

**Seventeenth Annual
S. Dexter Squibb Distinguished
Chemistry Lecture Series**

**Communicating Chemistry to all
Citizens on Planet Earth**



Bassam Z. Shakhashiri

William T. Evjue Distinguished Chair
for the Wisconsin Idea at UW-Madison

University of Wisconsin-Madison
Madison, WI

September 29 - 30, 2014



UNIVERSITY of NORTH CAROLINA
ASHEVILLE

CHEMISTRY DEPARTMENT

*Thanks for a spectacular lecture!
Your new friend,
S. Dexter Squibb*

Bassam Z. Shakhashiri

Bassam Z. Shakhashiri is professor of chemistry and the first holder of the William T. Evjue Distinguished Chair for the Wisconsin Idea at UW-Madison.

He is well known internationally for his effective leadership in promoting excellence in science education at all levels, and for his development and use of demonstrations in the teaching of chemistry in classrooms as well as in less formal settings, such as museums, convention centers, shopping malls and retirement homes. His scholarly publications, including the multi-volume series, *Chemical Demonstrations: A Handbook for Teachers of Chemistry*, are models of learning and instruction that have been translated into several languages. He is an advocate for policies to advance knowledge and to use science and technology to serve society. He promotes the exploration and establishment of links between science, arts and the humanities, and the elevation of discourse on significant societal issues related to science, religion, politics, the economy, and ethics.

From 1984-1990 Professor Shakhashiri served as Assistant Director of the National Science Foundation (NSF) for Science and Engineering Education. As NSF chief education officer he presided over the rebuilding of all NSF efforts in science education after they had been essentially eliminated in the early 1980's. His leadership and effectiveness in developing and implementing national programs in science education have helped set the annual NSF education budget at its current level of about \$900 million. His NSF strategic plan launched systemic initiatives and most of the other NSF education programs of the last two decades.

Professor Shakhashiri is the recipient of over 40 awards, including the 2002 American Association for the Advancement of Science (AAAS) Award for Public Understanding of Science and Technology, "for his tireless efforts to communicate science to the general public, and especially children." In 2007 he received the National Science Board Public Service Award and was cited for "extraordinary contributions to promote science literacy and cultivate the intellectual and emotional links between science and the arts for the public." In 2013 he received the Carl Sagan Award for Public Understanding of Science from the Council of Scientific Society Presidents. In 2012 Professor Shakhashiri served as president of the American Chemical Society, formed the ACS Presidential Commission on Graduate Education in the Chemical Sciences, the ACS Climate Science Working Group, and the ACS Global Water Initiative Working Group.

S. Dexter Squibb



Dexter Squibb is Emeritus Professor of Chemistry at the University of North Carolina - Asheville. He received his B.S. in Chemistry from East Tennessee University and his Ph.D. from the University of Florida. As UNC Asheville Chemistry Department Chair from 1964 to 1994, Dr. Squibb received 14 grants from the National Science Foundation together with two grants from the North Carolina Board of Science & Technology. He is the author of 13 chemistry textbooks and laboratory manuals. For 25 years he served as editor of *The Periodic News*, newsletter of the Western Carolinas Section of the American Chemical Society. Dr. Squibb's honors include Life Fellow of the American Institute of Chemists, 1979 Charles H. Stone Distinguished Chemistry Award, 1983 UNC Asheville Distinguished Teacher Award, 1986 North Carolina Institute of Chemists Distinguished Chemist Award, 1993 Distinguished Chemist Award from the American Chemical Society Western Carolinas Section and 2001 Salutes to Excellence

Award from the ACS Western Carolinas Section. Dr. Squibb was born in Limestone, Tennessee in 1931 and has been married to Jo Ann Kyker since December 15, 1951. They have two children, Lavanne, a retired, EKG Technician with 36 years service at Memorial Mission Hospital in Asheville; and Kevin, a professor of Speech and Hearing Sciences at Southeastern Missouri University. Avid advanced Western Square dancers, Dexter and Jo Ann were inducted into the Hall of Fame of the Western Carolina Federation of Round and Square Dancing in 2001. They also love to go on cruises.



S. Dexter Squibb Lecture Series

The S. Dexter Squibb Lecture Series was created to honor the retired UNC Asheville Chemistry Department Chair, whose 30 years of dedicated service positioned UNC Asheville as a leader in chemistry education in the southeastern United States. The Series features nationally recognized chemistry educators whose goals reflect the spirit of Dexter's accomplishments.

1998 - Arthur B. Ellis * *Materials Chemistry and the Freshman Curriculum*

1999 - Michael P. Doyle * *Research as Teaching for Undergraduates*

2000 - Nancy H. Kolodny * *Biochemistry for the Millennium*

2001 - James W. Mitchell * *Industrial Connections to the Academic Community*

2002 - Geraldine L. Richmond * *Women in Chemistry*

2003 - Richard N. Zare * *Laser Chemistry*

2004 - F. Sherwood Rowland * *Atmospheric Chemistry*

2005 - Catherine H. Middlecamp * *Chemistry in Context*

2006 - David J. Rakestraw * *Entrepreneurship in Chemical Technology*

2007 - John C. Kotz * *Innovative Approaches to Chemical Pedagogy*

2008 - Milton L. Brown * *Drug Discovery and Design: From Conception to Human Testing*

2009 - Joseph S. Francisco * *New Frontiers in Environmental Chemistry*

2010 - George H. Atkinson * *Science and Global Policy*

2011 - Angelica M. Stacy * *Materials for Nanotechnology and Chemical Education*

2012 - R. Graham Cooks * *CSI: Chemistry, Spectrometry, Innovation*

2013 - Harry B. Gray * *New Light on Bio-Inorganic Catalysis*



Program of Events

Monday, September 29, 2014

7:00PM

Community Lecture

HIG 159

Highsmith Union, Alumni Hall

Science is Fun and the Joy of Learning

This public talk will include demonstrations to show how science can be communicated to all segments of our society. Come learn about combustion, liquids that glow in the dark, polymers, and other spectacular scientific phenomena. You will sit at the edge of your seat and will see science in action

Tuesday, September 30, 2014

12:30PM

General Lecture

HIG 159

Highsmith Union, Alumni Hall

Science and Society: Our Opportunities and Responsibilities

We live in the most advanced scientific and technological society in history. New discoveries have led to personal and societal enlightenment, to improvements and benefits in our daily lives, but also to new societal problems. Education is the key to societal progress. In one part of my talk I shall discuss the rationale for enhancing the learning experiences of students and I will offer specific suggestions for consideration as we all contemplate ways to improve both our technical skills and judgment. We must showcase science at its best in addressing human needs locally and worldwide. We must aim to promote science literacy. Science literacy is necessary for the democratic process to work. By science literacy I mean an appreciation of science, an understanding of the benefits of technology and the potential rewards and risks associated with advances in both, as well as a recognition of what science is capable of achieving and what it cannot accomplish. Science literacy enlightens and enables people to make informed choices; to be skeptical; to reject shams, quackery, and unproven conjecture; and to avoid being bamboozled into making foolish decisions where matters of science and technology are concerned. Science literacy is for everyone--chemists, artists, humanists, all professionals, the general public, youth and adults alike. The level of science literacy in any society is a measure of what it values and its resolve to put these values into practice.

S. Dexter Squibb Distinguished Chemistry Lecture Series Donors

Order of the Mole (over \$5,000)

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North Carolina Biotechnology Center UNC-A Cultural & Special Events		

Researcher (\$200 - \$999)

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Professor, Retired **John G. Stevens**

Adjunct Instructors: **Roger Fenna**, **Alicia Glatfelter**,
Suzanne Willis

Research Scientists: **Donald Martin**, **Amar Nath**