The Western New York chapter of the IEEE Geoscience and Remote Sensing Society presents a technical seminar

Terapixel Imaging

Prof. David Brady
Duke University

Wednesday, January 19, 2011
Refreshments and networking at 3:30 pm
Seminar Presentation at 4 pm

Carlson Auditorium (Room 1125)
Chester F. Carlson Center for Imaging Science (Building 76)
Rochester Institute of Technology

Abstract

Just as one builds supercomputers from massively parallel microprocessor arrays, the emerging methodology of multiscale design builds "supercameras" from microcamera arrays. Microcameras with 1-10 mm apertures may capture 1-10 megapixel images with system costs below 100 nanodollars and power utilization below 100 nanowatts per pixel. Microcamera arrays with monocentric lenses or holographic apertures enable gigapixel and even terapixel image capture with 1-10 microrad ifov over a wide field of view. This talk discusses microcamera design and fabrication efforts under the DARPA MOSAIC program and presents preliminary results from high pixel count incoherent and coherent imaging systems.

Biography

David Brady is the Michael J. Fitzpatrick Professor of Photonics at Duke University, where he leads the Duke Imaging and Spectroscopy Program. Brady's contributions to computational imaging system development include lensless white light imaging, optical projection tomography, compressive holography, reference structure tomography and coded aperture snapshot spectral imaging. He is currently the principal investigator for the DARPA Multiscale Optical Sensor Array Imaging Camera (MOSAIC) project, which aims to build compact streaming gigapixel scale imagers. He is the author of Optical Imaging and Spectroscopy (Wiley, 2009) and is a Fellow of IEEE, SPIE and OSA.

This talk is being held in conjunction with the Chester F. Carlson Center for Imaging Science Weekly Seminar Series.

This meeting is free and open to the public. No reservations required.