



DEPARTMENT OF
MECHANICAL ENGINEERING

The Sidney E. Fuchs Seminar Series

3:30-4:30pm, Friday, March 23, 2012

Frank H. Walk Design Presentation Room

Convective Heat Transfer in Gas Turbines

by **Michael E. Crawford***

Siemens Energy, Professor Emeritus UT Austin

The power generation industry is continually moving to higher combined cycle efficiency for electric power generation. This efficiency improvement is partly achieved by reduction in cooling air requirements within the combustor and turbine components. This presentation explores the various convective cooling technologies used to manage heat transfer within the hot sections of a gas turbine.

* Fellow Engineer within the Gas Turbine Engineering part of the Fossil Power Generation Division of Siemens Energy Inc.; he is in Technology and Innovation within Materials and Technology, and he serves as the Core Competency Owner for heat transfer. Holds a Ph.D. from Stanford University in Mechanical Engineering and a Masters in Counseling Psychology from St. Edward's University. His expertise is in convective heat transfer and applied thermodynamics, with a primary focus on gas turbine cooling. He spent the majority of his career in academia, primarily at the University of Texas at Austin, where he presently holds the title of Professor Emeritus. He is a Fellow of the American Society of Mechanical Engineering. His professional practice has included consulting to industry and government, and he was a long-time consultant to ABB/Alstom in gas turbine heat transfer. He continues to be a registered Professional Engineer in Texas, and he holds a Project Management Professional (PMP) certification from the Project Management Institute.