifiers, wavelength conversion & switching, and optical delay lines.