

THE MATHEMATICS DEPARTMENT PRESENTS

# A MATHEMATICS COLLOQUIUM

WEDNESDAY, June 4, 2008

BOND HALL 428

4:00 pm

**Title: Cousin Covers and Applications in Analysis**

**Speaker: David Sorensen**, Western Washington University

**Abstract:**

Cousin covers are sets of compact intervals of real numbers with a simple local structure. They can be used as an alternative to standard compactness arguments in deriving results in analysis. I will use Cousin covers to prove some 521-level results and to give part of a relatively simple proof of Lebesgue's theorem that a nondecreasing function is differentiable almost everywhere. I will discuss and illustrate Van Der Waerden's function, an everywhere continuous, nowhere differentiable function. This talk will be accessible to those with some background in analysis.

Refreshments will precede the talk at 3:30pm in Bond Hall 300  
courtesy of Dr. Tom Read.