## **CHEMICAL, BIOLOGICAL & MATERIALS ENGINEERING**

100 E. Boyd, Sarkeys Energy Center, T-335 405-325-5811 The University of Oklahoma Norman, Oklahoma 2011 – 2012 Seminar Series

## DR. JOHANNES LERCHER

PROFESSOR, DEPARTMENT CHEMIE TU MUCHEN, GARCHING, GERMANY DIRECTOR, INSITUTE FOR INTEGRATED CATALYSIS PACIFIC NORTHWEST NATIONAL LABORATORY RICHLAND, WASHINGTON, USA

Will present a seminar on

## "HYDROCARBON TRANPSORT, SORPTION AND CATALYTIC TRANSFORMATION IN CONFINED SPACE"

Nanoporous functional solids are key elements of catalysts in hydrocarbon catalysis helping to lead processes to long-term sustainability. Understanding the elementary steps involved in these conversions is a prerequisite to be able to design and realize new generations of catalysts. The lecture will outline, how new insight into transport, sorption and reaction processes of hydrocarbons has been used to develop materials allowing selective transport of molecules to the active sites and how the local environment of the catalytically active sites can be used to induce new catalytic chemistry. The roles of the steric control of the acid/active site and of bifunctional activation of hydrocarbons in these processes will be discussed analyzing how transition energies and entropies influence activity and selectivity.

THURSDAY, FEBRUARY 23, 2012 COOKIES AND COFFEE -- 2:45 P.M. SEMINAR -- 3:00 P.M. SARKEYS ENERGY CENTER, ROOM M-204

THIS IS A REQUIRED SEMINAR FOR CHE 5971

Accommodations on the basis of disability are available by contacting the office before the event.