JOANNE L. STEWART

Department of Chemistry
Hope College
35 E. 12th Street
Holland, MI 49423

phone: 616-395-7634
email: stewart@hope.edu
fax: 616-395-7118
web page: hope.edu/directory/people/stewart-joanne/

EDUCATION

9/83 - 4/88	Ph.D. in Inorganic Chemistry, University of California, Berkeley. Thesis research with Professor Richard A. Andersen on synthesis and characterization of uranium amide and alkoxide compounds.
9/78 - 6/82	B.A. in Chemistry, Kalamazoo College, Kalamazoo, Michigan. Undergraduate research on transition metal metallocyclic compounds with Dr. Thomas J. Smith and on metal-metal multiply bonded compounds with Dr. Malcolm H. Chisholm.
9/80 - 4/81	Friedrich-Alexander University, Erlangen, Federal Republic of Germany; as partial fulfillment of B.A. requirements.

RESEARCH EXPERIENCE

5/88 - present	Hope College, Department of Chemistry. Directing undergraduate research in synthetic inorganic chemistry and chemistry education. Synthesis of main group metal alkoxide and thiolate compounds; scholarship of teaching and learning; integrative and interdisciplinary learning; faculty communities of practice.
8/08 - 7/09	University of Queensland, School of Chemistry and Molecular Biosciences, Brisbane, Australia, Visiting Academic. Research in chemistry education, visualization, technology and teaching.
8/01 - 6/02	University of California, San Diego, Department of Chemistry, Visiting Scholar. Science Studies and chemistry research in nanoscience.
8/94 - 6/95	Harvard University, Department of Chemistry, Visiting Scholar in Chemistry. Synthesis and characterization of copper(I) complexes used in asymmetric aziridination reactions.
9/83 - 4/88	University of California, Berkeley, CA. Ph.D. thesis research with Prof. Richard A. Andersen. Synthesis of uranium III, IV, and V compounds with amide and alkoxide ligands; characterization by ^{1}H and ^{13}C NMR, IR, mass spectroscopy, magnetic measurements, and X-ray crystallography; studies on the reactivity of uranium-carbon bonds with CO, H_2, and ethylene.
8/82 - 6/83	General Electric Corporate Research and Development, Schenectady, NY, Associate Staff Chemist. Catalyst development for room-temperature-vulcanizing systems; synthesis of organotin compounds and structure elucidation by ^{119}Sn NMR; silicone polymer degradation studies; synthesis of silicon-containing cure accelerators.

12/81 - 3/82	University of Indiana, Bloomington, IN. Undergraduate research with Prof. Malcolm H. Chisholm. Synthesis of trialkylphosphine adducts of hexakis(alkoxy)dimolybdenum compounds; synthesis of a novel mixed phosphine-amine ligand; investigation of dynamic processes by variable temperature ^{1}H and ^{31}P NMR.

TEACHING EXPERIENCE

12/99 - present	Professor of Chemistry, Hope College. Courses taught include Introductory Chemistry I and II, Introductory Laboratory, Inorganic Chemistry, Advanced Inorganic and Organometallic Chemistry, Inorganic Laboratory, Analytical Laboratory, Organic Laboratory, First-Year Seminar, General Education science course on abrupt climate change.
8/94 - 12/99	Associate Professor of Chemistry, Hope College.
8/88 - 8/94	Assistant Professor of Chemistry, Hope College.
1/09 - 5/09	Lecturer in Chem 1090, Introductory Chemistry, University of Queensland, Australia.
8/89 - 8/98	Hope College Teaching Enhancement Workshop. Participated as a workshop leader or presenter in this four-day teaching workshop presented each fall for new faculty at Hope College.
7/88 - 7/91	Lecturer for NSF Summer Workshop for High School Chemistry Teachers held at Hope College. Lecture topics included structure and bonding in molecules, equilibrium, and acid-base chemistry.
9/83 - 9/86	University of California, Berkeley, CA, teaching assistant. Taught one semester of general chemistry and two semesters of quantitative analysis.

ADMINISTRA-TIVE EXPERIENCE

6/07 - present	Member of Leadership Council for IONiC community of practice
9/16 - 9/19	Co-founder and secretary of West Michigan chapter of Association for Women in Science
9/10 - 9/14	Member of Hope College Board of Trustees
9/08 - 9/12	Director of Hope College's Howard Hughes Medical Institute (HHMI) program; a multidisciplinary program that supports research and teaching in science, mathematics, psychology, and education at Hope.
9/04 - 9/08	Director of Integrative Studies in Science for Hope's HHMI program
9/03 - 5/11	CrossRoads Advisory Board – Lilly-funded initative at Hope College on thinking theologically about career, calling, and life.
7/99 - 7/01	Chemistry Department Chair
9/99 - 9/11	Chair of Hope College Sexual Harassment Policy Advocates

9/89 - 9/95 Leadership team for Hope College Teaching Enhancement Workshop

WORKSHOP PRESENTATIONS

SLiThEr #6: Facilitating Group Work Online. Webinar/discussion for the IONiC community, August 13, 2020. Webinar recording posted on Youtube: https://www.youtube.com/watch?v=E14Uq_-zynM&t=32s.

NSF-IUSE VIPEr Fellows Workshop: Cohort 1, Workshop 2. Workshop Leaders: Bentley, A., Pratt, J., Raker, R., Reisner, B., Smith, S., Stewart, J.L., June 24-26, 2019, online.

NSF-IUSE VIPEr Fellows Workshop: Cohort 1, Workshop 1. Workshop Leaders: Bentley, A., Pratt, J., Raker, R., Reisner, B., Smith, S., Stewart, J.L., June 7-10, 2019, University of Michigan, Dearborn.

Global Liberal Arts Allies in STEM (GLAAS): Faculty development workshop for science faculty in the Global Liberal Arts Alliance. Workshop leaders: Joanne L Stewart, Hilary Eppley (DePauw), Lori Watson (Earlham), Anastasia Misseyani (Deree). June 17-21, 2017, College of Deree, Athens, Greece.

NSF-TUES Workshop: Organometallica at the Frontiers of Inorganic Chemistry, Workshop Leaders: Johnson, A., Nataro, C., Raker, R., Reisner, B., Smith, S., Stewart, J.L., June 28-July 3, 2016, University of Michigan, Ann Arbor.

NSF-TUES Workshop: Hetero-genius Catalysis at the Frontiers of Inorganic Chemistry, Workshop Leaders: Johnson, A., Williams, N., Bentley, A., Nataro, C., Raker, R., Stewart, J.L., Watson, L., June 28-July 3, 2015, University of Washington, Seattle.

NSF-TUES Workshop: Solid State Materials for Alternative Energy Needs, Workshop Leaders: Reisner, B.A., Geselbracht, M., Jamieson, E., Stewart, J.L., Eppley, H.J., June 23-28, 2013, Penn State University.

IONiC/VIPEr: Using and Sharing Inorganic Chemistry Education Resources, Workshop Leaders: Watson, L.A.; Eppley, H.J.; Smith, S.P., Stewart, J. L., July 30, 2012, Biennial Conference on Chemical Education, Penn State University.

cCWCS Workshop: Inorganic Chemistry at the Frontiers of Catalysis, Workshop Leaders: Reisner, B.A., Smith, S.P., Williams, B.S., Stewart, J.L., Eppley, H.J., July 15-20, 2012, University of North Carolina, Chapel Hill.

AALAC Workshop in Inorganic Chemistry, Workshop Leaders: Jamieson, E.R.; Reisner, B.A.; Johnson, A.R.; Geselbracht, M.J.; Stewart, J.S.; Eppley, H.J.; Williams, B.S., June 24-26, 2011, Two Virtual Workshops in May/June, face-to-face conference Smith College, Northampton, MA.

GLCA Inorganic Chemistry and Online Community Workshop, Workshop Leaders: Stewart, J.S., Eppley, H.J., Watson, L.A.; Williams, B.S., July 16-18, 2010, Two Virtual Workshops in April, face-to-face conference Hope College, Holland, MI.

Introduction to the Chemical Education Digital Library Workshop, Biennial Conference on Chemical Education, July 14, 2008, Indiana University, Bloomington, IN.

NSF-PAID Mentoring Workshop, June 20-22, 2008, Chicago, IL.

IONiC Leadership Council Meeting, June 14-16, 2008, Reed College, Portland, OR.

Mellon 23 Assembly on Interdisciplinary Learning, February 14-17, 2008, Macalester College, St. Paul, MN.

Interdisciplinary Science Education: Institutional Examples, Lessons Learned, and Challenges. Midstates Science and Mathematics Consortium Faculty Development Workshop, February 23-25, 2007, Northfield, MN.

HHMI Interdisciplinary Curriculum Development Workshop, Hope College, June 7-8, 2006.

Hope College Faculty Workshop on Interdisciplinary Teaching and Learning: A Workshop to Build Interdisciplinary Connections and Explore Interdisciplinary Curriculum Design, April 21-22, 2006.

HHMI Interdisciplinary Curriculum Development Workshop, June 14-15, 2005, Hope College.

Promoting Active Learning in Real-World Contexts in General Chemistry, NSF Chautauqua Short Course, June 5-8, 2005, Berkeley, CA.

Hope College Faculty Workshop on Interdisciplinary Teaching and Learning: A Workshop to Explore and Compare How Disciplines Learn, February 18-19, 2005, Hope College.

Multi-Initiative Dissemination Workshop, workshop to disseminate the results of the five NSF "systemic change in chemistry" grants, October 15-16, 2004, University of Tennessee, Knoxville, TN.

Multi-Initiative Dissemination Workshop, March 5-6, 2003, Housatonic College, Bridgeport, CT.

Promoting Active Learning in Real-World Contexts in General Chemistry, NSF Chautauqua Short Course, June 8-10, 2003, Berkeley, CA.

Multi-Initiative Dissemination Workshop, April 4-5, 2003, Central Michigan University, Mt. Pleasant, MI.

Multi-Initiative Dissemination Workshop, January 24-25, 2003, University of Richmond, Richmond, VA.

Multi-Inititative Dissemination Workshop, University of Arizona, Tucson, AZ, April 26-28, 2002.

ChemConnections Faculty Workshop, 2YC3 Meeting, Community College of Southern Nevada, Las Vegas, NV, Nov 1, 2001.

ChemConnections Faculty Workshop, 2YC3 Meeting, San Diego City College, San Diego, CA, March 31, 2001.

ChemLinks/ModularCHEM Workshop, 16th Biennial Conference on Chemical Education, Ann Arbor, MI, Aug 1, 2000.

"Cooperative Learning in College Teaching," workshop for Ball State University, May 21-22, 1998.

"Cooperative Learning in College Chemistry," seminar and workshop for San Jose State University, Department of Chemistry, April 24-25, 1997.

Association of American Colleges and Universities Conference, "Involving Students in Active and Collaborative Learning," Chicago, IL, October 20-21, 1995.

Workshop for science and mathematics faculty, "Cooperative Learning in the College Classroom," Siena College, Loudonville, NY, August 30-31, 1994.

Project Kaleidoscope Workshop on Reforming Introductory Math and Science Courses, Bryn Mawr College, Bryn Mawr, PA, July 29-31, 1993. Gave presentation and led afternoon workshop on using cooperative learning in introductory math and science courses.

National Science Foundation Chautauqua workshop, "Cooperative Learning in Science and Mathematics," University of Puerto Rico, San Juan, P.R., March 25-27, 1993. Organized and presented three day faculty development workshop for thirty-five science and mathematics faculty from the United States and Puerto Rico.

Pew Mid-States Consortium faculty development workshop, "Cooperative Learning in Science," Carleton College, Northfield, MN, April 10-12, 1992. Co-organizer of three-day workshop on cooperative learning.

CONSULTING

Member of external review panel for review of chemistry department at Centre College, Danville, KY, April 24-26, 2022.

Member of external review panel for review of chemistry department at Kenyon College, Gambier, OH, November 4-5, 2019.

Associate Editor for *Journal of Chemical Education*, March 2016-July 2018.

Member of external review panel for review of chemistry department at Bradley University, Peoria, IL, January 15-17, 2018.

Member of external review panel for review of chemistry department at Grinnell College, Grinnell, IA, February 17-19, 2013.

Member of external review panel for review of chemistry department at Smith College, Northampton, MA, September 20-22, 2006.

Consultant for inorganic faculty search for Lewis and Clark College, Portland, OR, Fall 2006.

Member of Committee of Visitors at National Science Foundation. Reviewed Chemistry Division, February 2-4, 2004.

Member of external review panel for review of chemistry department at Lewis and Clark College, Portland, OR, March 2002.

Member of external review panel for review of chemistry department at Macalester College, St. Paul, MN, April 2001.

Member of external review panel for review of chemistry department at St. Olaf, Northfield, MN, Oct 1-3, 2000.

Keck-Project Kaleidoscope consultant for Kutztown University, May 1999.

Member of external review panel for review of chemistry department at Muskingum College, April 1999.

Member of external review panel for review of chemistry department at Colorado College, 1997.

Keck-Project Kaleidoscope consultant for University of Hartford, 1994-1995.

Hart and Cooley, Inc., Holland, MI, 1990 - 1994.

HONORS AND AWARDS

2020 STEM for All Video Showcase Facilitators' Choice

Midstates Consortium for Math and Science Janet Andersen Lecture Award, 2018

Elmer E. Hartgerink Professor of Chemistry, 2017-present

Schaap Fellow in Chemistry Education, 2016-present

Ruth and John Reed Faculty Achievement Award, 2010

NITLE and Academic Commons award for VIPEr web site, 2009

Carnegie Scholar, 2005-2006

Janet L. Andersen Excellence in Teaching Award, 1996

Bruce H. Mahan Teaching Award, 1985; honorable mention, 1986

American Institute of Chemists Award, 1982

Honors on Undergraduate Thesis, 1982

PROFESSIONAL AND HONORARY SOCIETIES

American Chemical Society, Sigma Xi, Association for Women in Science, International Society for the Scholarship of Teaching and Learning, Association of American Colleges and Universities, Professional and Organizational Development Network in Higher Education, Council on Undergraduate Research, Midwest Association of Chemistry Teachers in Liberal Arts Colleges

RESEARCH SUPPORT

(total $3,895,687)

National Science Foundation, IUSE-Development and Implementation, Institutional and Community Transformation, "Collaborative Research: Improving Inorganic Chemistry Education Through a Community-Developed Student-Centered Curriculum." Joanne L Stewart (Hope College, PI), Anne K Bentley (Lewis & Clark, co-PI), Sheila R Smith (UM Dearborn, co-PI), Nancy S Williams (Claremont Colleges Joint Science Department, co-PI): $594,291. Barbara Reisner (James Madison, PI): $223,908. Jeffrey Raker (University of South Florida, PI): $303,577. Sept 2017-Aug 2022, Total Funding: $1,110,260.

Global Liberal Arts Allies in STEM (GLAAS): Faculty development workshop for science faculty in the Global Liberal Arts Alliance (GLAA).

Joanne L Stewart, Hilary Eppley (DePauw), Lori Watson (Earlham), Anastasia Misseyani (Deree). Sept 2016-Sept 2017, $38,000.

"Storytelling, Empathy, and Changing the World," Mellon Grand Challenges Initiative at Hope College, the development of linked courses across the disciplines and the establishment of faculty-student research opportunities built around large-scale, relevant themes, Joanne Stewart, Michelle Bombe, Elizabeth Trembley, 2017 - 2018, $21,330.

"Challenging Borders: Displaced People," creation of an interactive, audio-visual diaspora in multiple locations across Hope's campus that engages interdisciplinary and cultural issues related to themes of migration, displaced persons, and refugees, 2016 - 2017, $1,200.

National Science Foundation, TUES Phase 2, "IONiC: Transforming education through collaborative development of materials at the frontiers of inorganic chemistry" Lori Watson (Earlham College, PI), Barbara Reisner (James Madison University, co-PI), Sheila Smith (University of Michigan-Dearborn, co-PI), Melanie S. Sanford (Univ. of Michigan, Ann Arbor, co-PI); Raymond Schaak (Penn State Univ., co-PI); Hilary Eppley (DePauw University), Margret Geselbracht (Reed College), Elizabeth Jamieson (Smith College), Adam Johnson (Harvey Mudd College), Joanne Stewart (Hope College), and Scott Williams (The Claremont Colleges Joint Science Department), Sept 2012 – Aug 2016, $427,962.

Howard Hughes Medical Institute, "Reaching beyond the borders of Hope: Advancing biomedical research and science education at Hope College," Sept 2008 – Sept 2012, $1,400,000.

AALAC/Mellon 23 Collaborative Workshop in Inorganic Chemistry, Elizabeth Jamieson (Smith College, Workshop Liaison), Hilary Eppley (DePauw University), Margaret Geselbracht (Reed College), Adam Johnson (Harvey Mudd College), B. Scott Williams (Joint Science Department, Scripps College), Joanne L. Stewart (Hope College), Feb 2011 - Dec 2012, $19,940.

Great Lakes Colleges Association - New Directions Inititative, "Come for the content, stay for the community: Building a vibrant community of practice among GLCA chemists." Joanne L. Stewart (Hope College), Hilary Eppley (DePauw University), Lori Watson (Earlham College), Jan 2009 -July 2010, $15,700.

National Science Foundation - Course, Curriculum, and Laboratory Improvement, “A cyber-enabled community of practice for improving inorganic chemical education,” Hilary Eppley-PI (DePauw), Margret Geselbracht (Reed), Ethan Benatan (Reed), Adam Johnson (Harvey Mudd), Barbara Reisner (JMU), Joanne Stewart (Hope), Lori Watson (Earlham), B. Scott Williams (Joint Science Department of the Claremont Colleges), 1/1/2008-1/1/2010, $149,374.

National Institute for Technology and Liberal Education (NITLE), “Project IONiC: Intellectual online network of inorganic chemists building VIPEr: Virtual inorganic pedagogical electronic resource,” Hilary Eppley (DePauw), Margret Geselbracht (Reed), Ethan Benatan (Reed), Adam Johnson-PI (Harvey Mudd), Barbar Reisner (JMU), Joanne Stewart (Hope), Lori Watson (Earlham), B. Scott Williams (Joint Science Department of the Claremont Colleges), 1/1/2007-1/1/2008, $9,750.

National Science Foundation - Supplement to "REU: A Collaborative Student-Faculty Research Program in Chemistry and Biochemistry at Hope College," Support for Hope student participation in the Cyberinfrastructure Experiences for Graduate Students in Biological Databases and Informatics program, 7/1/2007-8/1/2007, $9,409 (with Brent Krueger, Dept of Chemistry, Hope College).

National Science Foundation - Supplement to "REU: A Collaborative Student-Faculty Research Program in Chemistry and Biochemistry at Hope College," Support to bring faculty member from 2-year college to Hope to do research, 6/1/2006-8/1/2006, $8,871 (with Graham Peaslee, Dept of Chemistry, Hope College).

Merck/AAAS, “Strengthening the Bonds: Joint Research in Biology and Chemistry at Hope College,” 2005-2008, $60,000 (with Chris Barney, Dept of Biology, Hope College)

National Science Foundation - Research Experiences for Undergraduates, "A Collaborative Student-Faculty Research Program in Chemistry and Biochemistry," March 2003-March 2007, $273,830.

Merck/AAAS, “Making New Bonds: Research at the Interface of Biology and Chemistry at Hope College,” 2001-2003, $60,000 (with Chris Barney, Dept of Biology, Hope College)

Simon Den Uyl Summer Fellowship (faculty development grant), “Asymmetric Allylation Reactions Using Chiral Tin Complexes,” $3,600, Summer 2001.

GlaxoSmithKline Undergraduate Summer Fellowship (to support research of Karen Clark), $5,000, Summer 2001.

National Science Foundation - Research Experiences for Undergraduates, "Research Experiences for Undergraduates at Hope College," March 2000-March 2003, $139,119.

National Science Foundation (subcontract from ChemLinks grant), "Development of a guide to teaching with modules," 1999, $9,342.

Hope College NSF-AIRE support for undergraduate student in education, "The development of a super-instructor's manual for the ChemConnections curriculum," 1999, $3,000.

Hope College-Howard Hughes Medical Institute Faculty Development Grant, "The Development of a New Inquiry-Based Inorganic Chemistry Laboratory," 1998, $5,000.

National Science Foundation (subcontract from ChemLinks grant), "ChemLinks Module Development," 1998, $5,000.

National Science Foundation (subcontract from New Traditions grant), "New Traditions Inorganic Chemistry Course," 1997, $5,000.

GlaxoWellcome Summer Fellowship (to support work of Sarah Cortright), "Asymmetric Synthesis using Chiral Tin(II) Reagents," 1997, $6,000.

Petroleum Research Fund (Type B), "Main Group Metal Alkoxides and Thiolates," 1991-1993, $20,000.

National Science Foundation Chautauqua short course, "Cooperative Learning in Science and Mathematics," site expenses, travel expenses, and stipend, (total *ca.* $20,000), 1993.

Hope College Faculty Development Grant, "New Synthetic Routes to Important Materials," 1993, $2,800.

Pew Mid-States Consortium for Math and Science, funding for workshop on cooperative education in science, 1992, $26,800.

Hope College Faculty Development Grant, "The Completion of NMR Studies on New Tin(II) Compounds," 1990, $2,400.

Research Corporation, Cottrell College Science Grant, "Synthesis of Early Transition Metal-Group 14 Element Compounds: Potential Precursors to Ferroelectrics," 1988-1990, $18,000.

Hope College Faculty Development Grant, "General Electric NMR Omega System Workshop," 1989, $1,000.

Petroleum Research Fund (Type G), "Synthesis of Molecular Precursors to Electronic Ceramics," 1988-1990, $18,000.

PUBLICATIONS
*indicates undergraduate author

Curran, T., Marrone, A., Tolbatov, I., Davidson, L., Pokharel, N., Frempong, J., Phillip, M., Gober, C., Yang, H., Stewart, J. L. "Parallel Arrangement of Peptides Appended to a Rigid, Bimetallic, Constrained Ring System" *Peptide Science*, **2022. DOI:** http://doi.org/10.1002/pep2.24286

Raker, J. R., Pratt, J., Connor, M., Smith, S., Stewart, J. L., Reisner, B., Bentley, A., Lin, S., Nataro, C. "The Postsecondary Inorganic Chemistry Instructional Laboratory Curriculum: Results from a National Survey." *J. Chem. Educ*., **2022**, *99*, 1971-1981. **DOI:** 10.1021/acs.jchemed.2c00092

Stewart, J. L.; Lin, S.; Reisner, B. A.; Pratt, J. M.; Raker, J. R.; Bentley, A. K. VIPEr nanoCHAt #1: Creating a Sense of Belonging, YouTube video https://www.youtube.com/watch?v=5zjt7qo_adM, Feb 11, 2021.

Stewart, J.L. and IONiC Leadership Team "IONiC: Our commitment to diversity and inclusion" VIPEr BITeS post, June 6, 2020, https://www.ionicviper.org/blog-entry/ionic-our-commitment-diversity-and-inclusion

Reisner, B. A.; Stewart, J. L. The Literature Discussion: A Signature Pedagogy for Inorganic Chemistry. *ACS Symposium Series Vol 1370: Advances in Teaching Inorganic Chemistry, Volume 1: Classroom Innovations and Faculty Development.* Jones, R. M. (Ed.). Chapter 2, pp 3-20, 2020.

Reisner, B. A.; Pate, C. L.*; Kinkaid, M. M.*; Paunovic, D. M.*; Pratt, J. M.; Stewart, J. L.; Raker, J. R.; Bentley, A. K.; Lin, S.; Smith, S. R.; "I've Been Given COPUS (Classroom Observation Protocol for Undergraduate STEM) Data on My Chemistry Class... Now What?" *J. Chem. Educ.,* **2020**, *97,* 1181-1189. DOI: 10.1021/acs.jchemed.9b01066

Stewart, J. L.; Bentley, A. K.; Johnson, A. R; Nataro, C.; Reisner, B. A.; Watson, L. A., "Teaching from the primary inorganic literature: lessons from Richard Andersen," *Dalton Trans.*, **2018**, *47*, 13755-13760.

Srinivasan, S.; Reisner, B.; Smith, S.; Stewart, J.; Johnson, A.; Lin, S.; Marek, K.; Nataro, C.; Murphy, K.; Raker, J., "Historical analysis of the inorganic chemistry curriculum using ACS examinations as artifacts." *J. Chem. Educ.* **2018**, *95*, 726-733. **DOI:** 10.1021/acs.jchemed.7b00803

Nataro, C.; Bentley, A. K.; Eppley, H. J.; Jamieson, E. R.; Johnson, A. R.; Reisner, B. A.; Smith, S. R.; Stewart, J. L.; Watson, L. A.; Williams, N. S. B. "IONiC VIPEr: A community of inorganic chemists who create, share, adapt, comment on, and give back in order to improve student learning," DivCHED Spring 2017 Committee on Computers in Chemical Education Newsletter, Article 1, http://confchem.ccce.divched.org/2017SpringCCCENLP1.

Reisner, B. A., Smith, S. R., Stewart, J. L., Raker, J. R., Crane, J. L., Sobel, S. G., Pesterfield, L. L., "Great Expectations: Using an Analysis of Current Practices to Propose a Framework for the Undergraduate Inorganic Curriculum." *Inorg. Chem*., **2015**, *54*, 8859-8868.

Raker, J. R., Reisner, B. A., Smith, S. R., Stewart, J. L., Crane, J. L., Pesterfield, L., Sobel, S. G. "Foundation coursework in undergraduate inorganic chemistry: Results from a national survey of inorganic chemistry faculty." *J. Chem. Educ.* **2015**, *92*, 973-979.

Raker, J. R., Reisner, B. A., Smith, S. R., Stewart, J. L., Crane, J. L., Pesterfield, L., Sobel, S. G. "In-depth coursework in undergraduate inorganic chemistry: Results from a national survey of inorganic chemistry faculty." *J. Chem. Educ.* **2015**, *92*, 980-985.

Connected Science: Strategies for Integrative Learning in College; Ferrett, T.A., Geelan, D.R., Schlegel, W.M., Stewart, J.L., Eds.; Indiana University Press: Bloomington, IN, 2013.

Ferrett, T.A., Stewart, J.L. Integrative Moves by Novices: Crossing Institutional, Course, and Student Contexts. In *Connected Science: Strategies for Integrative Learning in College*; Ferrett, T.A., Geelan, D.R., Schlegel, W.M., Stewart, J.L., Eds.; Indiana University Press: Bloomington, IN, 2013.

Reisner, B.A.; Stewart, J.L., Williams, B.S.; Goj, L. A.; Holland, P. L; Johnson, A. R.; Eppley, H. A., JCE VIPEr: An Inorganic Teaching and Learning Community Learning Objects in Organometallic Chemistry. *J. Chem. Educ.* **2012**, *87*, 185-187.

Jamieson, E. R.*; Eppley, H. E.; Geselbracht, M. J.; Johnson, A. R. Reisner, B. A.; Smith, S. A.; Stewart, J. L. Watson, L. A.; Williams, B. S. Inorganic Chemistry and IONiC: An Online Community Bringing Cutting-Edge Research into the Classroom, *Inorg. Chem.* **2011**, *50*, 5849-5854.

Reisner, B. A.; Eppley, H. J.; Geselbracht, M.; Jamieson, E. R.; Johnson, A. J.; Smith, S.R.; Stewart, J. L.; Watson, L. A.; Williams, B. S. Building an Online Teaching Community: An Evolving Tale of Communication, Collaboration, and Chemistry. *ACS Symposium Series: Enhancing Learning with Online Resources, Social Networking, and Digital Libraries*, Belford, R.; Moore, J.; Pence, H. (Eds.). Chapter 16, pp 309-330, 2010.

Ethan Benatan, Jezmynne Dene, Hilary Eppley, Margret J. Geselbracht, Elizabeth R. Jamieson, Adam R. Johnson, Barbara A. Reisner, Joanne L. Stewart, Lori A.Watson, B. Scott Williams. "JCE VIPEr: An Inorganic Teaching and Learning Community" *J. Chem. Educ.* **2009**, *86*, 766-767.

Ethan Benatan, Jezmynne Dene, Hilary Eppley, Margret J. Geselbracht, Elizabeth R. Jamieson, Adam R. Johnson, Barbara A. Reisner, Joanne L. Stewart, Lori A.Watson, B. Scott Williams. "IONiC: A Cyber-Enabled Community of Practice for Improving Inorganic Chemical Education" *J. Chem. Educ.* **2009**, *86*, 123.

Lawrie, G.; Appleton, T., Wright, T., Stewart, J.; Using multiple representations to enhance understanding of molecular structure: a blended learning activity. In *2009 UniServe Science Proceedings*, 2009 National Uniserve Science Conference, The University of Sydney, Sept 30-Oct 2, 2009, https://openjournals.library.sydney.edu.au/index.php/IISME/article/viewFile/6205/6853.

Joanne L. Stewart, "Integrative learning in the sciences: Decision making at the intersection of science knowledge and student beliefs and values" Carnegie Scholar Final Snapshot (not peer reviewed), September 2006, https://contentbuilder.merlot.org/toolkit/html/snapshot.php?id=11570887557763

Leah A. Chase, Joanne Stewart, and Christopher C. Barney, "Cultivation of an Interdisciplinary, Research-Based Neuroscience Minor at Hope College" *Journal of Undergraduate Neuroscience Education*, Fall 2006, 5(1):A6-A13. Full paper available at http://www.funjournal.org/downloads/ChaseJUNEf06.pdf.

Joanne L. Stewart, "Assessment and Evaluation of the Undergraduate Research Experience," in *Enhancing Research in the Chemical Sciences at Predominantly Undergraduate Institutions: A Report from the Undergraduate Research Conference*, Bates College, August 2-4, 2003. Full paper available at http://abacus.bates.edu/acad/depts/chemistry/twenzel/assessment.pdf.

Joanne L. Stewart and Valorie L. Wilkerson*, *ChemConnections: A Guide to Teaching with Modules*; John Wiley & Sons: New York, 1999. (Now published by W.W. Norton, https://wwnorton.com/college/chemistry/chemconnections/Guide/SuperIM.pdf)

George C. Lisensky, Arthur B. Ellis, Herbert Beall, Dean J. Campbell, Joanne L. Stewart, *Build a Better CD Player: How Can You Get Blue Light From a Solid?* (beta version of ChemConnections module); John Wiley & Sons: New York, 1998. (Now published by W.W. Norton.)

William Van Zandt*, John C. Huffman, Joanne L. Stewart, "Synthesis and X-ray Crystal Structure of a Lead Aryl Oxide Dimer, $Pb_2(\mu\text{-O-2,6-Ph}_2C_6H_3)_2(\text{O-2,6-Ph}_2C_6H_3)$," *Main Group Metal Chemistry* **1998**, *21*, 237-240.

Joanne L. Stewart, Richard A. Andersen, "Trivalent uranium chemistry: molecular structure of $[(Me_3Si)_2N]_3U$," *Polyhedron* **1998**, *17*, 953-958.

Joanne L. Stewart, Richard A. Andersen, "Crystal Structure of $[(Me_3Si)_2N]_4U_2[\mu\text{-N(H)(mesityl)}]_2$ and $[(Me_3Si)_2N]_4U_2[\mu\text{-N(p-tolyl)}]_2$; Compounds with Asymmetrically Bridging Primary Amide and Imide Groups," *New J. Chem.* **1995**, *19*, 587-595.

"Designing Cooperative Activities" and "Small Group Skills" in *Experiences in Cooperative Learning: A Collection for Chemistry Teachers.* Edited by Susan C. Nurrenbern. Institute for Chemical Education, University of Wisconsin, Madison, 1995.

Joanne L. Stewart, "Why So Few Women?" *Council on Undergraduate Research Quarterly* **1994**, *15(1)*, 13-16.

Lucy H. Kras*, Annica Euvrard*, Yvonne N. Grassl*, Suzanne M. Ronda*, Joanne L. Stewart, "Synthesis of $Sn[OCH(t\text{-Bu})_2]_2$ and $Sn[OSi(t\text{-Bu})_3]_2$: Variable Temperature ^1H and ^{119}Sn NMR Studies," *Main Group Metal Chemistry* **1994**, *17*, 409-412.

Britt E. Lindfors*, Joanne L. Stewart; "Synthesis and Characterization of New Tin(II) Phenoxides," *Proceedings of the Fourth National Conference on Undergraduate Research*, Vol. 1, **1990**.

Joanne L. Stewart, Richard A. Andersen; "Preparation and Crystal Structure of the Addition Compound MeLi•U[OCH(CMe_3)$_2$]$_4$, a Compound with a Uranium to Carbon σ-Bond," *J. Chem. Soc., Chem. Comm.* **1987**, 1846-1847.

R.H. Fish, T-J Kim, J.L. Stewart, J.H. Bushweller, R.K. Rosen, J.W. Dupon; "Synthesis of Dimetalla-azacyclobutenes via Reaction of Polynuclear Heteroaromatic Nitrogen Compounds with Triruthenium Dodecacarbonyl: Reactivity and Structural Elucidation," *Organometallics* **1986**, *5*, 2193-2198.

M.J. Chetcuti, M.H Chisholm, J.C. Huffman, J.L. Stewart; "Synthesis Characterization and Equilibrium of the Complexes $M_2(OR)_6L_2$(M=M) [M=Mo, W; R=i-Pr, CH_2-t-Bu(Ne); L=PMe_3, PEt_3 or L_2=$Me_2PC_2H_4PMe_2$(DMPE), $Me_2PC_2H_4NMe_2$(TMAPE)]" ACS Symposium Series, *211*, 527, **1983**.

VIPEr Learning Objects (peer reviewed)	**Title**	**LO Type**	**Date**
	What is the pKa of water (and why do some textbooks get it wrong)?	Web resourses and apps	2022-04-06
	The ditungsten tetracarboxylate story (Sattelberger)	Literature discussion	2022-03-15
	Spectroscopic, Structural, and Computational Analysis of [Re(CO)$_3$(dippM)Br]$^{n+}$ (Nataro)	Literature discussion	2022-03-12
	Bonding in electron-rich uranyl complexes (Burns)	In-class activity	2021-04-02
	Delta and phi bonding in actinide complexes	Literature Discussion	2021-03-25
	IONiC: Our commitment to diversity and inclusion	BITeS post	2020-06-06
	Electrochemistry: Galvanic Cells and the Nernst Equation	Lab Experiment	2020-04-08
	VIPEr Fellows 2019 Workshop Favorites	Collection	2019-06-08
	Teaching Computational Chemistry	Collection	2019-05-30
	CompChem 01: Creating a Basis Set	In-Class Activity	2019-05-24
	CompChem 02: Introduction to WebMO	In-Class Activity	2019-05-31
	CompChem 03: Choice of Theoretical Method	In-Class Activity	2019-05-30
	CompChem 04: Single Point Energies and Geometry Optimizations	In-Class Activity	2019-05-30
	CompChem 05: Infrared, Thermochemistry,	In-Class Activity	2019-05-30

UV-Vis, and NMR		
CompChem 06: Electron Densities, Electrostatic Potentials, and Reactivity Indices	In-Class Activity	2019-05-24
Ytterbium-catalyzed alkene isomerization: A tribute to the f-block chemistry of Richard Andersen	Literature Discussion	2018-06-01
Developing a rubric for a learning object	Five Slides About	2016-07-08
Developing effective student learning groups	Five Slides About	2015-05-21
Determining the empirical formula of CaTiO3 from a model	Problem Set	2015-04-03
Determining the empirical formula of ReO3 from a model	Problem Set	2015-04-01
The sigma-bonding molecular orbital diagram of square planar XeF4	Problem Set	2015-03-04
Symmetry, Group Theory and Computational Chemistry	Collection	2013-06-24
(mu-NO)2[CoCp]2 is not paramagnetic	Literature Discussion	2012-10-26
Biological and medical examples in intro chem at MIT	Web Resources and Apps	2010-01-01
Developing student learning goals and assessments for VIPEr learning objects	Five Slides About	2009-06-20
Oliver Sacks' "Uncle Tungsten" and inorganic chemistry	Literature Discussion	2008-07-18
Huheey, Keiter, and Keiter, Inorganic Chemistry: Principles of Structure and Reactivity, 4ed	Book review	2008-04-05
Oliver Sacks: Uncle Tungsten	Book review	2008-04-05
Student autobiographies	In-Class Activity	2008-04-02
Solid-state model building exercise	In-Class Activity	2008-04-02
Atomic orbitals brainstorm	In-Class Activity	2008-04-02
Main group element paper and presentation	Literature Discussion	2008-04-02
Cotton, Wilkinson, and Gaus: Basic Inorganic Chemistry	Book review	2008-01-04
Lewis structures and formal charges	In-Class Activity	2007-11-18

RESEARCH STUDENTS OF JOANNE L. STEWART

Name	Graduation Year	Title of Project	Current Known Location
(73)Mackenzie Horn	2022	Faculty beliefs about teaching and learning	Hope
Veronica Vance	2021	Faculty beliefs about teaching and learning	Hope
Hope Heideman	2021	Faculty beliefs about teaching and learning	Willamette
Jenna Savage	2020	Faculty beliefs about teaching and learning	Hope
Karen Quay	2019	The influence of communities of practice on faculty change	Hope
Matthew Commet	2017	Distributed leadership	Med school
Marissa Smith	2016	Student-led supplemental instruction in the science classroom	Teaching
Anna Dowd	2017	The impact of IONiC on faculty practice	Warren Wilson teaching fellowship
Jacob Jenkins	2013	Student learning in computational chemistry	Med school
Nicholas Rodriquez	2013	Student learning in computational chemistry	Med school
Gabe Klooster	2013	Service Learning in Chemistry: Sustainability at Hope College	Oberlin grad, Elevate Energy
Kent Kammermaier	2011	Development of a New Inorganic Chemistry Laboratory	Nuclear Propulsion Officer (in training)
Kellia Poll	2009	Investigating the relationship between learning style and assessment mode in Science Camp participants	Teaching HS
Jolene Huber	2009	Investigating the relationship between learning style and assessment mode in Science Camp participants	Prairie Crossing Charter School in Grayslake, IL
Daryl Andresen	2009	Interdisciplinary case study: The chemistry of glazes	Paramelt
Benjamin Crumpler	2008	Asymmetric synthesis with chiral silicon reagents	Data analyst (2013)
Joel Pierson	2007	Student Understanding of the Nature of Science in a General Education Science Course	Hydrogeologist at MWH Global (2014)
Wendy Johnson	2005	Interdisciplinary Case Study Development	PhD program in science education
Rebekah Shyne	2006	Interdisciplinary Learning with Rubisco	Teaching
Layne Hillman	2004	Interdisciplinary Investigative Case Studies	Naturalist instructor
Adam Schrier	2004	Synthesis of Chiral Silicon-Allyl Compounds	PhD Stanford Univ. Gilead Sciences

Joy Pope	2003	Student Intellectual Development	Grad school in school counseling – Illinois
Andrew Huisman	2004	The Asymmetric Synthesis of Homoallylic Alcohols Using Chiral Metal Reagents	PhD Univ. Wisc.-Madison, chem faculty at Union College
Joshua Ruch	2003	The Asymmetric Synthesis of Homoallylic Alcohols Using Chiral Metal Reagents	University of Iowa Medical School
Karen Clark	2003	Formation of Chiral Allylstannanes for the Synthesis of Homoallylic Alcohols	University of Michigan Medical School
Anna Bierczynska-Krzysik	2001	The Asymmetric Synthesis of Homoallylic Alcohols Using Chiral Sn(II) Reagents	Assoc Prof Inst of Biotech & Antibiotics, Poland
Marcus Boone (Albany State University)	2001	The Asymmetric Synthesis of Homoallylic Alcohols Using a Chiral Si(IV) Reagent."	PhD Florida State Univ., Printpack (2015)
Susan Hinman	2000	Synthesis and Resolution of Chiral Sulfonamides	Navy Dentist, Univ. of Michigan Dental School (grad. 2004)
David Woody	2001	Synthesis of Enantiomerically Enriched Homoallylic Alchols Using a Chiral Tin(II) Complex	Pharmacia
Monica Chernick	2002	Synthesis of Enantiomerically Enriched Homoallylic Alchols Using a Chiral Tin(II) Complex	Industry
Matthew Regoli (Cal Poly)	1999	Synthesis of Enantiomerically Enriched Artemisia Alcohol	
Victoria Sprague	2000	Asymmetric Synthesis with Chiral Tin(II) Catalysts	Ash Stevens (2014)
Valorie Vance	2000	Development of a Research-Based Inorganic Laboratory	Teaching H.S.
Jenna (Wassink) Deenik	Holland High 1999, Hope 2003	Development of a Research-Based Inorganic Laboratory (Hughes student)	Actuarial Director Jackson Natl Life
Fred Hackett	1999	Development of a Research-Based Inorganic Laboratory	Teaching H.S. Fowlerville
Autumn (Prillwitz) Penney (MSU)	1999	Enantioselective Synthesis of Homoallylic Alcohols Using Chiral Tin(II) Reagents	Teaching H.S.
Fabiola Angulo-Romero (Univ. of Guanajuato)		Synthesis of Enantiomerically Enriched Artemisia Alcohol	Mexico
Sarah Cortright	1999	Chiral Tin(II) Compounds in Asymmetric Synthesis	Post-doc at Ohio State Univ. Ph.D. Indiana University (2005)
Seth Crawley	1999	Asymmetric Synthesis with Chiral Tin(II) Catalysts	PhD Penn State Lubrizol (2006)

Michael Struck	1997	Synthesis of Titanium(IV) Thiolates	Industry in Chicago
Amy Prieto (Williams College)	1996	Synthesis of Titanium(IV) Thiolates	Prof. Colorado State Univeristy (2017) Post-doc at Harvard Univ. (2002-05) Ph.D. U.C. Berkeley (2001)
Kathryn Verhey	1996	Synthesis of Germanium(II) Phenoxides	Pediatrician in Holland (Wayne State University Medical School)
Peter Baer	1995	Synthesis of Germanium(II) Phenoxides	Hamilton AV Design
Timothy Hamilton	1995	Synthesis of Germanium(IV) Thiolates (NSF-REU)	
Wesley White	1994	Synthesis of Germanium(IV) Phenoxides (DeVries Fellowship and NSF-REU)	Evonik (2010) Eli Lilly M.S. Colorado State Univ. (1998)
Christa Ellenberger	1994	Synthesis of Tin(IV) Thiolates (NSF-REU)	Dental School, Randolph-Macon Women's College
Bill McGovern	1996	Synthesis of Tin(II) Binaptholates	Mettler-Toledo (2014)
Timothy VanHuis	1995	Thermolysis of Tin(IV) Thiolates	Ph.D. Univ. of Georgia
Marcee (Miller) Daly	1994	Synthesis of Tin(II) Binaptholates	Oakland Univ. Lab Manager
Matthew Yakes	1994	Synthesis of Titanium(IV) Thiolates	Alcoa
Vicki Freeman	1993	Synthesis of Tin(II) Phenoxides (NSF-REU)	Graduate School U of Minnesota, Graduate School, U.C. Berkeley
William VanZandt	1993	Synthesis of Pb(II) Siloxides	Industry Battle Creek, MI
Matthew Erickson	1994	Synthesis of Tin(II) Phenoxides	Doctor of Chiropractic
Steven Ramsey	1992	Synthesis of Tin(II) Phenoxides	Pridgen-Clay metal stamping, Buckman Laboratories (sales)
Mark Fromhold	1992	Synthesis of Cp*MCl_4 Complexes	Gilead Sciences (2012) ICOS Corp. (2005) PathoGenesis in Seattle Ph.D. Indiana Univ. (1997)
Amanda Foglesong	1992	Synthesis of 2,6-Diphenylthiophenol	Dow-Corning

Martin Hentemann	1993	Synthesis of Ortho-substituted Thiophenols	Novartis (2015) Bayer Corp. Post-doc at Memorial Sloan Kettering PhD Indiana Univ.
Jon Hammerschmidt	1994	Synthesis of Tin(IV) Amides	W.L. Gore & Assoc, MN Eastman Kodak
Phil Hartgerink	1992	Synthesis of Tin Thiophenoxides (NSF-REU, Univ. of Michigan)	Medical School
Shawn Phillips	1992	Cp* Complexes of Niobium and Tantalum (Dow Fellowship)	Chief, Rocket Propulsion Divsions, Edwards Air Force Base (2015) DuPont (1996-97) Ph.D. U.C. Irvine (1996)
Amy Lalick	(1992, H.S. student)	Synthesis of aromatic disulfides	St. Mary's College, UofM Dental School
Suzanne (Ronda) Lapolla	1994	Synthesis of *tert*-Butyl Substituted Alcohols	Instructor, Rose State College (2015) Oklahoma Christian Univ, Oklahoma Health Sciences Center
Lucy Kras-Allen	1992	Synthesis of *tert*-Butyl Substituted Alcohols (DeVries Fellowship)	Physician in Colorado M.D. Medical College of Wisconsin
Yvonne Grassl	1993	Synthesis of Tin(II) Alkoxides	Physician in Kalamazoo Wayne State Medical School (1997)
David Sanford	1990	Studies of Bis[bis(trimethylsilyl)-amido]tin(II)	Kodak, Ph.D. U.C. Berkeley (1996)
Britt (Lindfors) Price	1991	Synthesis of Multinuclear Tin(II) Phenoxides	Chemistry Faculty at GRCC Ph.D. Univ. of Oregon (1998)
Kevin Kar	1992	Synthesis of Ortho-substituted Thiophenols	Gentex (1999) Fairchild Semiconductor in Utah; M.S. ChemE, Purdue (1995)
Annica Euvrard	1992	Synthesis of Precursors to Electronic Ceramics (CUR-AIURP Fellowship)	Physician in Zeeland (2006) MSU Medical School M.S. Northwestern (1993)
Janet Bowdich	1991	Synthesis of Sterically Demanding Alkyl Ligands	Graduate school, Central Mich. Univ.
Anna Belu (Denison University)	1990	Tin-119 NMR of New Tin(II) Phenoxides	Medtronic (2001) Post-doc Univ of Oregon, Ph.D. Univ. of North Carolina

Steven Hendrick	1990	Synthesis and Characterization of Early Transition Metal Amides	Wayne State Medical School
Sung H. Kim (Calvin College)	1990	Synthesis and Characterization of Early Transition Metal Amides	
Melissa Wolter	1990	Synthesis of Precursors to Electronic Ceramics (Pew Fellowship)	Teaching Middle School, Grand Haven, MI