



# Differential Equations and Applied Math Seminar

Dr. Ray Treinen, Texas State University

11am-12pm October 4th, 2019

336 Derrick Hall

**Title:** Spectral Methods IV

**Abstract:** We will look at Spectral and Pseudospectral Methods for numerically computing solutions of certain problems. The primary problems will be the solution to some differential equations, and in particular partial differential equations. Other problems may be eigenvalue problems, especially as they apply to operator theory. Our primary source material is Trefethen's *Spectral Methods in Matlab*.

We continue this series of lectures with more examples of boundary value problems and their solutions. We will begin working with spatial dimensions greater than one and problems with time dependence. This will introduce stability considerations, and we will begin a discussion of stable time stepping.

Interested faculty and graduate students are encouraged to attend.