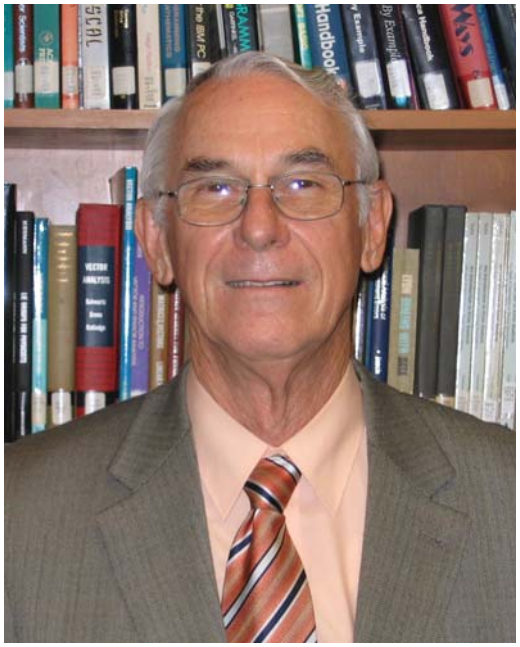
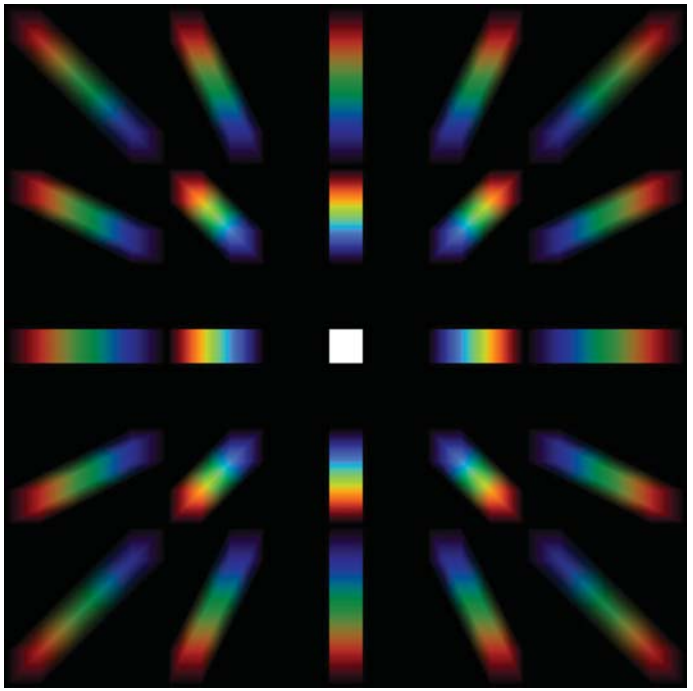
The Institute of OPTICS

Colloquium

UNIVERSITY OF ROCHESTER

Imaging Spectrometer and Polarimeter Instruments





Prof Eustace Dereniak
U. of Arizona
Chair-Elect SPIE

PhD in Optical Sciences, Arizona
Professor Optical Sciences and ECE

3:30 pm, Tuesday, Mar 29, 2011
Sloan Auditorium, Goergen 101
Refreshments provided.

This presentation will discuss the development of spectro-polarimeter imagers using new optical designs based on old ideas.

HAJIM SCHOOL OF ENGINEERING & APPLIED SCIENCES

Cosponsored by SPIE Student Chapter

Imaging Spectrometer and Polarimeter Instruments

Professor Eustace Dereniak
University of Arizona

Abstract

The use of two dimensional arrays has enabled the development of novel imaging spectrometers and polarimeters. This presentation will discuss the development of spectro-polarimeter imagers using new optical designs based on old ideas. The presentation contains an overview of the various types of imaging sensors that have been developed at the Optical Detection Lab of the University of Arizona. The goal of our research is to develop instruments capable of discriminating objects through a turbid media, e.g., fog, dust, smoke, etc. Additionally, instruments of this type will be capable of spectrally monitoring chemical or biological processes in real time.

Biography

Eustace L. Dereniak is a Professor of Optical Sciences and Electrical and Computer Engineering at the University of Arizona, Tucson, AZ and is the current President Elect of SPIE. He is a co-author of several textbooks including *Optical Radiation Detectors* and *Infrared Detectors and Systems*, published by Wiley-Interscience, and *Geometrical and Trigonometric Optics*, published by Cambridge Press. He has written chapters in *Imaging in Medicine*, edited by S. Nudelman and D. Patton, related to research and development using thermograph instrumentation for the early detection of breast cancer. His publications also include over 100 authored or co-authored refereed articles. He is a Fellow of SPIE and OSA. He received a BS in Electrical Engineering at Michigan Technological University, an MS in Electrical Engineering from University of Michigan and a PhD in Optical Sciences from the University of Arizona.