



2007 - 2008



**MATHEMATICS COLLOQUIUM SERIES
UNIVERSITY OF CENTRAL FLORIDA**

**Dr. Olga Korotkova
Physics Department
University of Miami**

will speak on

**Interaction of Stochastic Electromagnetic Fields
with Random Media: Theory and Applications**

ABSTRACT: We will discuss recent advances in the theory of stochastic, stationary fields, i.e. fields with arbitrary spectral, coherence and polarization properties, using formalism of cross-spectral density tensors. In particular, statistical properties of scalar (1D), beam-like (2D) and general (3D) stochastic fields will be of interest. New approaches for propagation in linear media, transmission through linear non-image forming optical devices and scattering from weakly fluctuating media (of deterministic or random nature) of stochastic fields will be described. As an example, an application of beam-like (2D) stochastic fields with adjustable coherence and polarization for communications through the atmosphere will be considered.

DATE: Thursday, February 7, 2008
TIME: 10:30 – 11:30am
PLACE: MAP 318

Refreshments will be served