

**NEW DATE**

ANNUAL AWARDS BANQUET  
THURSDAY 01 MAY 2014

# CATALYSIS FOR BIOMASS CONVERSION TO CHEMICALS TOWARDS THE BIOREFINERY

Kenneth M. Nicholas

*Department of Chemistry and Biochemistry  
The University of Oklahoma, Norman, OK*



The drive towards a sustainable energy and materials future is stimulating efforts worldwide to discover and develop new chemical processes for the conversion of complex, oxygen-rich biomass compounds into useful fuels and chemicals. In this presentation I will highlight some of the emerging processes under development for the conversion of biomass polyoxygenates into useful chemicals, including efforts in my own research group to catalyze the deoxydehydration of polyols to olefins.

**5:30-6:30 pm Reception (1<sup>st</sup> floor North)**

**6:30-7:30 pm Dinner (3<sup>rd</sup> floor)**

**7:30-8:30 pm Presentation (3410)**

*(Parking across the Stephenson Parkway to the South)*

## **Catering from Johnny Carino's**

lasagna (both meat and vegetarian)  
roasted rosemary potatoes  
bread, salad  
iced tea and lemonade drinks,  
"sweet duo" desert of cheesecake  
and Italian chocolate cake.

*RSVP is not required to attend the presentation.*

## **Kenneth Nicholas Biographical Sketch**

Dr. Nicholas came to O.U. in 1984 as Professor of Organic Chemistry following his early academic career at Boston College. His research program has focused on the discovery, development and applications of transition-metal promoted organic reactions. His research group's studies and accomplishments have included:

- i. The discovery of transition metal-promoted reactions of carbon dioxide with the potential utilization of CO<sub>2</sub> as a raw material for the production of useful organics.
- ii. Exploration of the reactivity of metal-coordinated of hydrocarbons, carbocations and unsaturated radicals. One such application in organic/pharmaceutical synthesis has been appropriately named the Nicholas Reaction.
- iii. The discovery and development of transition-metal promoted reactions of hydrocarbons with N-organics to form new N-C bonds.

## **The University of Oklahoma**

Stephenson Life Sciences Research Center  
101 Stephenson Parkway, Norman, OK  
map: <http://www.ou.edu/home/map.html>

## **Cost**

\$20 members  
\$10 graduate students  
\$ 5 undergraduate students

## **RSVP Deadline**

Monday, Apr 28<sup>th</sup>, 5 pm  
Contact: Paul Sims  
405-325-1324  
[psims@ou.edu](mailto:psims@ou.edu)



OU map  
QR code

- iv. Showing that metal ion catalysts can be elicited by dynamic templating with transition state analogues.
- v. The development of new reactions and catalysts for converting biomass-derived polyols to unsaturated hydrocarbons.

While at OU, he has received many awards including the OU Regents Award for Research and Creative Activity and the OU Regents Award for Teaching Excellence. He was named a George Lynn Cross Professor in 1993 in recognition of his research contributions. He has also served on the Editorial Advisory Board of the ACS journal Organometallics. He has co-authored over 150 papers, graduated over 25 Ph.D. students and several M.S. students, and has mentored numerous undergraduate researchers during his time at OU. Several of his graduates have secured positions in academia and industry.

**NEW DATE AND SPEAKER**

