

Elizabeth M. Dorland

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Education

University of California at Berkeley
Kansas State University, Manhattan

MS, Chemistry, December 1971
BS, Chemistry, May 1970

Professional Experience

07/06-present	Washington University in St. Louis	Education Specialist
08/03-08/04	National Science Foundation, Arlington, VA Division of Undergraduate Education	Program Director
05/93-06/06	Maricopa County Community College District Mesa Community College, Mesa AZ (tenured)	Chemistry Faculty
09/89-06/90	Full-time Faculty	
01/88-06/89	Adjunct Faculty Glendale Community College, Glendale AZ	
09/90-05/93	Residential Faculty	
09/85-12/87	Adjunct Faculty	
09/79-06/85	American International College, Springfield, MA	Chemistry Faculty
09/83-01/84	Amherst College, Amherst, MA (part-time)	Chemistry Faculty
01/77-06/79	Shoreline Community College, Seattle, WA (adjunct)	Chemistry Faculty
09/76-08/78	Seattle Central Community College, WA (adjunct)	Chemistry Faculty
01/77-04/77	University of Washington, Seattle, WA (associate)	Chemistry Instructor
09/72-06/76	Diablo Valley College, Pleasant Hill, CA (adjunct)	Chemistry Faculty
09/74-01/75	Merritt College, Oakland, CA (adjunct)	Chem Tech Faculty
09/70-06/76	University of California Berkeley Spring Quarters: 1972, 1973, 1976 Graduate Student: 9/70-12/71	Associate Instructor Teaching Assistant
06/70-09/70, 06/69-09/69	Eastman Kodak Company, Rochester, NY	Research Assistant
06/68-01/70	Kansas State University, Manhattan, KS	Teaching Assistant
06/68-09/68	Kansas State University - NSF funded (chemistry)	Research Assistant

Sabbatical Leave

“Software for Designing Interactive Chemistry Tutorials: Dreamweaver and Chime”
Professional Development Centre, University of New South Wales, Sydney, AU, Spring 1999

NSF Activities (ongoing)

NSF Sponsored National Conversations on "**What Does it Mean to be Educated in the 21st Century**": **Co-principal investigator** for the **Community College Conversation** at Mesa Community College, May 2005 (one of five held nationally)

National Visiting Committee: advising and yearly site visits to the NSF-funded **Molecular Literacy (MOLIT) Project** at The Concord Consortium (development of online modules with chemical principles for biotechnology education)

NSF-DUE Grant Panels

06/06 NSF ATE (Advanced Technological Education) **panel chair**, Washington DC
05/06 NSF NSDL (National STEM Digital Library) grant panel, Washington DC
03/06 NSF CCLI (Course, Curriculum and Laboratory Instruction) **panel chair**, Washington DC
12/05 NSF ATE grant **panel chair**, Washington DC
04/05 NSF ATE National Center Grant renewal panel, Washington DC
01/05 NSF CCLI grant **panel chair**, Washington DC
12/04 NSF ATE grant **panel chair**, Washington DC
07/00 NSF CCLI grant **panel chair**, Washington DC
01/97 NSF ILI (Instrumentation & Laboratory Improvement) **panel chair**, Washington DC
07/95 NSF CCD/UFE (Course & Curriculum Development/Undergraduate Faculty Enhancement)
01/94 NSF ILI (Instrumentation & Laboratory Improvement) grant panel, Washington DC
02/93 NSF ILI (Instrumentation & Laboratory Improvement) grant panel, Washington DC

Professional Activities

- American Chemical Society (ACS), Division of Chemical Education
- **Appointed member**: Committee on Computers in Chemical Education, Division of Chemical Education, ACS
- National Science Teachers Association/Society of College Science Teachers (NSTA/SCST)
- American Educational Research Association (AERA)
- American Women in Science (AWIS)
- 2YC3 (Committee on Chemistry in the Two Year Colleges)
- American Association for the Advancement of Science (AAAS)
- ChemEd-L Chemistry Education listserv discussion group, participant since 1993
- Teaching, Learning and Technology Roundtable (TLTR) at Mesa Community College

Project Kaleidoscope (PKAL) Activities

10/06 Project Kaleidoscope National Assembly: **Coming Together to Strengthen Student Learning**, Chicago, IL (upcoming)
02/06 Project Kaleidoscope Leadership Initiative Seminar: **Leadership in Building Programs that Ensure the Success of All Students**, San Antonio, TX
09/05 Project Kaleidoscope National Colloquium: **Translating How People Learn into a Roadmap for Institutional Transformation**, Kansas City, MO
08/05 **STEMFLC Faculty Learning Community** (interdisciplinary): Teaching introductory science
Ongoing - Co-sponsored by PKAL and Mesa Community College

Graduate Education Courses

Sp 06 Community College Issues: Student Affairs, Northern Arizona University
F 05 Statistics in Education, Northern Arizona University
F 05 Community College Issues: Academic Affairs, Northern Arizona University
Su 05 The Adult Learner, online from Northern Arizona University

- Su 05 Qualitative Research, online from Northern Arizona University
- Sp 05 Modern Theories of Adult Learning, Northern Arizona University
- Sp 05 Community College Issues: Partnerships and Strategic Planning, NAU
- Su 00 Introduction to Educational Research, online from Northern Arizona University
- Sp 00 History of Education, Northern Arizona University
- Sp 00 Higher Education in the United States, Northern Arizona University
- Sp 98 Teaching Self-Regulation in College Science and Mathematics, Chautauqua online
- F 98 Theories of Learning, Educational Psychology, Arizona State University

Chautauqua Courses

- 06/98 **Intermediate Web Design**, David Brooks, Fullerton, CA
- 11/91 **The Art of Teaching Introductory Chemistry: New Approaches**, Harry Gray, Cal Tech, Pasadena, CA
- 02/91 **Designing Interactive Computer Assisted Instruction in the Sciences**, David Brooks, Apple Computer, Cupertino, CA

Educational Projects and Interests

- Student-created digital video projects of chemistry lab concepts (edited with iMovie, 2002)
- Utilization of WebCT (course management system) to deliver weekly quizzes, grades, handouts, overheads, PowerPoint presentations, links to online tutorials and other resources
- Application and theory of molecular visualization and animations in teaching
- Incorporation of metacognitive assessments to increase student motivation
- Vernier Probes for laboratory data collection coordinated with Graphical Analysis
- Strategies for assessment of student conceptual learning
- Cognitive and other theories of learning and their implications in teaching
- Active learning and data driven strategies in lecture and laboratory
- Social-cultural effects on student and faculty attitudes about science
- Perspectives on science from the history and philosophy of chemistry
- Alternative research traditions and practice in Education, Humanities, and the Sociology of Science/Science Studies
- International perspectives on teaching and learning in science
- Faculty and student development: information literacy, instructional technologies
- Development of interdisciplinary courses and collaborations

Courses Taught

Lecture and Laboratory: General Chemistry I and II, Introductory Chemistry, Introductory Organic and Biochemistry, Chemical Calculations, General Organic I and II, Chemical Technology

Publications

- “**News from Online: What’s New With Chime**”, Journal of Chemical Education, Vol. 79, No. 7, pp.778-782, July 2002
- “**Adventures in WebCT: Web-Enhanced Introductory Chemistry**”, Committee on Computers in Chemical Education Newsletter, Spring 2001

Presentations: Symposia and Workshops

- 08/06 "MOLIT: The Molecular Literacy Project at The Concord Consortium"
19th International Conference on Chemical Education (ICCE)
Presentation at Sookmyung Women’s University, Seoul, Korea
- 07/05 "MOLIT: The Molecular Literacy Project at The Concord Consortium"
Gordon Research Conference on Visualization in Science and Education
Poster presentation - The Queen's College, Oxford University, UK

- 06/05 "What Does it Mean to Be Educated in the 21st Century"
The NSF-Sponsored National Community College Conversation
Poster presented at the Gordon Conference on Chemical Education Research
- 06/05 "What Does it Mean to Be Educated in the 21st Century"
The NSF-Sponsored National Community College Conversation
Presentation at NSF for project wrap-up meeting of all PIs
- 05/05 "Inside NSF: What do Program Officers do all Day?"
First Year Chemistry International Conference (FYI) - Urbana, IL
- 10/04 "Funding Opportunities in the NSF Division of Undergraduate Education"
Workshop for faculty at Mesa Community College
- 08/04 "NSF: Introduction to the National Science Foundation"
International Conference on Chemical Education (ICCE) - Istanbul, Turkey
- 07/04 "NSF Programs supporting Articulation and Transfer"
Biennial Conference on Chemical Education - ACS-SOCED Symposium
- 07/04 "NSF Funding Opportunities and Workshop for Grant Writing"
Half-day workshop - Biennial Conference on Chemical Education (BCCE)
Bellingham, WA
- 05/04 "Online Resources for Faculty Grant Writers",
CRD Workshop for Grants Officers (at the National Science Foundation)
- 04/04 "NSF Programs for Community Colleges"
Community College Day at the National Science Foundation
- 03/04 "Funding Opportunities for Community College Chemistry"
Two Year College Chemistry Consortium (2YC3) meeting, Irvine, CA
- 11/03 "Funding Opportunities for Community Colleges at NSF-DUE"
Council on Resource Development (CRD) National Conference, Wash. DC
- 11/03 "Funding Opportunities in the Division of Undergraduate Education"
Southeast Regional Meeting of the American Chemical Society (SERMACS)
- 08/02 "W16: Developing Instructional Web Pages with Chemscape Chime"
Workshop Organizer, 2002 Biennial Conf. on Chemical Education
- 08/02 "Chemscape Chime as a Visualization Tool"
2002 BCCE Symposium, Organizer (with Jennifer Muzyka)
- 08/02 "What's Up With Chime These Days?", Computers in Chemical Education
Symposium presentation at 2002 BCCE, Bellingham, WA
- 05/01 "Creation and Administration of Weekly Homework Quizzes in WebCT"
Kaleidoscope at Mesa Community College, final project presentation
- 01/01 "Adventures with WebCT",
Poster presented at the Gordon Conference on Chemical Education Research
- 12/97 "Use of Vernier Probes and Laptop Computers in the Chemistry Laboratory"
Kaleidoscope at MCC, final project presentation
- 05/96 "Chime Resources for Molecular Visualization, a Web Page for Students"
Maricopa District Technology Dialog Day presentation
- 04/93 "Reviewing for the NSF", presentation at Maricopa workshop for grant writers

Professional Conferences

- 08/06 19th ICCE - International Conference on Chemical Education, Seoul, Korea
- 07/06 20th BCCE - Biennial Conference on Chemical Education, Purdue University
- 03/06 AERA - American Educational Research Association, San Francisco, CA
- 12/05 AACC - American Association of Community Colleges, Washington DC
Invitational Summit on Teaching by Choice (report published Sp 06)
- 07/05 Gordon Research Conference on "**Visualization in Science and Education**",
The Queen's College, Oxford University, UK
- 06/05 Gordon Research Conference on "**Chemical Education: Research and Practice**",
Connecticut College, New London, CN
- 05/05 First Year International Chemistry Conference (FYI)
International Center for Undergraduate Chemistry Education, Urbana, IL

03/05 ACS - American Chemical Society National Meeting, San Diego, CA
 02/05 AAAS - American Association for the Advancement of Science, Washington DC
 10/04 Advanced Technological Education PI Conference (NSF-ATE), Washington DC
 08/04 18th ICCE - International Conference on Chemical Education, Istanbul, Turkey
 07/04 19th BCCE - Biennial Conference on Chemical Education, Ames, IA
 04/04 **"Building Excellence in Undergraduate STEM Education"**, NSF CCLI Conference
 03/04 ACS - American Chemical Society National Meeting, Anaheim, CA
 03/04 2YC3 - Two Year College Chemistry Consortium, Irvine, CA
 02/04 AAAS - American Association for the Advancement of Science, Seattle, WA
 01/04 Gordon Conference, **"Innovations in College Chemistry Teaching"**, Ventura, CA
 02/04 International Chair Academy Conference, Reston, VA
 11/03 SERMACS - Southeastern Regional Meeting of the ACS, Atlanta, GA
 11/03 NSDL - National STEM Digital Library Principle Investigator's Conference (NSF)
 10/03 Advanced Technological Education PI Conference (NSF-ATE), Washington DC
 09/03 ACS - American Chemical Society National Meeting, New York, NY
 04/03 **"The Student Experience in Online and Hybrid Courses"**,
 Teaching in the Community Colleges Online Conference 2003
 08/02 17th BCCE - Biennial Conference on Chemical Education, Bellingham, WA
 01/01 Gordon Research Conference, **"Innovations in College Chemistry Teaching"**, Ventura
 08/00 16th BCCE - Biennial Conference on Chemical Education, Ann Arbor, MI
 03/00 ACS – American Chemical Society National Meeting, San Francisco, CA
 08/98 15th BCCE - Biennial Conference on Chemical Education, Waterloo, Ontario
 01/95 Gordon Research Conference, **"Innovations in College Chemistry Teaching"**, Ventura
 08/94 13th BCCE - Biennial Conference on Chemical Education, Bucknell, Pa
 08/92 12th BCCE - Biennial Conference on Chemical Education, Davis, California
 03/92 **Gordon Research Conference on Science Education**, Ventura, CA
 06/91 NECC - National Educational Computing Conference, Phoenix, AZ
 01/91 MacWorld Expo, San Francisco, CA
 08/90 **Instructional Technology for Science Faculty in Two-Year Colleges**,
 Rancho Santiago College, Santa Ana, CA

Honors

Phi Kappa Phi (Scholarship), **Phi Lambda Upsilon** (Chemistry), **Iota Sigma Pi** (Women's Chemistry), **Alpha Lambda Delta** (Freshman Scholarship), **President**, American Chemical Society Student Affiliate

Personal Interests

Tennis, hiking, video/photography, cooking, Mata Ortiz pottery, history of architecture and design

Travel

Europe, Canada, Mexico, Japan, Hong Kong, Thailand, India, Nepal, Afghanistan, Lebanon, Greece, Soviet Union, Caribbean, Fiji, Australia, New Zealand, China, Turkey, Korea

References

Brian Tissue, Virginia Tech	tissue@vt.edu
Robert Lancashire, University of the West Indies, Mona	rjlanc@uwimona.edu.jm
Peter Mahaffy, The King's College, Edmonton, Alberta	peter.mahaffy@kingsu.ca
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