

# Cornell Fluid Dynamics Seminar Series

Presents

Gilles Eggensteiner

ANSYS, Inc.

## “Advanced CFD and Combustion Modeling: An Industry Perspective”

12:15-1:15 p.m.

Tuesday, November 10, 2009

178 Rhodes Hall

Pizza and refreshments will be served at noon.

This presentation will focus on describing the type of Computational Fluid Dynamics simulations of reacting flows performed on a daily basis for industrial applications. We will first review the main constraints of using CFD tools as part of an industrial design process. This will include considerations ranging from geometry creation, meshing, to the use of advanced combustion models. Then we will focus on describing the main CFD simulation goals of land based gas turbines, aircraft engines and fossil fuels power plants manufacturers. Once the background information is in place, we will showcase advanced industrial applications where advanced reaction models are applied by design engineers on a daily basis using commercial CFD software. These examples will cover a wide array of applications: prevention of flame flashback, oxy-fuel combustion, combustion dynamics, coal combustion and mercury capture.