



2008 - 2009



**MATHEMATICS COLLOQUIUM SERIES**  
**UNIVERSITY OF CENTRAL FLORIDA**

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**Dr. Harihar Khanal**  
**Department of Mathematics**  
**Embry-Riddle Aeronautical University, Daytona Beach**

Will speak on

**"Models of Phototransduction in Rod Photoreceptors"**

**Abstract:**

Phototransduction is the process by which photons of light generate an electrical response in retinal rod and cone photoreceptors, thereby initiating vision. We compare the electrical response in salamander rods from increasingly more (spatially) detailed models of phototransduction: 0-dimensional (bulk), 1-dimensional (longitudinal), 2-dimensional (axisymmetric), and 3-dimensional (with incisures). We discuss issues of finding physical parameters for simulation and validation of models, and also present some computational experiments for phototransduction in mouse and human photoreceptors.

Date: Thursday, February 26, 2009

Time: 11:30 AM

Place: MAP 318

Everyone is cordially requested to attend.