



2008 - 2009



**MATHEMATICS COLLOQUIUM SERIES
UNIVERSITY OF CENTRAL FLORIDA**

**Dr. Wai-Shing Tang
Professor of Mathematics
National University of Singapore**

will speak on

Multiresolution Analysis, Wavelets and Refinable Functions: A Personal Perspective

ABSTRACT: In this talk, we will first review the concept of a multiresolution analysis (MRA) of $L^2(\mathbb{R})$, as introduced by Meyer and Mallat in the mid 1980's, and show how an orthonormal wavelet can be obtained from an MRA. Next, we will describe a connection between the existence of wavelets and Robertson's result on wandering subspaces for unitary operators on Hilbert spaces, and explain some results of the speaker and his collaborators (T. N. T. Goodman and S. L. Lee, D. Larson and E. Weber) on this approach. Finally if time permits, we will give a summary of recent joint work with D. Han and Q. Sun on certain topological and geometrical properties of the set of all refinable functions (respectively, all MRA affine frames) in $L^2(\mathbb{R}^d)$.

DATE: Thursday, February 5, 2009

TIME: 11:30am – 12:30pm

PLACE: MAP 318

Refreshments will be served.