



**Department of Mathematical Sciences**

**Spring 2016**

# **Colloquium Series**

**Friday, April 15, 2016 at 3pm in Bell Hall 143**

## **Dr. John R. Graef**

University of Tennessee at Chattanooga

### **Chasing the Superbugs: Modeling the Spread of Antibiotic Resistant Infections**

The danger imposed by "Superbugs," antibiotic resistant bacteria, has been a major medical concern for a number of years and has attracted national attention in the media. In this presentation we will discuss a stochastic differential equation model of the spread of such infections in a controlled environment such as a hospital intensive care unit. The emphasis will be on the building of the model; much of the mathematics used can be understood by anyone with a knowledge of elementary differential equations.