



## ENVIRONMENTAL AND ECOLOGICAL ENGINEERING

### EEE Seminar

**DATE: Wednesday, March 30, 2016**

**TIME: 3:30 P.M.**

**LOCATION: Potter 234, Fu Room**



**David T. Allen**

**Gertz Regents Professor in Department of Chemical Engineering, and  
Director, Center for Energy and Environmental Resources  
The University of Texas at Austin**

### **Increased Oil and Natural Gas Production, Methane Emissions, and Climate**

#### **Abstract**

Hydrocarbon products derived from horizontal drilling and hydraulic fracturing of shale formations (shale gas and shale oil) have greatly expanded US natural gas production, and, in 2014, made the US the world's largest natural gas and petroleum producer. Collectively, these resources have transformed North America's energy landscape. However, the environmental impacts associated with "fracking" for shale gas and oil have made the process controversial. This presentation will focus on one of the environmental issues associated with shale gas and oil production: the emissions of methane, a potent greenhouse gas, particularly along the natural gas supply chain. Data from recent field studies will be summarized and measurements made using top-down methods (aircraft, satellites) will be compared with bottom-up measurements (direct measurements of emissions at their source).

#### **BIO**

Dr. David Allen is the Gertz Regents Professor of Chemical Engineering, and the Director of the Center for Energy and Environmental Resources, at the University of Texas at Austin. He is the author of seven books and over 200 papers. His recent work has focused primarily on air quality, and the engineering of sustainable systems. Dr. Allen has been a lead investigator for multiple air quality measurement studies, which have had a substantial impact on the direction of air quality policies. Over the past three years, with support from Environmental Defense Fund and a group of natural gas producers, he has been leading a team measuring methane emissions from natural gas production sites. He has served on a variety of governmental advisory panels and from 2012-2015 chaired the Environmental Protection Agency's Science Advisory Board. He has won teaching awards at the University of Texas and UCLA and the Lewis Award in Chemical Engineering Education from the American Institute of Chemical Engineers.

Dr. Allen received his B.S. degree in Chemical Engineering, with distinction, from Cornell University in 1979. His M.S. and Ph.D. degrees in Chemical Engineering were awarded by the California Institute of Technology in 1981 and 1983. He has held visiting faculty appointments at the California Institute of Technology, the University of California, Santa Barbara, and the Department of Energy.