

## The USM Calculus Seminar Series



# Announcing

A Seminar Presentation

April 13, 2007 at 2:00 pm

Southern Hall 303

at The University of Southern Mississippi

**Speaker: Guangming Yao**

Department of Mathematics

University of Southern Mississippi

**Title: Infinite Products****Abstract:**

An infinite product is a sequence of numbers  $\{u_k\}_{k=1}^{\infty}$ ,  $u_k > 0$ , with the property that  $\lim_{n \rightarrow \infty} \prod_{k=1}^n u_k = P < \infty$ , with  $P \neq 0$ . While representing functions using an infinite sum of much simpler functions is introduced early in calculus, using an infinite product of functions, e.g.,  $\lim_{n \rightarrow \infty} \prod_{k=1}^n u_k(x) = f(x)$ , is not usually discussed. In this presentation the theory of infinite products is introduced and applied to the problem of representing some elementary functions. The exposition leads to some remarkable results on infinite products, showing their utility and role in modern mathematics.

This presentation is accessible to any student who has completed two semesters of calculus.

**Further Information**

Refreshments are served from 1:50 pm until 2:00 pm in Southern Hall 303. Further details and information about this and other departmental activities is available online at [http://www.math.usm.edu/bulletin\\_board/](http://www.math.usm.edu/bulletin_board/).