J. Clarence Karcher Lecture

- DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY - UNIVERSITY OF OKLAHOMA
- NORMAN, OK 73019-5251 - (405) 325-4811

Is pleased to announce a seminar
Presented by

Patrick Holland
Yale University

Friday, October 20, 2017
At 3:45 PM
National Weather Center
David L. Boren Auditorium
Room 1313

"Nitrogen Binding and Fixation using Iron Complexes"

Iron plays a central role in the two major processes that convert nitrogen in the atmosphere to fertilizers needed for the food on our plates. The enzyme nitrogenase uses an iron-sulfur cluster, while the Haber-Bosch process uses a solid iron catalyst. Despite intense research, the catalytic mechanisms are not understood at an atomic level of detail for either catalyst, and this motivates the study of well-defined iron complexes and how they interact with N2. I will discuss our synthesis of low-coordinate iron coordination compounds, which have led to new insights into both N2 binding and cleaving processes. These have included the first iron complexes with in which the nitrogen-nitrogen bond of N2 is broken, as well as biomimetic Fe-N2 complexes. These new research results help chemists to understand elementary steps in the conversion of N2 to ammonia, and the talk will highlight parallels between solution, enzyme, and surface chemistry.

Dr. Patrick Holland is a Professor of Chemistry at Yale University. His research involves bioinorganic chemistry, organometallic chemistry, synthesis and spectroscopy to better understand transition-metal complexes and their participation in catalysis. He is a fellow of the American Association for the Advancement of Science and also the recipient of the Friedrich Wilhelm Bessel Research Award of the Humboldt Foundation.

Refreshments will be served at 3:45 PM
REMINDER ~ WEAR YOUR ID

A reception will be held at the home of Dr. George Richter-Addo at 7:30 pm (map on back)
This is the SOUTH EAST part of Norman
(between Lindsey and Highway 9)

From OU

East Lindsey

Glen Oaks

Stop signs

Richter-Addo residence
2815 Dalewood Terrace
Tel: 447-0809
(4th house on left side, street light is across the road)

Family Park

Wheatland Dr.

(0.5 mi, distance not to scale)

Highway 9

ca. 5 mi from I-35

Traffic lights

postal training center