Announcing the Final Examination of Joseph Tate for the degree of Master of Science

Time & Location: November 6, 2015 at 3:00 PM in ENG1 288
Title: Development of Velocity Profile Generating Screens for Gas Turbine Components

Laboratory experiments on components of complex systems such as gas turbines require many conditions to be met. Requirements to be met to simulate real world conditions include inlet flow conditions such as velocity profile. The methodology to be introduced designs a velocity profile generating screen through the use of perforated plates. The velocity profile generating screen is an array of jets arranged in a manner to produce annular sections of different solidities. In an effort to better understand the interaction between perforated plates of different solidities, an experimental data set is presented to characterize the plates. This includes identification of flow regions with characterization of flow dynamics though the analysis of velocity and turbulence decay. The aim of this characterization is to determine how the perforated plate solidity affects the velocity downstream and the location of the velocity profile being produced.

Major: Mechanical Engineering

Educational Career:
Bachelor's of Mechanical Engineering, BS, 2009, University of North Florida

Committee in Charge:
Jayanta Kapat, Chair, Mechanical & Aerospace Engineering
Ali Gordon, Mechanical & Aerospace Engineering
Kareem Ahmed, Mechanical & Aerospace Engineering

Approved for distribution by Jayanta Kapat, Committee Chair, on November 6, 2015.

The public is welcome to attend.