

Ronald J. Rusay

Professor Emeritus
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Biographical Sketch / C.V.

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Professor Rusay has taught lower division college chemistry courses (organic, general, introductory and non-science majors chemistry) to a diverse student body at Diablo Valley College, a California Community College with an enrollment of more than 20,000 students from 1990-2020. His doctoral research was in chemistry (organic synthesis) and his Ph.D. includes a minor in oceanography. He is a Vietnam veteran, worked as a synthetic research chemist in industry, holds several patents, which cover active biological molecules of pharmaceutical and agricultural importance, and held progressively more responsible international management positions before returning to academia to teach chemistry and graduate business courses.

He has been a visiting professor in Osaka, Japan and in Murmansk, Russia, a visiting scholar at the University of California, Berkeley and Tsinghua University, Beijing, China, and a science education fellow at Lawrence Livermore National Laboratory.

Professor Rusay served on the Chemistry editorial board of MERLOT (Multimedia Educational Resources for Learning and Online Teaching: <http://merlot.org/>), and has been involved with academic publishing as an author, editor, content developer, and publisher. Since 2009, He has been associated with the UC Davis ChemWiki Project, which over time evolved into the STEMwiki Project, and then to its current iteration, LibreTexts, continuing to explore his interests in teaching-learning & cognition with aims to develop and employ engaging, interactive Open Educational Resources (OER), and pedagogies that make STE(A)M courses more accessible with lower costs to all students, and which improve their educational & professional outcomes; *Particularly in providing every student with the opportunity & experience to develop confidence in using reliable AI agents as freely accessible tools within a framework of truthful, verified resources and organized logic to help guide them in their quest for personal knowledge & wisdom to make the best possible, never-regrettable, ethical choices & decisions, and find the best possible answers & solutions to any problem, within any context, regardless of how messy, confusing, complex, contradictory, or challenging that it may seem to be.*

He served as Principal Investigator (PI) or co-PI of a number of National Science Foundation, Hewlett Foundation, & Dreyfus Foundation instructional improvement grants that include collaborative, interdisciplinary development of the ChemWiki / STEMwiki / LibreTexts Project (<https://libretexts.org/>); (<https://chem.libretexts.org/>).

ACADEMIC PREPARATION

- Ph.D **Major:** Organic Chemistry, **Minor:** Oceanography, Oregon State University (1973-1976), ACS Pre-doctoral Research Fellow
- M.S. Organic Chemistry, National Institutes of Health Research Assistant, Teaching Assistant, University of New Hampshire (1967-1969)
- B.A. Chemistry, University of New Hampshire (1963-1967)

PROFESSIONAL EXPERIENCE

- Professor, Diablo Valley College (1990 - 2020)
- Visiting Scholar, University of California, Berkeley (1996 - 2009), Tsinghua University (August 2016)
- Science Education Fellow, Lawrence Livermore National Laboratory (May, 2000 - 2009)
- Visiting Professor, Osaka College of High Technology, Osaka, Japan (May - July 1999)
- Guest Professor, Murmansk State University, Murmansk, Russia (May - June 1998)
- Chair, Department of Chemistry (1993 - 1996)
- Contra Costa Food Bank, Board of Directors, (1992 - 1998), (2000 - 2002), Past President (1996 - 1997)
- Senior Product Manager, ICI (Zeneca), Fernhurst, England (1988 - 1990)
- Manager, Research and Development, Stauffer Chemical Company, Pacific Basin / Far East (1984 - 1988)
- Business Analyst, Stauffer Chemical Company, San Francisco, CA, Pacific Basin / Far East (1980 - 1984)
- Research Chemist, Stauffer Chemical Company, Richmond, CA (1976 - 1980)
- Chemistry Teacher / Football & Tennis Coach, Bridgton Academy, North Bridgton, ME (1971-1972)
- Platoon Leader / Executive Officer, US Army, Vietnam (1970 - 1971)

SELECTION OF PRESENTATIONS, PATENTS, & PUBLICATIONS

- "Spies in Training", Contra Costa Community Library, Young Learners Program, STEM/Chemistry lesson, Concord Library, (November 2022) <https://tinyurl.com/mph2fcky>
- "Global Climate Crisis: Sustainable Teaching-Learning Resources", Cal-OER 2021 Conference, (August 2021) Appraisal (August 2026) <https://bit.ly/3SWXMWy>
- "Alchemy to chemical science: The advance of texts for over 5,000 years in China from the oracle bones to e-learning resources and methodologies"; ACS National Meeting, Division of Chemical Information, (April 2017) <https://chemconnections.org/ACS/ACS-Chem%20Information-2017.htm>
- "Innovative e-learning foundations for chemistry centered Science, Technology, Engineering, (Arts), Mathematics, STE(A)M": ACS National Meeting, Division of Chemical Education, (April 2017)
- 6th International UNESCO Cooperation Summit Forum October 21-24, 2016 Harbin, China
- "Employing interactive, open educational resources (OER) in a non-science majors chemistry course and harnessing the functional and archival strengths of the ChemWiki/STEMwiki hyperlibraries": Biennial Conference on Chemical Education (BCCE), University of Northern Colorado (August 2016)
- "Tailoring non-science majors chemistry topics and activities as threads for weaving both STEM and Liberal Arts fabric": <http://chemconnections.org/bcce/BCCE-ABC-8-3-16.final.htm>, Biennial Conference on Chemical Education (BCCE), (August 2016)
- "Connecting & Innovating STEM Education": Tsinghua Maker's Day, Tsinghua University, Beijing, China (November 2015)
- "Future Faculty Seminar", Panelist, Stanford University, School of Medicine, (June 18, 2015, September 23, 2014, November 12, 2013)
- "On-line 3-D Molecular Exercises, Worksheets, and Problems for Lower Division College Chemistry", <http://chemconnections.org/2YC3/2YC3-COT.pdf>, ACS Webinar: 196th Conference of the Two-Year College Chemistry Consortium (2YC3), (April, 2012)
- "Enhancing Undergraduate Chemistry Education with the Online Dynamic ChemWiki Resource", Journal of Chemical Education website: <http://pubs.acs.org/articlesonrequest/AOR-4IYxSmapp6HaeqVQH49> (April, 2011)
- "Crystals for the Classroom", <http://chemconnections.org/Presentations/ACS-2004/ACS-2004.htm>; presentation: "Building Bridges to Understanding Chemistry through Innovation in Teaching and Education", Symposium: George C. Pimentel Award in Chemical Education, (March 2004)
- "Mathematical Modeling, Technology and Bridging to the Nano-realm in Teaching Undergraduate Chemistry"; <http://chemconnections.org/Presentations/AIT-presentation.htm>; "Nanotechnology: a chemist's constructivist view", AIT-CU / NSF: Workshop on Nano, Continuum, Material and Computational Mechanics, Asian Institute of Technology Bangkok, Thailand (December, 2003)
- "Discovery of the Triketone Class of HPPD Inhibiting Herbicides", Christopher G. Knudsen, Ronald J. Rusay, et. al.; Allelopathy in Ecological Agriculture and Forestry, pp. 101-112 Kluwer Academic Publishers, Dordrecht, The Netherlands, (2000)
- "RasMol: A Molecular Visualization/Conceptualization Tool", an appendix to: Principles of Chemistry in Biology (A Companion to Texts for Freshman Chemistry) Elizabeth C. Theil, editor, American Chemical Society, publisher. R. Rusay, M. Molinaro, L. Smith. (1998)
- U.S. Patents: 4,488,897; 4,227,919; 4,277,500; 4,202,840; 4,202,685
- "Innovations in teaching chemistry using the World Wide Web and web-based resources." Ron Rusay, Nicholas J. Turro, Presentation, 15th Biennial Conference on Chemical Education, (1998)
- "Musical Representations of the Fibonacci String and Proteins Using Mathematica", Erik Jensen, Ronald J. Rusay, The Mathematica Journal, Volume 8, Issue 2 (2001)

OTHER AFFILIATIONS

- Sigma Xi
- The American Chemical Society
- The American Association for the Advancement of Science