



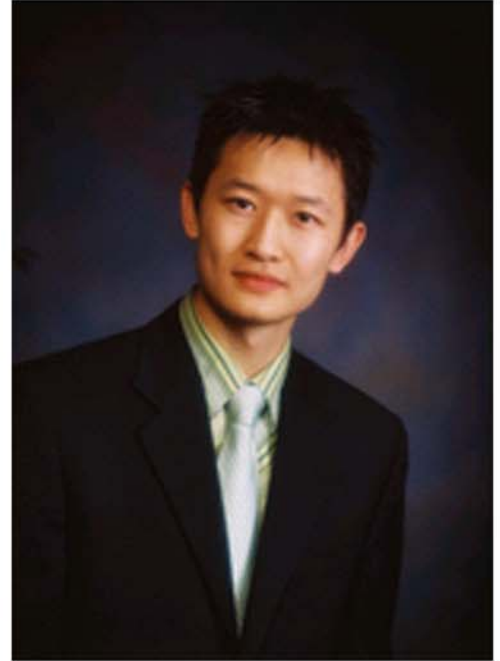
IEEE Okanagan Subsection

Presents

Dr. Kenneth Chau

Presenting his research on

Negative Light Pressure on a Left-Handed Metamaterial



Date: Monday, May 31, 2010

Time: 4:30 PM - 5:30 PM

Place: UBC Okanagan, Room SCI 337

Talk Abstract: Four decades ago, V. Veselago studied the electromagnetic properties of a hypothetical medium having simultaneously negative values of the permittivity and permeability. Such a material, called "left-handed", was predicted to show a negative index of refraction, in addition to a number of other counter-intuitive electromagnetic properties.

This talk shows how surface plasmon modes propagating in a stacked array of metal-insulator-metal (MIM) waveguides can be used to yield a volumetric left-handed metamaterial characterized by an in-plane isotropic negative index of refraction over a frequency range spanning the green and blue. We predict and experimentally verify a negative super-pressure of magnitude greater than the largest photon pressure achievable under normal circumstances - that experienced by a perfect mirror.

Speaker Biography: Dr. Kenneth Chau is an assistant professor at the School of Engineering at UBC Okanagan. Dr. Chau completed his PhD at the University of Alberta in the field of ultra-fast photonics. Dr. Chau has won highly acclaimed awards for his research contributions including the 2009 Howard Alper Postdoctoral Prize, the 2007 DJ Lovell Scholarship, and the 2007 Optical Society of America/New Focus Bookham Award Grand Prize Winner.