

**William G. Lowrie Lectureship
Honors and Awards Banquet
April 2, 2014**

Dr. William F. Banholzer

Research Professor, Chemical and Biological Engineering;
Honorary Fellow, Chemistry Department;
Senior Scientist, Wisconsin Energy Institute
University of Wisconsin-Madison



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

2014 WILLIAM G. LOWRIE LECTURESHIP

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William F. Banholzer spent his entire industrial career translating brilliant inventions into profitable and beneficial products. At the University of Wisconsin-Madison, he is currently a research professor in chemical and biological engineering, honorary fellow of the chemistry department, and senior scientist at the Wisconsin Energy Institute.

Banholzer retired from Dow Chemical, where he was an executive vice president leading Dow's venture capital, new business development, and licensing activities, and served as

Dow's chief technology officer. He led the R&D efforts of some 7,000 scientists worldwide, yielding new products and successful business ventures in photovoltaics, new composite materials, and energy storage. Under his leadership, the value of Dow's innovation pipeline tripled from \$10B to over \$32B. He had a 22-year career with General Electric Company (GE) prior to joining Dow, leaving as vice president of global technology at GE Advanced Materials.

For his innovative successes, he was elected in 2002 to the National Academy of Engineering. He received the Holland Award for R&D management from the Industrial Research Institute, the Pruitt Award for his innovative approach to research collaborations from the Council of Chemical Research, the ACS Earl B. Barnes Award, and others.

He earned a bachelor's degree in chemistry from Marquette University and master's and doctorate degrees in chemical engineering from the University of Illinois. He is a certified Six Sigma Master Black Belt, holds 16 US patents, and has over 85 publications, which have received 2,300 citations with an H index of 27 for his work in engineering and chemistry.

Previous Recipients of the Lowrie Lectureship Award

- 1996 Lecturer- **John F. Davidson**, *University of Cambridge*
- 1997 Lecturer- **William R. Schowalter**, *University of Illinois at Urbana-Champaign*
- 1998 Lecturer- **James Wei**, *Princeton University*
- 1999 Lecturer- **Judson King**, *University of California, Berkeley*
- 2000 Lecturer- **Robert Langer**, *MIT*
- 2001 Lecturer- **Roy Jackson**, *Princeton University*
- 2002 Lecturer- **Alexis T. Bell**, *University of California, Berkeley*
- 2004 Lecturer- **John H. Seinfeld**, *California Institute of Technology*
- 2005 Lecturer- **Charles A. Eckert**, *Georgia Tech*
- 2006 Lecturer- **Alice P. Gast**, *Massachusetts Institute of Technology*
- 2007 Lecturer- **Greg Stephanopoulos**, *Massachusetts Institute of Technology*
- 2008 Lecturer- **Carol K. Hall**, *North Carolina State University*
- 2009 Lecturer- **Gabor A. Somorjai**, *University of California, Berkeley*
- 2010 Lecturer- **Rakesh K. Jain**, *University of California, Berkeley*
- 2011 Lecturer- **Frank S. Bates**, *University of Minnesota*
- 2012 Lecturer- **Pablo G. DeBenedetti**, *Princeton University*
- 2013 Lecturer- **Mark E. Davis**, *California Institute of Technology*

~LOWRIE LECTURESHIP AWARD PRESENTATION~

William F. Banholzer

~SPECIAL RECOGNITION~

Katja Binkley: NSF-funded Partnership in International Research and Education (PIRE) Fellowship to attend the 10th Congress on Catalysis, applied to Fine Chemicals and the PIRE Summer School in Turku, Finland (Summer 2013).

Deepika Singh: Kokes Award, North American Catalysis Society meeting (June 2013), and an AIChE Catalysis and Reaction Engineering (CRE) Division Travel Award (November 2013).

Ilgaz Soykal: Kokes Award, North American Catalysis Society meeting (June 2013).

Lin Zhao: 2nd Place Poster Presentation Award at the Fuel Cell Seminar & Energy Exposition, Columbus, OH (October 2013) for his poster, CO₂-Selective Membranes for H₂ Purification for Fuel Cells.

~BARRY M. GOLDWATER SCHOLARSHIP~

Joseph Gauthier

~DENMAN UNDERGRADUATE RESEARCH FORUM WINNERS~

Robert Battista (2nd Place); Anna Dorfi (2nd Place); Nicholas Blum (3rd Place)

~AIChE STUDENT CHAPTER OFFICERS~

President: Robert Warburton; VP: Shaista Mallik; Treasurer: Hussein Alkhatib; Social Chair: Mike Mospens; Philanthropy Chair: Nicole Pangilinan; Webmaster: Parth Patel; Senior Class Representative: Phil Kester; Junior Class Representative: Chris Miehl; Sophomore Class Representative: Mitch Anderskow. (Advisor: A. Asthagiri)

~CHEM E CAR OFFICERS~

President: Gabrielle Vasquez; Treasurer: William "Billy" Blincoe; Power Source Team Leader: Angela Chen; Timing Mechanism Team Leader: Ziwei Wang; Safety Leader: Gar Wai Guan. (Advisor: D. Tomasko)

~CEGC OFFICERS~

Academic Officer: Prasant Vijayaraghavan; Business Officer: Andy Maxson; Facilities Officer: Varsha Gopalakrishnan; Recruitment Officer: Katja Binkley; Social Officer: Matt Souva.

~GRADUATE RESEARCH SYMPOSIUM~

Viraj Modak, Matt Gallovic, Niranjani Deshpande, Varsha Gopalakrishnan, Ankita Majumdar, Elif Miskioglu, Hrishikesh Munj, and Sumant Patankar.

~CBE DEPARTMENT AWARDS~

Outstanding Undergraduate Award for Research Excellence:

Nicholas Blum	Advisor: L.S. Fan
Angela Chen	Advisor: D. Wood
Jonathan (Jack) Davis	Advisor: U. Ozkan
Joshua Fouasnon	Advisor: L. Hall
Joseph M. Ionni	Advisor: J. Zakin
Nicholas Justus	Advisor: L.S. Fan
Phillip M. Kester	Advisor: U. Ozkan
Robert (Bobby) Law	Advisor: D. Wood
Zhenyang Wang	Advisor: L.S. Fan
Robert E. Warburton	Advisor: A. Asthagiri
Olivia Wetta	Advisor: J. Winter

Outstanding Graduate Award for Academic Achievement:

Yuanxin Chen	Advisor: W.S. Ho
Jie Dong	Advisor: S.T. Yang
Anshuman Fuller	Advisor: U. Ozkan
Xiaomeng Huang	Advisor: L. J. Lee
Wenyan Jiang	Advisor: S.T. Yang
Daniel Knight	Advisor: M. Feinberg
Fangfang Liu	Advisor: S.T. Yang
Andrew Tong	Advisor: L.S. Fan
Xiaorui Yang	Advisor: S.T. Yang
Le Yu	Advisor: S.T. Yang
Mengmeng Xu	Advisor: S.T. Yang
Lin Zhao	Advisor: W.S. Ho

Outstanding Post-Doc Award for Research Excellence:

Chih-Chin Chen	Advisor: S.T. Yang
Daniel Gallego-Perez	Advisor: L.J. Lee
Meng Lin	Advisor: S.T. Yang
Xinmei Wang	Advisor: L.J. Lee

~AIC (AMERICAN INSTITUTE OF CHEMISTS) FOUNDATION~

AIC Outstanding Undergraduate Student Award: Brian J. Mog (L.J. Lee)
AIC Outstanding Graduate Student Award: Xi Zhao (L.J. Lee)
AIC Outstanding Postdoctoral Award: Qiang Zhou (L.S. Fan)

~AIChE STUDENT AWARDS~

AIChE Central Ohio Section Outstanding Student Award:
Scott D. Hochberg
Donald F. Othmer AIChE Sophomore Academic Excellence Award:
Joshua B. Colley

CLOSING REMARKS – Stuart L. Cooper

Lecture 1: Personal Experiences & Lessons Learned in 30+ Years of Industrial R&D

Thursday, April 3, 2014:

Reception: 11:00 am, 336 Koffolt Labs

Lecture: 11:30 am - 12:30 pm, 207 Koffolt Labs

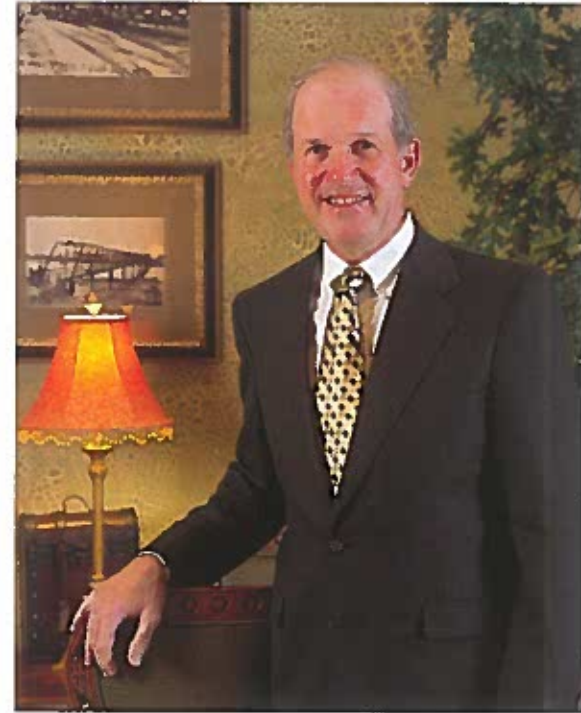
Scientific research is both exciting and frustrating: it can improve the human condition and create wealth, but it can also end in futility. The speaker's case studies are drawn from his personal research experiences -- from stealth materials to diamond synthesis -- and offer perspectives on selecting research topics, applying the proper tools, and determining when to terminate a program. The importance of presentation skills and advice on career management is also discussed.

Lecture 2: Possible vs. Practical: Engineers Must Lead the Development of Practical Technologies

Thursday, April 3, 2014:

Lecture: 3:30 pm - 4:30 pm, E-100 Scott Labs

There is a strong societal desire for sources of energy and feedstocks that can support a high standard of living for all. Thermodynamic, material and economic challenges stand in the way, yet most of the general public does not have basic understanding of the energy flows, chemical transformations, and the scale of the systems that support our current way of life. As engineers, we must do a better job of explaining the difference between discoveries that offer truly practical, vs. merely possible, solutions.



The **William G. Lowrie Lectureship** was established in the department of chemical engineering at The Ohio State University on October 1, 1995 to honor distinguished alumnus William G. Lowrie. The lectureship is annually awarded to an individual who has made outstanding contributions to fundamental or applied research in the field of chemical engineering.

