



Robert S. Schechter Award Lecture

University of Texas at Austin
August 23 at the POB Avaya Auditorium at 4 pm



Lynn Orr, Stanford University *First Robert S. Schechter Award Recipient*

Lecture Title: The Global Energy Transition

Energy is the lifeblood of modern societies. Energy services are woven throughout the fabric of modern life, rural or urban, in the developed world. Inhabitants of developing countries who do not yet have full access to abundant, clean, and low cost energy have every reason to expect and will benefit dramatically from full access to energy services that the developed world takes for granted. A successful nation's future energy system will provide energy security, economic security, and health and environmental security. Economies based on diversified, secure, efficient, abundant, cost-effective, and clean energy supplies will lead international economic competition. The key challenge is to meet those broad goals with energy technologies that are clean, deployable at large scale, and fully cost competitive.

Technology improvements in production of oil and gas, and a resulting transition away from coal as the primary fuel for electric power generation, deep reductions in the cost of technologies like solar and wind, increasing energy efficiency, and efforts to modernize the transmission and distribution of electric power, including deployment of energy storage, are reshaping the energy landscape for the United States and the world. Recent progress has been impressive, but there is much more to be done. This presentation reviews examines options for meeting those challenges, outlines the need for additional energy innovation, and explores research and development pathways that offer important opportunities for continued progress toward those goals. The important roles of engineers and scientists who understand the opportunities and complexities of the Earth's subsurface and its contributions to clean energy systems will be highlighted.

Franklin M. ("Lynn") Orr, Jr. served as Under Secretary for Science and Energy at the US Department of Energy from December 2014 to January 2017. As Under Secretary, he oversaw DOE's offices of Electricity Delivery and Energy Reliability, Energy Efficiency and Renewable Energy, Fossil Energy, Indian Energy Policy and Programs, Nuclear Energy, and Science.

After completing the DOE assignment, he returned to Stanford University as the Keelen and Carlton Beal Professor Emeritus in the Department of Energy Resources Engineering. He joined Stanford in 1985. He served as the founding director of the Stanford Precourt Institute for Energy from 2009 to 2013 and the Stanford Global Climate and Energy Project from 2002 to 2008. He was Dean of the School of Earth Sciences at Stanford from 1994 to 2002. He worked previously at the New Mexico Institute of Mining and Technology, Shell Development Company, and the U.S. Environmental Protection Agency. He holds a Ph.D. from the University of Minnesota and a B.S. from Stanford University, both in Chemical Engineering. His research activities focus on how complex fluid mixtures flow in the porous rocks in the Earth's crust, the design of gas injection processes for enhanced oil recovery, and CO₂ storage in subsurface formations.

Dr. Orr is a member of the National Academy of Engineering. He served as a member of the 2008/09 National Research Council Committee on America's Energy Future. He was a Trustee of the David and Lucile Packard Foundation from 1999 to 2008. He is currently a member of the boards of directors of the ClimateWorks Foundation and the Monterey Bay Aquarium Research Institute.

About The R.S. Schechter Research Award

The Center for Petroleum and Geosystems Engineering has decided to honor the late Bob Schechter for his lifetime commitment to higher education and research by establishing a research award in his name. Bob was the intellectual soul of both the petroleum and chemical engineering departments at The University of Texas at Austin. A professor at UT for more than 30 years, he was one of the great professors of our lifetime. He was the chairman of both the chemical and petroleum engineering departments, and was also one of the first National Academy of Engineers elected at UT. Along with Bill Wade, he established the first industrial consortia at UT to support oil recovery research. Above all, Bob was a mentor, friend and inspiration to many petroleum and chemical engineering students and faculty.

CPGE has created an endowed annual research award in his name. The R.S. Schechter Research Award will go to anyone who has made substantial contributions to science and technology of energy production. The award will be funded from the endowment that is based on contributions from ex-students, energy professionals and faculty.

