

DR. DONNA J. NELSON

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EDUCATION

Purdue University, West Lafayette, IN, Postdoctorate in organic chemistry.

Supervising Professor: Dr. Herbert C. Brown (Nobel Laureate)

University of Texas at Austin, TX, Ph.D. in Chemistry

Supervising Professor: Dr. Michael J. S. Dewar (Robert A. Welch Professor)

University of Oklahoma, Norman, OK; B.S. in Chemistry

EMPLOYMENT AND PROFESSIONAL EXPERIENCE

University of Oklahoma

Office of the President, Special Assistant to Vice President for Administration	2021- date
Health Sciences Center Graduate College Dean, Special Assistant	2020-2021
Division of Organic Chemistry Chair	2012-2014, 2007-2009
Faculty Senate, Faculty Appeals Board Chair	1993-2001, 2004-2005
Provost's Faculty Administrative Fellow	1990-1991
Professor of Chemistry and Biochemistry (Associate Professor, Assistant Professor, Professor)	1983- date
Board Chair, Council of Scientific Society Presidents	2022- date
President, American Chemical Society	2015-2017
Visiting Professor, Department of Chemical Engineering, MIT, Cambridge, MA	2010-2011
MLK Fellow, Department of Chemical Engineering, MIT, Cambridge, MA	2010-2011
Visiting Professor, Department of Chemistry, University of Texas at Austin, TX	2010-2011
Chancellor's Diversity Scholar, University of California at San Diego, CA	2008
Visiting Professor, Department of Chemistry, MIT, Cambridge, MA	2002-2004
Ford Foundation Fellow, MIT, Cambridge, MA	2003-2004
Guggenheim Fellow, MIT, Cambridge, MA	2003-2004
Robert A Welch Predoctoral Fellow and Postdoctoral Fellow, UT-Austin, TX	1980

LEADERSHIP EXPERIENCE

UNIVERSITY OF OKLAHOMA

This primary research university in Oklahoma has ~33,000 students, ~2,700 faculty, and a \$1.6B endowment.

Office of the President, Special Assistant to Vice President for Administration **Dec2021-2022**

Attend Regents Meetings in order to examine and critique content

Supervised newly hired VP/Chief Advancement Officer to revitalize President's Associates Donors

Secured Board of Visitors and Board of Advisors for College of International Studies

Health Sciences Center Graduate College, Special Assistant to the Dean **2020-2021**

Handled financial issues of graduate student Fellowship recipients

Explored extent of consequences for Fellowships counting against student Financial Aid

Mitigated damages of how Fellowships are treated/coded:

Fellowship recipients cannot be treated as employees and paid through HR/Payroll

Financial consequences, such as tax withholding, health insurance, parking, emergency notifications, etc.

Assigned additional small GA / RA appointments to students as a partial solution

Examined relationship between Oklahoma Laws and Federal Fellowship designations

Gathered information from other campuses and universities for comparison

Provost's Office Faculty Fellow

1990-1991

Carried out responsibilities of the Provost's Office; interfaced with all university governance levels
Appraised faculty dossiers for promotion, tenure, and annual evaluation
Supervised Program Review for one-fifth of the University's Departments and Schools each year
Led Faculty Handbook revision
Resolved faculty conflicts before they were formalized
Interviewed each underrepresented minority (URM) faculty member while developing new diversity program
Formed a URM community of OU faculty, collected their opinions, and created a diversity action plan
Designed and implemented diversity programs, training, and education
Represented the Provost at functions on and off campus, including at the State Regents Office
Improved career opportunities, community outreach, and professional support for faculty and students

Organic Chemistry Division Chair

2012-2014, 2007-2009

Managed activities of the Organic Division pertinent to faculty, students, and the department
Established and scheduled teaching responsibilities of Organic Division faculty and TA justifications
Mentored new Organic Division faculty, in preparation for tenure
Scheduled teaching and sabbaticals for Organic Division faculty
Developed academic programs and curriculum for the Division
Prepared replacement or expansion faculty position justifications
Oversaw teaching funds and expenditures
Resolved organic chemistry faculty concerns
Evaluated and established new goals for the Division
Represented the Organic Division to the Department of Chemistry
Organized administration and grading of cumulative exams for Organic Division graduate students
Mediated conflicts between students and faculty in the Division
Managed graduate student disciplining and termination
Evaluated undergraduate course characteristics, including prerequisites and TA needs
Prepared and processed requests for new course approvals and dormant course removals
Organized graduate student – industry interviews
Recommended recipients for organic student and faculty teaching and research awards
Administered and graded Organic Division placement exams
Managed ACS Exams Institute nationally standardized tests for organic chemistry
Supervised evaluation and prioritization of organic chemistry journals for library acquisition
Oversaw multiple exterior speaker exchange programs for the Division

Faculty Appeals Board Chair

1993-2001, 2004-2005 chair

Oversaw faculty grievances, disputes, performance, and employment as set forth in the Faculty Handbook
Worked with all levels of university governance, including Legal Counsel, deans, department chairs, Faculty Senate, faculty, students, and external attorneys in order to implement resulting programs
Handled sensitive negotiations and resolved conflicts, via discussions with both sides – “shuttle diplomacy”
Processed grievances between the university and faculty members
Handled conflicts between faculty and students
Resolved conflicts, found solutions, and avoided lawsuits
Helped develop programs to address serious issues

Professor of Chemistry and Biochemistry

1983-date

Five primary topics of research, generally categorized in two areas: *Scientific Research* and *America's Scientific Readiness*. *Scientific Research* addressed high-impact and significant areas of chemistry: topics were mechanistic patterns in alkene addition reactions and Single-Walled Carbon Nanotube functionalization and analysis. *America's Scientific Readiness* focuses on science education, including classroom innovations and correcting organic chemistry textbook inaccuracies, on ethnic and gender diversity (Nelson Diversity Surveys) among highly

ranked science departments of research universities, and on improving the image and presentation of science and scientists to the public. The last topic included serving as science advisor to the AMC television show *Breaking Bad* and 2016 President of the American Chemical Society (ACS).

Published over 200 papers and book chapters, wrote and/or edited 6 books, published 3 teaching devices

Applied for, received, and managed over \$3M in external research grants, all sole-PI grants

Received over 100 awards and honors, and gave hundreds of keynote, plenary, and invited presentations

Taught organic chemistry to over 12,000 undergraduates and graduate students

Supervised dozens of postdoctoral and graduate research assistants

Determined mechanistic patterns in dozens of additions to alkenes, by considering steric and electronic effects in their rate-determining steps, along with additional mechanism information

Developed a new characterization technique, by obtaining the first COSY NMR spectrum of covalently functionalized Single-Walled Carbon Nanotubes (SWCNTs) in solution

Determined and disseminated corrections to errors in organic chemistry textbooks, involving the material most challenging to students and having the most errors: carbonyl chemistry; substitution vs elimination of alkyl halides; molecular orbitals vs atomic orbitals; cyclohexane conformations and nomenclature

Carried out and disseminated results of the Nelson Diversity Surveys, which determined headcounts of faculty in 15 STEM disciplines at research universities, disaggregated by race/ethnicity, rank, and gender

Science advisor to Hollywood productions, such as AMC's Emmy Award-winning *Breaking Bad*, *Big Bang Theory*, and the stage production *Triangle*

AMERICAN CHEMICAL SOCIETY, Washington, DC

The largest scientific society in the world, with revenues of over \$500M and a membership over 160,000, dedicated to advancement of chemistry and chemists globally.

President and Board Member; 3 years in the Presidential Succession 2015-2017

Represented ACS at scientific meetings domestically and abroad, to the US Congress, and to the public

Analyzed and ensured future fiscal health of the organization

Anticipated and addressed concerns of members via email, talks, articles, announcements, and meetings

Selected, approved, and attended board training in teambuilding, strategic planning, diversity, and others

Traveled abroad greatly; signed Memos of Understanding (MOUs) with 12 countries' scientific societies

Emailed *all* ACS members in order to solicit opinions and ideas

Special Assistant to ACS President E. Ann Nalley during her 3-year Presidential Succession 2004-2007

Traveled with President Nalley and assisted her duties domestically and internationally

Carried out her duties in her absence or when she had time conflicts

Local ACS Section Chair, Oklahoma Section; 3 years in the Chair Succession 2011-2013

Oversaw chapter finances and budgeted expenses

Selected, invited, scheduled, and hosted speakers for Section monthly dinner meetings

Represented Oklahoma Section at ACS national leadership training programs

Nominated local section members for ACS awards

Recruited local section ACS members and future local section officers

LEADERSHIP AS VISITING PROFESSOR AND CONSULTANT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MA

A major research university in Massachusetts with ~11,500 students, ~1,100 faculty, and a \$17.6B endowment.

Visiting Professor; Guggenheim Fellow, Ford Fellow, MLK Fellow 2002-2004, 2010-2011

Helped upper administration justify diversity to lower administration and faculty, using Nelson Diversity Surveys

Set, advanced, and disseminated diversity goals in consultation with Provost Robert Brown

Gathered opinions and ideas from all underrepresented minority faculty, individually and in groups

With upper administration, used Nelson Diversity Surveys to justify diversity to lower administration / faculty

UNIVERSITY OF CALIFORNIA AT SAN DIEGO, SAN DIEGO, CA

A major research university in California has ~39,000 students, ~10,600 faculty, and a \$1.7B endowment.

Chancellor's Diversity Scholar (with Chancellor Marye Anne Fox)

2008

Assisted Chancellor Fox introduce programs for conflict resolution and diversity, with faculty, staff, and students
 Formulated, advanced, and disseminated diversity goals working with Chancellor Marye Anne Fox
 Brainstormed programs for conflict resolution and diversity
 Consulted with faculty, staff, and students in order to gather opinions and ideas

UNIVERSITY OF MARYLAND BALTIMORE COUNTY, BALTIMORE, MD

An HBCU research university in Maryland has ~13,800 students, ~1,300 faculty, and a \$105.2M endowment.

AASCU Millennium Leadership Award Placement with President Freeman Hrabowski 2007

Shadowed President Hrabowski as he inspired, mentored, and resolved conflicts for faculty, staff, and students
 Brainstormed programs for conflict resolution and diversity. Explored strategies for inspiring faculty and staff

CHALLENGES AND ETHICAL BREECHEES RESOLVED WHILE CONSULTING FOR OTHER UNIVERSITIES

Explained why URM students rejected URM faculty that administrators had hired to be their role models
 Resolved conflict between URM faculty and female faculty who would not speak to each other
 Developed and installed a university-wide program to address faculty selling grades to students
 Resolved faculty arranging characteristics of PhD qualifying exams, which caused students of one race to fail

RECOGNITION AND PROFESSIONAL ACTIVITIES

SELECTED BOARD POSITIONS

Advisory board for PBS NOVA film "Beyond the Elements"	2020-date
Scientific American Board of Advisors, New York City, NY	2018-date
Board of Directors Member, Science Counts, Washington, DC	2016-date
Board of Directors, Member, Council of Scientific Societies Presidents, Washington, DC	2017-date
Board of Directors, American Chemical Society, Washington, DC.	2015-2017
Board of Directors, SACNAS, Santa Cruz, CA	2010-2011

SELECTED AWARDS, HONORS, AND ELECTED OR APPOINTED POSITIONS

NATIONAL / INTERNATIONAL

Awards and Honors

Honorary Doctorate, University of Edinburgh, Scotland	July 22, 2021
These 12 Texas Women Made History, by UT Austin	2021
Sigma Xi Fellow	2020
Royal Society of Chemistry Fellow	2019
Florence R Sabin Award for Research Excellence, GWIS, Iowa City	Jul 6, 2018
National Honorary Membership Award, Graduate Women in Science, Iowa City	Jun 16, 2018
70 Most Inspirational Women Leaders Impacting the World, by Business.org	June 3, 2018
Public policy task force on Weaponization of Chemicals, American Chemical Society	Jan 1, 2018
Fray International Sustainability Award, Flogen Star Outreach	Oct 24, 2017
Israel Chemical Society Fellow	2016
Jerry March Award for Organic Chemistry Education, Adelphi University.	Sep 28, 2015
UT-Austin, Donna J. Nelson Undergraduate Scholarship in Natural Sciences, created	Apr 16, 2014
UT-Austin Pioneering Leader Award	2014
Oklahoma Higher Education Hall of Fame	2013
ACS Henry Hill Award (for professionalism)	2013
Top 30 Women Professors at Affordable Colleges. <i>AC Online</i>	Jun 2013
Oklahoma Chemist Award	2012
ACS Stan Israel Award for Diversifying Chemical Sciences	2011
ACS E. Ann Nalley Award for Volunteerism	2011
MLK Fellow, MIT, Cambridge, MA	2010-2011
ACS Fellow	2010
Big 12 Faculty Fellow, UT-Austin, TX	2010

Chemical Heritage Foundation, Oral History Interviewee	Jul 21, 2008
Fulbright Scholar	2007 -2008
Fellow, American Association for the Advancement of Science	2006
Guggenheim Award	2003 -2004
Ford Foundation Fellowship	2003–2004
NSF ADVANCE Leadership Award	2006–2011
21 Leaders for the 21st Century, Women’s eNews	2006
SACNAS Distinguished Scientist of the Year	2006
Minority Health Professions Foundation Hall of Fame Inductee	2005
National Organization for Women (NOW) National Woman of Courage Award	2004
Alfred P. Sloan Foundation Travel Award	2003
AISES Sequoyah Member	2003
Member Spotlight, The Iotan, p3. (The first such award given.)	Mar 6, 1994
Phi Kappa Phi Honor Society, Invited Founding Member, Chapter 251	1993
NSF Research Grant Creativity Extension	1989 -1991
Research Corporation Cottrell Scholar Award	1985
ACS Petroleum Research Foundation Type G Award	1985

Elected or Appointed Positions

Councilor, American Chemical Society, Washington, DC	2015-date
American Chemical Society, Washington, DC. Immediate Past President, President, President-Elect	2015-2017
Top 10 Emerging Technologies Selector, Scientific American & World Economic Forum, NYC	2017
Council of Scientific Societies Presidents	2009-date
AAAS Committee on Council Affairs, Executive Committee	2014-2015
Science advisor, “ <i>Breaking Bad</i> ” AMC Television, Producer Vince Gilligan	2008-2013

LECTURE COURSES TAUGHT (category)

Organic Chemistry courses: undergraduate lecture, lab, graduate lecture, advanced physical organic
 Senior Project Capstone
 President’s Mentoring Course

RESEARCH AREAS

Organic Chemistry Education, Public Perception of Science and Engineering, Scientific Workforce Development,
 Nelson Diversity Surveys, Correlations of Additions to Alkenes, Functionalizing and Characterizing Single
 Walled Carbon Nanotubes (SWCNTs)

RESEARCH RELATED ACTIVITIES

PUBLICATIONS: Over 200 publications, including 6 books and 3 teaching devices

Grant funding: About \$3.1 M sole-PI external grants; about \$100 K internal sole-PI grants

RESEARCH RELATED PRESENTATIONS

Keynote, Plenary, or Invited Speaker: About 400 talks

Contributed Presentations: About 200 talks

TV, Radio, Interview, and Feature Articles and Exhibitions on Research Activities: About 400 publicity items