

Keith S. Anliker**Senior Lecturer of Chemistry, Director of Laboratory & Curriculum Support
Faculty Member in University College**

IUPUI Department of Chemistry and Chemical Biology
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- EDUCATION**
- *M.S. Degree, December 1985*
Purdue University, West Lafayette, Indiana
Area: Chemistry/Chemical Education (Thesis advisor: J. Dudley Herron)
 - *B.A. Degree, High Honors, August 1982*
University of Northern Iowa, Cedar Falls, Iowa
Majors: Chemistry and Biology
- EXPERTISE**
- Develop and implement methods for improving performance in introductory chemistry. Evaluate emerging technologies for use in classroom and distance education. Develop demonstrations of chemical phenomena. Design and test experiments for the undergraduate laboratory curriculum. Develop strategies for training and coordination of teaching assistants. Utilize social media platforms in higher education contexts.
- RECOGNITIONS**
- School of Science Full-time Lecturer Service Award (2017)
 - Trustees Teaching Award, University College (2015)
 - Faculty Fellow, Association of American Colleges & Universities, Faculty Collaboratives Project (2015-2017)
 - “Powerful Connections” Article by Jeremy Prather, IUPUI University College News, Vol. 2, Issue 3, 2015
 - Trustees Teaching Award, School of Science (2014)
 - Departmental Nominee for the Chancellor’s Faculty Award for Civic Engagement (2013, 2014)
 - Commendable (Silver Level) Chapter Award, Chemistry Club at IUPUI, American Chemical Society Undergraduate Programs Office (2012-2013, 2016-2017)
 - School of Science Full-time Lecturer Service Award (2012)
 - Honorable Mention (Bronze Level) Chapter Award, Chemistry Club at IUPUI, American Chemical Society Undergraduate Programs Office (2010-2011, 2011-2012, 2013-2014, 2014-2015, 2015-2016)
 - Ivy Tech Academy for Instructional Excellence, Member of the Master Teacher Class of 2009-2010.
 - Faculty Fellow in Chemistry: Crispus Attucks Medical Magnet High School (CAMMHS) (2009-2010)
 - Nominee for 21 Club/I-Care for IUPUI Students Initiative (2009, 2011)
 - Nominee for the School of Science Full-time Lecturer Service Award (2008, 2010, 2011)
 - Selected for membership in the Faculty Colloquium on Excellence in Teaching (FACET). Member of the FACET Class of 2007.
 - Indiana Partnership for Statewide Education (IPSE) Award for Innovation and Leadership: Teaching with Technology on Campus (2006)
 - “Listen while you learn” Feature article by Abe Aamidor in the Indianapolis Star, December 18, 2005
 - School of Science Full-time Lecturer Award (2005)
 - Gateway Scholar (2005)
 - IUPUI Jaguars Favorite Professor (2004, 2008, 2009, 2011, 2013, 2014, 2015)
 - 2003-04 CTL Instructional Technology Scholar
 - Appointed as a Faculty Member of University College (2003-present)
 - IUPUI Glenn W. Irwin, Jr. M.D. Experience Excellence Award (1995)
 - Robert W. Getchell Memorial Scholarship in Chemistry (University of Northern Iowa)
 - Parents' Association Scholarship (University of Northern Iowa)
 - College of Natural Sciences Chemistry Service Award (University of Northern Iowa)

**PRIMARY
EMPLOYMENT
HISTORY**

- *Senior Lecturer/Lecturer in Chemistry and Director of Laboratory & Curriculum Support*
Dept. of Chemistry and Chemical Biology, Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, Indiana, July 2002 to present. (promotion to Senior Lecturer in 2007)
- *Director of Laboratory & Curriculum Support*
Dept. of Chemistry, Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, Indiana, October 1991 to June 2002.
- *Laboratory Coordinator*
Dept. of Chemistry, Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, Indiana, March 1990 to September 1991.
- *Senior Research Technologist*
Clinical Pharmacology Section, Indiana University School of Medicine, Indianapolis, Indiana, February 1988 to February 1990.
- *Research Agronomist*
Agronomy Department, Purdue University, West Lafayette, Indiana, August 1985 to February 1988.

**ADDITIONAL
EXPERIENCE**

- *Chemistry Instructor (Part-Time)* IUPUI Upward Bound Program, Summer 2003 (1 week), Summer 2004 (1 week), Summer 2005 (3 weeks).
- *Chemistry Instructor (Part-Time)* IUPUI Young Scholars Program, Summer 1997.
- *Chemical Safety/Hazardous Materials Trainer (Part-Time)* City of Indianapolis, Indianapolis Fire Department. October 1996.
- *Part-time Chemistry Instructor* Indiana Vocational Technical College, Lafayette, IN, Spring term 1986, Winter term 1987.
- *General Chemistry Course Supervisor* Chemistry Department, Purdue University, West Lafayette, Indiana, August 1984 to May 1985.

**SOCIETY
MEMBERSHIP**

- American Chemical Society (ACS) (1984-present)
- ACS Chemical Education Division
- ACS Division of Chemical Health and Safety
- National Science Teachers Association

SERVICE

- *Member*, Steering Committee, Faculty Academy on Excellence in Teaching (FACET) (2017)
- *Member*, Indiana University FLAGS Advisory Board (IU's early alert system: Fostering Learning, Achievement, and Graduation Success)
- *Member*, Nominations Review Committee, Chancellor's Award for Excellence in Teaching (2017)
- *Member*, Campus Selection Committee, Faculty Academy on Excellence in Teaching (FACET) (2016-present)
- *Chair*, Departmental Social Media Committee and Co-curator for Twitter and Facebook (2016-present)
- *Chair*, Departmental Undergraduate Chemistry Outreach Activity Committee (2016-present)
- *Member*, Departmental Undergraduate Recruiting Committee (2016-2017)
- *Member*, Ad hoc Task Force on University College Classrooms (2016-2017)
- *Symposium Organizer*, Biennial Conference on Chemical Education (2016)
- *Member*, Campus Faculty Development & Center for Teaching and Learning Task Force (2016)
- *Peer Reviewer of Teaching*, Barbara Loebig Christe, School of Engineering & Technology (2016)
- *Member*, Search Committee for Departmental Chair (2015-2016)
- *Grand Awards Judge (Chemistry)*, Intel International Science & Engineering Fair, Pittsburgh, PA (2015)
- *Session Presider*, Edward C. Moore Symposium, Indianapolis, IN (2015-present)
- *Member*, School of Science Diversity Council (2014-present)
- *Member*, Planning Committee, Edward C. Moore Symposium (2014-2015, 2015-2016, 2016-2017, 2017-2018)
- *Member*, School of Science Lab/Recitation Course Evaluation Task Force (2013-2014)
- *Board Member at Large*, Executive Committee, Science Education Foundation of Indiana (2014-present)
- *Member*, Celebrate Science Indiana Planning Team (2013-present)
- *Judging Co-Chair, Junior Division*, Hoosier Science and Engineering Fair (2013-present)
- *Elected Board Member*, Science Education Foundation of Indiana (2013-present)
- *Member*, Departmental Peer Teaching Review Committee (2013-2016)
- *Reviewer*, ACS Student Affiliate Chapter Annual Reports, ACS Undergraduate Office (2013)
- *Member*, University College Barbara Jackson First Year Advocate Award Committee (2012-present)
- *Reviewer*, Undergraduate Abstracts, IUPUI Research Day (2012)
- *Peer Reviewer of Teaching*, Deborah Keller, School of Education (2012)

- *Member*, Tuning USA Advisory Board (Lumina Foundation, William and Flora Hewlett Foundation, Institute for Evidence-Based Change) (2011-2014)
- *Elected At-Large Representative, Non-Tenure-Track Faculty*, IUPUI Faculty Council (2011-2015)
- *Chair*, University College Faculty Roles, Responsibilities, and Recognitions Committee (2011-present)
- *Member*, IUPUI Jaguar Pep Band (Tuba) (2011-present)
- *Member*, School of Science Appeals Committee (2011-2012)
- *Member*, University College Outstanding Advisor Selection Committee (2011)
- *Member*, Chemistry Lab Technician Search Committee (2011)
- *Peer Reviewer*, School of Science FACET nominees Lin Zhu, Michael Yard, Martin Vaughan (2011)
- *Reviewer*, MURI Grant Proposals, IUPUI Center for Research and Learning (2011)
- *Social Media Facilitator*, 42nd ACS Central Regional Meeting (2011)
- *Poster Session Chair and Member*, Organizing Committee, 42nd ACS Central Regional Meeting (2010-2011)
- *Subcommittee Chair*, Gateway Group: Early/Midterm Course and Instructor Evaluation (2010)
- *Member*, Planning Committee, FACET Associate Faculty and Lecturers Conference (2010)
- *Member*, University College, Gateway Course Coordinators Group (2010-present)
- *STAR Mentor*, STAR: Students Taking Academic Responsibility (2009-2011, 2015)
- *Co-Chair*, Indiana Chemistry Group, Tuning USA project with the Lumina Foundation and the Indiana Higher Education Commission (2009-2011)
- *IUPUI Faculty Representative*, Ivy Tech Academy for Instructional Excellence (2009-2010)
- *Member*, IUPUI Gateway Task Force on Attendance Tracking (2009)
- *Member*, Advisory Council for Crispus Attucks Medical Magnet High School (CAMMHS) (2009-present)
- *Member*, Chemistry Receptionist Search Committee, Faculty Representative (2009)
- *Co-Organizer*, Universal Paradigms of Teaching Symposium, FACET Lilly House Program (2008)
- *Member*, Planning Committee, FACET Lilly House Program (2008)
- *Member*, Departmental Curriculum/Education/Undergraduate Program Committee (2007-2016)
- *Member*, Departmental Service Committee (2007-2010)
- *Reviewer*, Journal of Scholarship of Teaching and Learning (2007, 2009)
- *Member*, IUPUI Gateway Advisory Board (2007-2010)
- *Reviewer*, Edward C. Moore Symposium (2007, 2009, 2015, 2016, 2017)
- *Member*, Search Committee for Director of Academic and Career Development, University College Advising Center/IUPUI Career Center (2007/2008)
- *Task Force Leader*, Undergraduate Program Committee, Departmental Strategic Planning (2006-2007)
- *Instructional Team Member*, University College Science Themed Learning Community (2005-2015)
- *Member*, American Chemical Society (ACS) Education Committee (Indiana Section) (2005-2008)
- *Reviewer*, IUPUI Gateway Grants Program (2005)
- *Faculty Advisor*, IUPUI Chemistry Club (2004-present)
- *Member*, Steering Committee, 36th ACS Central Regional Meeting, Indianapolis, Indiana (2003-2004)
- *Poster Session Coordinator*, 36th ACS Central Regional Meeting, Indianapolis, Indiana (2004)
- *General Session Presider*, 18th Biennial Conference on Chemical Education, Ames, Iowa (2004)
- *Member*, University College Curriculum Committee (2004-2006)
- *Member*, University College Mentor Course Development Subcommittee (2004-2005)
- *Member*, University College Faculty Roles, Responsibilities, and Recognitions Committee (2004-present)
- *Member*, School of Science “Explore IUPUI” Steering Committee (2002-2004)
- *Member*, Department of Chemistry C101 Oversight Committee (2001-2002)
- *Member*, IUPUI (campus) Scheduling Task Force (2000-2001)
- *Member*, Department of Chemistry General Chemistry Committee (1997-2000)
- *Member*, IUPUI Experience Excellence Recognition Awards Committee (1996)
- *Chair*, IUPUI (campus) Laboratory Safety Committee (1993-1997)
- *Member*, IUPUI (campus) Laboratory Safety Committee (1991-1992)
- *Member*, IUPUI (campus) Environmental Safety Committee (1991-1999)

PUBLICATIONS

Anliker, K. S. “Supplemental Problems for Elementary Chemistry” with CD of screen-capture problem-solving videos. 2nd edition, Kendall/Hunt Publishing Company, Dubuque, IA, 2009.

Anliker, K. S. “Laboratory Manual for Elementary Chemistry” with CD of screen-capture prelab/postlab videos. 1st edition, Kendall/Hunt Publishing Company, Dubuque, IA, 2008.

Anliker, K. S. “Chemistry To Go” podcast series on the Indiana University Podcast Portal (podcast.iu.edu) and on iTunes U (iTunes.iu.edu). First episode published April 3, 2008.

Anliker, K. S. “Supplemental Problems for Elementary Chemistry” with CD of screen-capture problem-solving videos. 1st edition, Kendall/Hunt Publishing Company, Dubuque, IA, 2007.

- Lipkowitz, K. B.; T. Naylor; K. S. Anliker. “Introducing Chiroscience into the Undergraduate Organic Laboratory Curriculum.” *J. Chem. Educ.* 77: 305-307, 2000.
- Anliker, K. S. “Polar Bond.” in *Macmillan Encyclopedia of Chemistry*, Vol. 3, p. 1222, Joseph J. Lagowski Ed. (Macmillan Reference USA, New York, 1997). Invited.
- Sen, S. E. and K. S. Anliker. “¹H NMR Analysis of R/S Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory.” *J. Chem. Educ.* 73: 569-572, 1996.
- Rudy, A. C.; K. S. Anliker; S. D. Hall. “High Performance Liquid Chromatographic Determination of the Stereoisomeric Metabolites of Ibuprofen.” *J. Chromatog. Biomed. Appl.* 528: 395-405, 1990.
- Cherney, J. H.; K. S. Anliker; K. A. Albrecht; K. V. Wood. “Soluble Phenolic Monomers in Forage Crops.” *J. Ag. Food Chem.* 37(2): 345-350, 1989.
- Cherney, J. H.; K. D. Johnson; K. J. Volenec; K. S. Anliker. “Chemical Composition of Herbaceous Grass and Legume Species Grown for Maximum Biomass Production.” *Biomass* 17: 215-238, 1988.
- Cherney, J. H.; J. D. Axtell; M. M. Hassen; K. S. Anliker. “Forage Quality Characterization of a Chemically-Induced Brown Midrib Mutant in Pearl Millet.” *Crop Science* 28: 783-787, 1988.
- Anliker, K. S.; J. R. Pribyl; R. Latham. Analysis of “Validation of a Learning Hierarchy for the Mole Concept.” *Investigations in Science Education* 12(4): 3-9, 1986.

PRESENTATIONS

- Anliker, K. S.* “Student Response Systems (“Clickers”)” Advancing Teaching and Learning with Technology Symposium, Indianapolis, Indiana, September 15, 2017. Invited.
- Anliker, K. S. and P. Kelley* “Multiple perspectives, but just one goal: Effective laboratories” 2017 IUPUI TA Orientation, Indianapolis, Indiana, August 17, 2017. Invited.
- Anliker, K. S.* “#Twitter uses in #chem and #higherEd” 48th Central Regional Meeting of the American Chemical Society, Dearborn, Michigan, June 9, 2017.
- Anliker, K. S. (one of five participants in a faculty panel moderated by S. Albertine)* “Discoveries from the Faculty Collaboratives” 103rd Annual Meeting of the Association of American Colleges and Universities, San Francisco, California, January 26, 2017. Invited.
- Anliker, K. S.* “Effective Laboratories in the Physical Sciences” 2016 IUPUI TA Orientation, Indianapolis, Indiana, August 8, 2016. Invited.
- Anliker, K. S.* “Tuning and WikiTuningHigherEd: Defining and demystifying degree programs” Biennial Conference on Chemical Education, BCCE 2016, University of Northern Colorado, Greeley, Colorado, August 2, 2016.
- Anliker, K. S.* “Big ideas in higher education: An overview of some faculty-driven initiatives” Biennial Conference on Chemical Education, BCCE 2016, University of Northern Colorado, Greeley, Colorado, August 2, 2016.
- Anliker, K. S. (one of six participants in a faculty panel moderated by T. J. Rivard)* “Creating Networks of Faculty for Student Success” 20th Anniversary FALCON, FACET’s Adjunct Faculty and Lecturers’ Conference, Indianapolis, Indiana, November 14, 2015. Invited.
- Anliker, K. S. and M. Yard* “Effective Laboratories” Educational Training for Teaching Associates (ETTA 2015) Fall Conference, Indianapolis, Indiana, August 21, 2015. Invited.
- Anliker, K. S.* “JumpStart C101: Helping introductory chemistry students hit the ground running” Biennial Conference on Chemical Education, BCCE 2014, Grand Valley State University, Allendale, Michigan, August 5, 2014.
- Anliker, K. S. and C. Ulbright* “Food, culture and chemistry in a freshman themed learning community” Biennial Conference on Chemical Education, BCCE 2014, Grand Valley State University, Allendale, Michigan, August 4, 2014.
- Anliker, K. S.* “Reflections on a decade of educational podcasting” 69th Northwest Regional Meeting of the American Chemical Society, Missoula, Montana, June 23, 2014.
- Anliker, K. S. and L. Zhu (with seven student contributors)* “Chemistry Club: IUPUI Student Affiliates of the American Chemical Society” Poster presentation in the “Successful Student Chapters” Symposium, 246th ACS National Meeting, Indianapolis, Indiana, September 9, 2013.
- Anliker, K. S.* “A conversation about teaching science labs online” FACET Retreat (workshop) French Lick, Indiana, May 18, 2013.

- Anliker, K. S. (one of six participants in a faculty panel)* “How Will You Get a Job with THAT Major? Using Tuning to Connect Academic Disciplines to the Workforce” Midwestern Higher Education Compact Annual Commission Meeting and Policy Summit (*Theme: Toward What End? The Relationship of Higher Education Programs to Workforce Needs*), Cincinnati, Ohio, November 19, 2012. Invited.
- Anliker, K. S. and C. Ulbright* “Science Matters: Teaching, Research, Service and Food” 17th Annual National Learning Communities Conference, Indianapolis, Indiana, November 10, 2012.
- Anliker, K. S.* “Higher Education Reform: Reflections on Tuning USA and the Indiana Chemistry Tuning Pilot” 42nd Central Regional Meeting of the American Chemical Society, Indianapolis, Indiana, June 8, 2011.
- Anliker, K. S.* “A Science Teacher’s Beaker List: Pentaicosahedra things to do before emptying your last beaker” Strategies for Success Workshop, Palos Hills, Illinois, April 2, 2011. Invited.
- Anliker, K. S.* “Tuning Chemistry: Reflections on the Tuning USA Indiana Pilot” Indiana Higher Education Commission Conference: Focusing on Student Learning Outcomes in Indiana, Indianapolis, Indiana, February 25, 2011. Invited.
- Anliker, K. S.* “Connecting with Students Using Pen-based Technologies” 3rd IU Kokomo Faculty Conference, Kelley Center, Indiana University Kokomo, November 12, 2010.
- Anliker, K. S.* “Tuning Educational Structures: A bunch of baloney (Bologna?) . . . or some ideas worth making our own?” FACET Retreat (workshop) French Lick, Indiana, May 22, 2010.
- Anliker, K. S.* “Millennial Chemistry Students: Have the Rules of Engagement Changed?” Strategies for Success Workshop, Dallas, Texas, February 20, 2010. Invited.
- Anliker, K. S.* “Millennial Chemistry Students: Have the Rules of Engagement Changed?” Strategies for Success Workshop, Chattanooga, Tennessee, October 24, 2009. Invited.
- Anliker, K. S. and E. A. Sigler* “Opportunities for Growth and Reflection: Universal paradigms of teaching” FACET Event: 2008 Lilly House, Indianapolis, Indiana, November 7, 2008.
- Anliker, K. S.* “Millennial Chemistry Students: Have the Rules of Engagement Changed?” Strategies for Success Workshop, Lexington, Kentucky, November 1, 2008. Invited.
- Anliker, K. S.; K. Rickard; S. Brady; F. Rees.* “Innovative Solutions for Reaching Your Students: A Faculty Panel” Power-Up Your Pedagogy: Teaching Today’s Tech Savvy Students, Indianapolis, Indiana, October 17, 2008. Invited.
- Anliker, K. S.* “Goofy analogies enhance understanding, break up lecture and create lasting imagery” 20th Biennial Conference on Chemical Education, Bloomington, Indiana, July 30, 2008.
- Anliker, K. S.* “Screencasting: It looks like a great idea, but how do I do it?” 20th Biennial Conference on Chemical Education, Bloomington, Indiana, July 30, 2008.
- Anliker, K. S.* “Within and Beyond the Classroom: Engaging Introductory Chemistry Students” Strategies for Success Workshop, Ewing, New Jersey, November 10, 2007. Invited.
- Anliker, K. S., S. Stoten and K. F. Stouse* “Transforming the Instructional Environment Using Audio & Video Technologies” FACET Associate Faculty and Lecturers' Conference, Indianapolis, Indiana, October 20, 2007.
- Anliker, K. S.* “Problem-solving movies engage students beyond the classroom” *CERMACS 2007*, Central Regional Meeting of the American Chemical Society, Covington, Kentucky, May 22, 2007.
- Anliker, K. S.* “Engaging Students In and Out of the Chemistry Classroom” Strategies for Success Workshop, Indianapolis, Indiana, October 21, 2006. Invited.
- Anliker, K. S. and D. Nickolson* “Captivate-ing Your Audience” Power-Up Your Pedagogy: Exploring Emerging Technologies, Indianapolis, Indiana, September 15, 2006. Invited.
- Anliker, K. S.* “Creating web-ready movies to model problem solving strategies” 19th Biennial Conference on Chemical Education, West Lafayette, Indiana, July 31, 2006.
- Anliker, K. S. and K. M. Forsythe.* “Using Molecular Modeling Software in a Non-majors Chemistry Lab” 19th Biennial Conference on Chemical Education, West Lafayette, Indiana, July 31, 2006.
- Anliker, K. S.* “Easy Creation of Web-ready Movies for Quality Instruction Outside of Class” The Edward C. Moore Symposium: Innovation and Excellence in College Teaching, Indianapolis, Indiana, February 24, 2006.

Anliker, K. S.; H. Brant; C. Garcia; W. Gronfein; J. G. Keller; K. Marrs; M. Phillabaum; K. Thedwall. “Making a Connection: The Gateway Scholars Program and Best Practices in Undergraduate Education” The Edward C. Moore Symposium: Innovation and Excellence in College Teaching, Indianapolis, Indiana, February 24, 2006.

Holladay, S. R. H.; K. S. Anliker; T. E. Query. “Weekly Web-Based Assignments in Introductory Chemistry” 18th Biennial Conference on Chemical Education, Ames, Iowa, July 21, 2004.

Anliker, K. S. and C. G. Kelley. “More than a collection of discrete experiments: Changing our approach to introductory chemistry labs” 18th Biennial Conference on Chemical Education, Ames, Iowa, July 19, 2004.

Anliker, K. S. and R. J. Kough. “Second chance exams in introductory chemistry: Why and how” 18th Biennial Conference on Chemical Education, Ames, Iowa, July 19, 2004.

Query, T. E.; S. R. H. Holladay; K. S. Anliker. “Using Weekly Web Based Assignments in Introductory Chemistry: What Are the Effects?” 36th Central Regional Meeting of the American Chemical Society, Indianapolis, Indiana, June 4, 2004.

Anliker, K. S. “The oscillating platinum wire demonstration” 36th Central Regional Meeting of the American Chemical Society, Indianapolis, Indiana, June 3, 2004.

Anliker, K. S. “Second chance exams: Philosophy, logistics and results” 36th Central Regional Meeting of the American Chemical Society, Indianapolis, Indiana, June 3, 2004.

Anliker, K.S.; H. Merrill; M. Coben; J. Goldfinger; K. Hanna; L. Rumreich; J. Sterling; E. Rubens; K. Johnson. “A Community of Practice Exploration of Teaching Philosophy via Blogging” The Edward C. Moore Symposium: Innovation and Excellence in College Teaching, Indianapolis, Indiana, March 5, 2004.

Anliker, K. S. and S. E. Sen. “+/- Ibuprofen: A Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory” 207th National Meeting of the American Chemical Society, San Diego, California, March 13, 1994.

Anliker K. S. and J. Kelly. “Guidelines for Managing Legality and Safety Issues When Teaching Laboratory Science via Distance” NSF Invitational Conference on Teaching Science Laboratories via Distance, Indianapolis, Indiana, October 29, 1993. Invited.

Anliker, K. S. and J. H. Cherney. “Soluble Phenolic Compounds in Herbaceous Plants as Influenced by Extraction Procedure” 21st Midwest Regional Meeting of the American Chemical Society, University of Missouri, Kansas City, Missouri, November 6, 1986.

Anliker, K. S. and J. D. Herron. “A Computer-Based Item Bank Utilizing Commercially Available Data Management and Word Processing Software” 19th Great Lakes Regional Meeting of the American Chemical Society, Purdue University, West Lafayette, Indiana, June 11, 1985.

FUNDED PROPOSALS

American Chemical Society Inter-Chapter Relations Grant, Undergraduate Programs Office
“Chemistry Bowl and Bowling”
2013-2014, \$750

Faculty Fellowship, IUPUI-Crispus Attucks Medical Magnate High School Early College Initiative
“Chemistry Curriculum Review, Recommendations and Preparation for College Chemistry”
2009, \$2500

Indiana University Faculty Podcasting Initiative
“Portable Learning Supplements for Students and Instructors of Elementary Chemistry”
2008, \$3342

National Science Foundation, DUE, Instrumentation for Laboratory Improvement Program
Co-PI with K. B. Lipkowitz, M. J. O'Donnell, M. G. Organ, S. E. Sen.
“Introducing Chiroscience into the Organic Chemistry Laboratory”
1997-1999, \$54,950

OTHER PROPOSALS

2013, National Science Foundation, S-STEM Proposal, “STEM Gateway Community” \$618,234, Co-PI with Britt Reese (PI), Terri Talbert-Hatch, Matt Rust, Jeff Watt, Willow King-Locke, Richard Ward. (Project not funded.)

2010, Pre-Proposal submitted for Wave 1 of the Next Generation Learning Challenges Initiative (Gates Foundation) “Video and e-Learning Supplements for Introductory Chemistry” \$250,000 with Lin Zhu (Pre-proposal did not result in an invitation to submit a full proposal.)

**PROJECTS
SUPERVISED**

Ryan Hopkins, “Perceived Value and Self-efficacy Related to Performance and Success in Chemistry C101” (Capstone project) Spring 2015.

Oscar Trejo, “Chemistry Demonstration Videos” (Capstone project) Spring 2015.

Michael Burt, “Emerging Technologies and their Applications in Teaching” (Capstone project) Spring 2015.

John Skomp, “Chemistry Demonstrations for Use In and Out of the Classroom” (Capstone project) Spring 2012.

Abdul Deen, “Video and e-Learning Supplements for Chemistry C101” (Capstone project) Summer 2011-Fall 2011.

Andrew Basner, “Design, Implementation and Analysis of a Technology-Based Prelab for C121” (Capstone project) Fall 2007.

Desiree Barker, “Efficacy of Modeled Problem-solving Behaviors for Elementary Chemistry” (Capstone project) Fall 2006-Spring 2007.

Kevin Burns, “Developing an Online Prelab Component for Elementary Chemistry Laboratory 1” (Capstone project) Spring 2005.

Ryan Kough, “Analysis of Second Chance Exams in Chemistry C101” (Capstone project) Spring 2004.

Michael Kennedy, “Literature and Laboratory Investigation of proton NMR Spectra of Amine Salts” Fall 2002-Fall 2003.

Michael Kennedy, “A New Approach to Introductory Chemistry Laboratories” Spring 2002.

Amish Patel, “Proton NMR Investigation of Coupling in Amine Salts” Spring 1997.

Michael Bowling, “Literature and Laboratory Investigation of Synthetic Strategies for Ibuprofen” Spring 1997.

**LABORATORY
MANUALS**

Manual for Chemistry C121: Elementary Chemistry Laboratory 1
Anliker, K. S.
In use from 2002 until 2008. Distributed electronically.

Manual for Chemistry C126: Experimental Chemistry II
Anliker, K. S.; N. Breen; M. Nguyen
Currently in use. Published by Hayden-McNeil. (First edition, Spring 2000, IUPUI Print Services)

Manual for Chemistry C125: Experimental Chemistry I
Anliker, K. S., N. Breen, and M. Nguyen
Currently in use. Published by Hayden-McNeil. (First edition, Spring 1999, IUPUI Print Services)

Manual for Chemistry C344: Organic Chemistry Laboratory 2
Anliker, K. S. and S. Sen
Revised and in use through Spring 2002. First edition Spring 1996. Published by IUPUI Print Services.

Manual for Chemistry C343: Organic Chemistry Laboratory 1
Anliker, K. S.; S. Sen; K. Lipkowitz
Revised and in use through Spring 2002. First edition Fall 1995. Published by IUPUI Print Services.

**TRAINING
PROGRAMS**

Orientation for New Chemistry Graduate Students at IUPUI. Newly-created four-day program for Fall 2017. My contribution included program design, primary responsibility for delivering content, recruiting additional speakers. Sessions/Topics: Lab safety and engineering controls, departmental instrumentation, Chemistry Stores, our courses and curriculum, norms to govern teaching, expectations for TAs, teaching evaluations, hands-on laboratory experiences, grad student workload and time management, grading and grading rubrics, teacher characteristics activity, strategies for helping diverse learners, the Chemistry Resource Center, discussion of Critical Incidents videos, videotaped microteaching experience.

IUPUI Chemistry Teaching Assistant Workshop (One or two day workshop done annually. Various formats, various presenters) My normal contributions: 1. Introduction to IUPUI Chemistry 2. Effective Laboratories: Safety and Responsibility 3. Chemical Hygiene Training Program.

Videotape: C101 Chemistry Safety Feature: “Safety in the Home Laboratory”
Created content, wrote script and acted in professionally-produced movie that was used by students enrolled in our distance education version of Chemistry C101 course. IUPUI Integrated Technologies, January 1996.

IUPUI COURSE INVOLVEMENT

- *C100: The World Chemistry 1* (3 cr) Introductory “liberal arts” chemistry course.
Role: Lecturer
- *C101: Elementary Chemistry 1* (3 cr) Introductory survey course.
Role: Lecturer, Course Administrator, Recitation Instructor
- *C106: Principles of Chemistry II* (3 cr) Second semester general chemistry course for science majors.
Role: Recitation Instructor
- *C121: Elementary Chemistry Laboratory 1* (2 cr) Companion laboratory for C101.
Role: Course Coordinator, Laboratory Instructor
- *C125: Experimental Chemistry I* (2 cr) Laboratory course (with laboratory lecture) for science majors.
Role: Course Coordinator, Lecturer
- *C126: Experimental Chemistry II* (2 cr) Laboratory course (with laboratory lecture) for science majors.
Role: Course Coordinator, Lecturer, Laboratory Instructor
- *C343/C344: Organic Chemistry Laboratories 1 and 2* (2 cr) Laboratory course for science majors.
Role: Course Coordinator
- *U110: University College Freshman Seminar/Themed Learning Community* (“Science Matters”)
Role: Co-teacher

CURRICULUM DEVELOPMENT

- *C101: Elementary Chemistry 1*
Content revision and implementation of new web and app-based student response system (Top Hat).
Summer 2017 – Fall 2017
- *C101: Elementary Chemistry 1*
Implemented eText, adaptive learning software and online graded homework. Course partially “flipped” through use of adaptive learning assignments and some movies that students were required to view to prepare for lecture.
Spring 2016 – Fall 2016
- *C101: Elementary Chemistry 1*
Implemented student response system (Turning Technology “clickers”) to take attendance and assess student understanding during lecture.
Summer 2013
- *C101: Elementary Chemistry 1*
Utilized the Tests & Surveys Tool in Oncourse to create and implement graded homework assignments incorporating a combination of instructional materials and assessments.
Summer and Fall terms 2011
- *C101: Elementary Chemistry 1*
Implemented problem-solving movies (Captive, tablet PC) to model problem-solving behavior.
Fall term 2005
- *C101: Elementary Chemistry 1*
Implemented Just in Time Teaching (JiTT) methods with web-based activities.
Spring term 2003 (with S. Holladay)
- *C121: Elementary Chemistry Laboratory 1*
Developed new laboratory course created by split of 5 cr. C101 into separate lecture and lab courses. Created and tested new experiments. Developed grading criteria and supplemental materials for TAs.
Spring term 2002 (assisted by C. Kelley)
- *C101: Elementary Chemistry 1*
Implemented “second chance exam” strategy.
Spring term 2002
- *C125 and C126: Experimental Chemistry I and II*
Developed and tested laboratory experiments for new courses. Created syllabi, experiments, lecture notes, demonstration materials, examinations, grading criteria.
Fall term 1999 – Spring term 2000 (with N. Breen and M. Nguyen)
- *C343 and C344: Organic Chemistry Laboratories 1 and 2*
Developed and tested laboratory experiments. Created spectroscopy lectures and assignments, TA notes, quizzes and lab exams, grading criteria.
Fall term 1995 – Spring term 1996 (with S. Sen)

OUTREACH**Representative sample of more than 50 outreach activities since 1997**

- “Chemistry Trivia Challenge”
Exhibitor/Presenter with Chem Club students at Celebrate Science Indiana, Blue Ribbon Pavilion, Indiana State Fairgrounds, October 4, 2014
- “Chemistry in Motion”
Exhibitor/Presenter with Chem Club students at Celebrate Science Indiana, a joint public outreach event in conjunction with the 246th ACS National Meeting, Indianapolis Motor Speedway, September 8, 2013
- “College-level Stoichiometry”
Lecture for Crispus Attucks Medical Magnet High School (CAMMHS) students, April 13, 2012
- “Chemical FUNomena”
Presentation at Celebrate Science Indiana, Indiana State Fairgrounds, October 8, 2011
- Science Olympiad Build It Day, Event Coordinator, IUPUI (2010)
- Science Apprentice Camp/Chem Camp, IUPUI (2008, 2009)
- Science Olympiad, Chemistry Event Coordinator, IUPUI (1999, 2007, 2008, 2009)
- 500 Festival Kids Day (off campus, Anliker with graduate and undergraduate students)
“Let’s Make a Goofy Glob” May 21, 2006
- “Chemical FUNomena” with expanded discussion
Program for H.S. teachers during ACS (Indiana Section) Scholarship Exam (on campus) April 15, 2006
- “Chemical FUNomena”
Science Night at Sugar Grove Elementary School, February 17, 2006
- Upward Bound Program
Three week long interaction with H. S. students: chemistry lecture, lab, mentoring, Summer II, 2005
- “Chemical FUNomena”
Campus Program for “Saturday Academy” Students (Arsenal Tech. High School) October 16, 2004
- Chemical Demonstrations
Appeared on FOX 59 television morning show to promote Explore IUPUI, September 17, 2004
- “Chemical Safety in the Home”
Discussion of chemical hazards in the house, garage and garden. Explore IUPUI, October 12, 2002
- “Chemical FUNomena”
Program for College Wood Elementary 4th and 5th grade classes, April 17, 2002
- “Chemical FUNomena”
Programs for K – 5 students at IPS School #48, March 1, 2002, February 28, 2001, March 26, 1998
- “What does a chemist do?”
IUPUI Pre-college Initiative for 6th and 7th grade students, January 2, 2001
- “Chemical FUNomena”
Program in the Natatorium gym for Science Olympiad students, coaches, and families, March 20, 1999
- National Chemistry Week Activities
Two programs for 1st grade students at Zionsville Community Schools, November 6, 1998
- “Chemical FUNomena”
Program for National Society of Black Engineers (NSBE) Pre-College Youth Rally, August 15, 1998
- “Chemical FUNomena”
Program, via two-way video link, for 6th grade students at Rosedale Elementary, March 13, 1998
- “Chemical FUNomena”
Two programs for K – 6 students at Frankton Elementary, November 7, 1997
- Young Scholars Program
Chemistry lab program for middle school students, 8:30 – 10:00 AM daily, July 21 – August 1, 1997