

Biographical Summary (Updated on August 21, 2023)

Thomas J. Wenzel is the Charles A. Dana Professor of Chemistry, Emeritus at Bates College in Lewiston, Maine. Dr. Wenzel received his B.S. degree in chemistry from Northeastern University, Boston, Massachusetts in 1976. He obtained his Ph.D. degree in analytical chemistry in 1981 from the University of Colorado, Boulder. His thesis research was recognized through his receipt of the University of Colorado Award for Creative Research. His appointment at Bates College began in 1981. He has served terms as chair of the Science Division, Chemistry Department, Biochemistry Program, and the interdisciplinary Environmental Studies Program.

2023 – *The Analytical Scientist* 2023 Power List

One of the 100 most influential people in analytical science over the past decade
(ranked #3 among top 25 educators)

2020 – American Chemical Society National Award

George C. Pimentel Award in Chemical Education

2016 – American Chemical Society Fellow

2010 – American Chemical Society National Award

Research at an Undergraduate Institution

2003-2005 and 1990-1991 – Camille and Henry Dreyfus Scholar.

2002 – Council on Undergraduate Research Fellows Award, the first chemist to be so recognized.

1999 – J. Calvin Giddings Excellence in Education Award from the Analytical Division of the American Chemical Society.

1997 – Carnegie Foundation College Professor of the Year for the State of Maine.

Dr. Wenzel has been the recipient of research and/or educational grants from the National Science Foundation, Research Corporation, the Petroleum Research Fund, the Camille and Henry Dreyfus Foundation, and the Pittsburgh Conference and Exposition. He has carried out research in collaboration with undergraduate students in the areas of chiral NMR shift reagents, lanthanide luminescence detection in liquid chromatography, and selective sorbents for gas chromatography. He has a total of 200 publications; 97 on research activities (refereed), 51 on educational activities (refereed), and 52 others, many of which have to do with his efforts to promote undergraduate research. External grants for research and education total over \$3.95 M.

Highlights of his **research activities** are as follows:

- Research funded through NSF-RUI program (25 consecutive years, 7 grants).
- 97 publications on research and research-related activities, 67 of which have undergraduate student co-authors. These publications include two books on chiral NMR shift reagents (2018, 2007), a book on NMR shift reagents (1987), and 15 other book or encyclopedia chapters on NMR shift reagents or liquid chromatography.
- 86 different undergraduate students and 4 high-school chemistry teachers have co-authored papers describing work undertaken in his lab
- 288 presentations on research and educational activities. Includes plenary or keynote addresses at five International Symposia on Chiral Differentiation (2014, 2012, 2007, 2002, 1995) and a distinguished scientist lecture (Vaughn Lecture) at Belmont University.
- Member of the editorial board of the journal *Chirality* from 2005-2020 (only member from an undergraduate institution over that time period)
- Active in encouraging women and minorities to pursue careers in science. 80 of the 128

students who have undertaken chemistry research with him at Bates are women; 19 are BIPOC

- Taught three short courses on NMR methods for studying chirality at installments of the International Symposium on Chiral Discrimination. Led one workshop on chiral methods and applications at the Small Molecule NMR Conference.

Highlights of his **educational activities** are as follows:

- Education activities most recently funded through NSF-IUSE. Project involved offering national and regional workshops aimed at promoting the use of active student learning by instructors of analytical chemistry courses. Over 150 faculty members participated in this project.
- Invited to co-edit the book *Active Learning in the Analytical Chemistry Curriculum* that was published through the American Chemical Society Symposium Series in 2022. The book describes outcomes of the NSF-funded active learning project.
- PI on prior NSF-funded project (TUES Type 2). This project involved a consortium of instructors from 20 different institutions who developed active learning materials for use in the undergraduate curriculum. All materials are available for free through the Active Learning site of the Analytical Sciences Digital Library (<http://www.asdlib.org>)
- Recipient of eight NSF curriculum development grants
- 103 publications on educational topics involving the teaching of science and analytical chemistry or on efforts to promote undergraduate research.
- Two invited articles in the journal *Analytical Chemistry* describing the methods he utilizes in his undergraduate courses (1995, 67, 470A-475A, 1998, 70, 790A-795A)
- A Contributing Editor for *Analytical Chemistry* from 1999-2003. Wrote a regular column with a focus on educational topics
- An Associate Editor for *Analytical and Bioanalytical Chemistry* column series "ABCs of Analytical Science Education and Professional Development," (2013-2021)
- Six book chapters on his educational methods
- Invited article in *Environmental Science and Technology* on the use of environmental topics in analytical and general chemistry courses, including a description of his own work in both areas.
- He was the featured speaker at an Education Forum at the University of Huddersfield, UK in 2002, organized by the Royal Society of Chemistry. He was a featured speaker at a conference on general education in the sciences held at Union College in 2004.
- He has conducted or chaired 35 workshops on the use of engaged-student learning in analytical chemistry at regional, national, and international conferences
- He has conducted or chaired 40 workshops on writing more competitive research and/or curriculum grant proposals
- Has organized/chaired 27 symposia at national and regional meetings aimed to promoting undergraduate research or engaged student learning
- One of three individuals invited to deliver a "Best Practices" address at a National Science Foundation-sponsored workshop "Curricular Development in Analytical Sciences." Served many years as an Advisory Board member for the Analytical Sciences Digital Library (initially funded through NSF-now funded through Analytical Division of the American Chemical Society).
- One of his student's project-based labs was featured as Chapter 0 in earlier editions of Daniel Harris' textbooks to exemplify the nature of problem solving in analytical chemistry

Highlights of his **professional activities** are as follows:

- Conference Chair of the 27th International Symposium on Chiral Discrimination (Chirality 2015) in Boston, MA, June 28-July 1, 2015.

National Science Foundation – Chemistry Division

- Research Sites for Educators Workshop in Chemistry, Arlington, VA, March 8-10, 2002
- Undergraduate Research Centers Workshop, Arlington, VA, March 30- April 1, 2003
- Workshop on the Post-doctorate, Arlington, VA, May 11-13, 2003 (Member of Steering Cmmt.)
- Undergraduate Research Summit, Bates College, Lewiston, ME, August 2-4, 2003 (Host and Meeting Chair) – Recommendations for enhancing the quality and quantity of research in the chemical sciences at predominantly undergraduate institutions. Organized over twenty symposia and workshops at national and regional meetings to promote outcomes of the Summit. (<http://www.bates.edu/chemistry/faculty/thomas-wenzel/undergraduate-research-summit/>).
- Research Experiences for Undergraduates Program Leadership Group – Chemistry, 2007-2010
- National Science Foundation – Chemistry Division, Committee of Visitors (2016)

National Science Foundation – Service on Review Panels

- Chemistry Division – 6 times
- Division of Undergraduate Education – 6 times

Council on Undergraduate Research (CUR)

- Councilor or Councilor Emeritus since 1990
- President in 1996-97
- Edited the Fifth Edition of *Research in Chemistry at Primarily Undergraduate Institutions* that was published by the Council in 1993
- Co-chair for the 5th National Conference of CUR and First National Conference of CUR Kids that was held at Bates College in June of 1994
- Conceived of and started the CUR Institutes Program in 1996
- Workshop and poster coordinator for the 7th National Conference of CUR held at Occidental College in June of 1998
- Co-chair for the 10th National Conference of CUR held at the University of Wisconsin La Crosse in June of 2004.
- Editor-in-Chief for the *CUR Quarterly* (September 2001-March 2005) – instituted peer review of submitted manuscripts; created the undergraduate research highlights feature.
- Invited plenary addresses at three CUR Dialogue meetings (2003, 2010, 2020)
- Opening invited plenary address at a conference titled: International Perspectives on Undergraduate Research, Liverpool, England, October 2010

American Chemical Society

- Committee on Professional Training, 2011-2018 (Chair: 2015-2017; Vice-Chair: 2014)
- Analytical Division – Coordinator of regional meeting speaker's fund, 2002-2006

Petroleum Research Fund

- External Review Workshop, Jan. 10-11, 2007

Research Corporation

- Models in Academic Leadership Conference, July 29-31, 2004 – special guest

Beckman Foundation

- Executive Committee Member, Beckman Scholars Program, 2005-2009

Howard Hughes Medical Institute

- Reviewer on four occasions for their undergraduate education program

Merck/AAAS

- Reviewer on two occasions for their summer undergraduate research program

International Union of Pure and Applied Chemists

- Project member: A review of the current status of analytical chemistry education, 2020 –