

George R. Brown School of Engineering
Department of Chemical & Biomolecular Engineering



Presents

Dr. Nate Bachman
Senior Physicist
Schlumberger Oilfield Services

Thursday, Sept 4, 2008
Duncan Hall – Room 1070 - 2:30 p.m.

Reception to follow in Abercrombie B237

***“Extreme Engineering—Oilfield Fluid Saturations
by Earth Logging Technology”***

More than eighty years ago the Schlumberger brothers recorded the first resistivity "depth log" at Pechelbronn in France to characterize the subsurface of the earth. Schlumberger today is the leader in providing expertise in all aspects of oilfield exploration, production, and reservoir management. Not surprisingly, a key service continues to be the development and deployment of advanced sensors for rock and fluid characterization. I will present an overview of some of those sensors, followed by specific examples of hydrocarbon identification and quantification using induction and magnetic resonance technology. I will focus on the hardware designs and the processing advances that combine to overcome challenges like borehole effects and drilling mud invasion. This presentation coincides with the Schlumberger Technology Fair taking place in Duncan Hall.

ABOUT THE SPEAKER

H. Nate Bachman is a senior physicist at Schlumberger's Sugar Land Product Center in Sugar Land, Texas. He received a BS in physics from Valparaiso University, Indiana, USA, in 1993. He received a PhD in physics from Northwestern University, Illinois, USA, in 1999 followed by a research associate post at Harvard University. Both his graduate and postdoctoral research employed NMR in the study of solid-state physics problems. His current activities include NMR answer product development, sensor design, and client project support.