

# TEMPLE UNIVERSITY MATHEMATICS COLLOQUIUM

**Leo Rebholz**

Clemson University

will speak on

**Efficient, stable, and accurate finite element  
discretizations for approximate deconvolution models  
of turbulent flow**

ABSTRACT: The talk discusses discretization strategies for the Stolz-Adams approximate deconvolution model (ADM) of turbulent flow. After an introduction to the Navier-Stokes equations and Large Eddy Simulation, we derive the ADM and discuss difficulties in constructing efficient, stable, and accurate numerical schemes for it which use finite elements for the spatial discretization. We then show how a small change to the model can resolve this critical numerical issue, and provide several numerical experiments that demonstrate the effectiveness of the modified model/scheme.

MONDAY, MARCH 24, 2014

LECTURE AT 4:00 PM

COFFEE, TEA, AND REFRESHMENTS FROM 3:40 PM

ROOM 617, WACHMAN HALL

DEPARTMENT OF MATHEMATICS