

THE MATHEMATICS DEPARTMENT PRESENTS

# A MATHEMATICS COLLOQUIUM

THURSDAY, May 22, 2008

BOND HALL 105

4:00 pm

Title: **Combinatorial Game Theory: Conway's Numbers and Games**

Speaker: **Seth Nuckolls**, Western Washington University

Abstract:

In 1975 John Conway, fascinated with the theories of transfinite numbers and mathematical games, sat down and in one week, wrote a groundbreaking book linking these two theories. I will show how we can form a consistent model for two player mathematical games and motivate basic questions about the nature of these games. Next, I will give a mathematical justification for how certain games actually behave like numbers both finite and transfinite. In closing I hope to show how to play a classic mathematical game called Nim, and explore some of the Sprague-Grundy theory for impartial games.

Refreshments will precede the talk at 3:30pm in Bond Hall 300  
courtesy of Ms. Teresa Sherwood