

Purdue University

SCHOOL OF CHEMICAL ENGINEERING GRADUATE SEMINAR SERIES

Dr. Jeffrey Reimer

Warren and Katharine Schlinger Distinguished Professor and
Chair of the Department of Chemical Engineering
University of California at Berkeley

“Spin Control for Chemical Engineers”

November 30, 2010

3:30 - 4:30 p.m.

FRNY G140

ABSTRACT:

Nuclear spin, as probed by magnetic resonance, has now been associated with a Nobel Prize in Physics, two in Chemistry, and another in Physiology and Medicine. Magnetic resonance spectroscopy and magnetic resonance imaging (MRI) have impacted virtually every field of science and engineering, and enjoy a plethora of applications, ranging from medicine and biological sciences, physical sciences and engineering, to industrial sensing and process control. I will illustrate the rich history of magnetic resonance by juxtaposing great works of antiquity with current applications of MR to various sub-fields in chemical engineering.

BIO:



Jeffrey A. Reimer is the Warren and Katharine Schlinger Distinguished Professor and Chair of the Department of Chemical Engineering at the University of California at Berkeley, and a faculty scientist at the E.O. Lawrence Berkeley National Laboratory. From 2000 to 2005 he was an Associate Dean in the UC Berkeley Graduate Division where his responsibilities included the assessment of doctoral programs. In 1998 he won the Donald Sterling Noyce Prize for Excellence in Undergraduate Teaching in the Physical Sciences and was given the AIChE Northern California Section Award for Chemical Engineering Excellence in Academic Teaching. In 2000 he was awarded the Chemical Engineering Departmental Outstanding Teaching Award. Professor Reimer was awarded the Distinguished Teaching Award in 2003, the highest award bestowed on faculty for their teaching.

Professor Reimer received his bachelor's degree (with honors) from the University of California at Santa Barbara, and obtained his doctorate from the California Institute of Technology in 1980. Prior to his appointment at Berkeley in 1982, he was a postdoctoral fellow at IBM Research in Yorktown Heights, New York. At Berkeley he received the Presidential Young Investigator Award in 1985, and was named a Camille and Henry Dreyfus Teacher-Scholar in 1987. In 2002 he was named the R.W. Vaughan Lecturer at the Rocky Mountain Conference on Analytical Chemistry and Applied Spectroscopy, in recognition for his numerous contributions in the field of magnetic resonance spectroscopy. Professor Reimer was named a Mercator Professor of the Deutsche Forschungsgemeinschaft (DFG) at RWTH Aachen University in 2006. He was elected a Fellow of the American Association for the Advancement of Science for “contributions to

understanding materials chemistry through the application of sophisticated spectroscopic and physical measurements.”

The goal of Professor Reimer's research is the exploration of spectroscopic methods that inform society about materials chemistry and analyses.