

## JENNIFER A. LOERTSCHER, Ph.D.

### PROFESSIONAL APPOINTMENTS

- 2023-present Associate Dean for Faculty Affairs, Seattle University, Seattle, WA  
2022-present SU Advance Fellow, Seattle University, Seattle, WA  
2018-present Professor of Chemistry, Seattle University, Seattle, WA  
2020-present Faculty Associate for Mission Integration, Center for Jesuit Education, Seattle University, Seattle, WA  
2018-2019 Faculty Associate for Mission Integration, Center for Jesuit Education, Seattle University, Seattle, WA  
2016-2018 Arline F. Bannan Chair in Mathematics and the Natural Sciences, Seattle University, Seattle, WA  
2010-2015 Associate Professor of Chemistry, Seattle University, Seattle, WA  
2008-2010 Assistant Professor of Chemistry, Seattle University, Seattle, WA  
2003-2008 Clare Boothe Luce Assistant Professor of Chemistry, Seattle University, Seattle, WA  
2001-2003 Postdoctoral Fellow, Department of Zoology University of Washington, Seattle, WA; Advisor: Robin L. Wright  
National Institutes of Health National Research Service Award Fellow

### EDUCATION

- 1996-2001 Graduate Student, University of Wisconsin, Madison, WI  
Ph.D. in Environmental Toxicology  
Dissertation advisor: B. Lynn Allen-Hoffmann  
*Dissertation Title: In vitro and in vivo effects of 2,3,7,8-tetrachlorodibenzo-p-dioxin on keratinocyte terminal differentiation*  
1992-1996 Undergraduate Student, Grinnell College, Grinnell, IA  
B.A. degrees in Chemistry and German, Graduated with honors

### RECENT TEACHING EXPERIENCE AT SEATTLE UNIVERSITY

#### *Nursing Chemistry*

CHEM 1200: Chemistry of Life

#### *General Chemistry*

CHEM 1500: General Chemistry I

CHEM 1510: General Chemistry II

CHEM 1501: General Chemistry Laboratory I

CHEM 1521: General Chemistry Laboratory III

#### *Biochemistry*

CHEM 3600: Introductory Biochemistry

CHEM 4500: Biochemistry: Protein and Lipid Structure and Function

CHEM 4520: Biochemistry: Metabolism

#### *Senior Synthesis*

CHEM 4985: Senior Synthesis Seminar I

CHEM 4995: Senior Synthesis Seminar II

CHEM 4990: Undergraduate Research

#### *Independent Study*

CHEM 4960: Current Topics in Chemical Education

CHEM 4960: Senior Synthesis II Independent Study

## AWARDS AND HONORS

1. American Society for Biochemistry and Molecular Biology (ASBMB) Education Associate (2020-present)
2. Provost's Award for Excellence in Teaching (2017)
3. Jesuit Mission Fellow (2015-2016)

## SELECTED EXTERNAL RESEARCH FUNDING

- 2021 National Science Foundation (NSF) Research Coordination Networks: Undergraduate Biology Education, "Transforming the BMB Education Community by Building an Inclusive Community for the Assessment of BMB Learning (ICABL)," Senior Personnel.
- 2012 National Science Foundation (NSF) Transforming Undergraduate Education in STEM (TUES), Type 2, "Transforming undergraduate biochemistry education: A community approach linking learning, assessment and curricular innovation" co-PI with Vicky Minderhout, **\$539,000**.
- 2007 National Science Foundation (NSF) Course Curriculum and Laboratory Improvement (CCLI), phase 2, "POGIL Biochemistry," co-PI with Vicky Minderhout, **\$489,300**.

## PUBLICATIONS: PEER-REVIEWED JOURNAL ARTICLES (underline indicates Seattle University undergraduate)

1. Sachel M. Villafañe, Vicky Minderhout, Bruce J. Heyen, Jennifer E. Lewis, Andrew Manley, Tracey A. Murray, Heather Tienson-Tseng, Jennifer Loertscher "Design and implementation of a tool to assess students' understanding of metabolic dynamics and regulation," *CBE-Life Science Education*, 2021, 20(3), 1-15.
2. Quira Zeidan, Jennifer Loertscher, Adele J. Wolfson, John T. Tansey, Erika G. Offerdahl, Peter J. Kennelly, Daniel R. Dries, Victoria Del Gaizo Moore, Diane M. Dean, L. Michael Carastro, Sachel M. Villafane, and Ludmila Tyler, "Development of a Certification Exam to Assess Undergraduate Students' Proficiency in Biochemistry and Molecular Biology Core Concepts," *CBE-Life Science Education*, 2021, 20(1), 1-13.
3. Jennifer Loertscher, Jennifer E. Lewis, Allison Mercer, Vicky Minderhout, "A construct map framework to support teaching and assessment of noncovalent interactions in a biochemical context," *Chemistry Education Research and Practice*, 2018, 19, 1151-1165.
4. David Green, Jennifer E. Lewis, Jennifer Loertscher, Vicky Minderhout, "For want of a better word: unlocking threshold concepts in natural sciences with a key from the humanities?" *Higher Education Research & Development*, 2017, 36(7).
5. Xiaoying Xu, Jennifer E. Lewis, Jennifer Loertscher, Vicky Minderhout, Heather Tienson, "Small changes: Using assessment to direct instructional practices in large-enrollment biochemistry courses," *CBE-Life Sciences Education*, 2017, 16(1), 1-13.
6. Sachel M. Villafañe, Bruce J. Heyen, Jennifer E. Lewis, Vicky Minderhout, Jennifer Loertscher, Tracey Arnold Murray "Community-based design and national testing of an assessment instrument to measure understanding of protein structure and enzyme inhibition in a new context," *Biochemistry and Molecular Biology Education*, 2016, 44, 179-190.
7. Jennifer Loertscher, David Green, Jennifer E. Lewis, Sara Lin, Vicky Minderhout, "Identifying threshold concepts for biochemistry," *CBE-Life Science Education*, 2014, 13, 516-528.
8. Jennifer Loertscher, Sachel M. Villafañe, Jennifer E. Lewis, Vicky Minderhout, "Probing and improving students' understanding of protein  $\alpha$ -helix structure using targeted assessment and classroom interventions," *Biochemistry and Molecular Biology Education*, 2014, 42, 213-223.
9. Cheryl P. Bailey, Vicky Minderhout, Jennifer Loertscher, "Learning transferrable skills in large lecture halls: implementing a POGIL approach in biochemistry," *Biochemistry and Molecular Biology Education*, 2012, 40 1-7.

10. Tracey A. Murray, Pamela Higgins, Vicky Minderhout, Jennifer Loertscher, "Sustaining the development and implementation of student-centered teaching nationally," *Biochemistry and Molecular Biology Education*, 2011, 39 405-411.
11. Sachel M. Villafañe, Cheryl P. Bailey, Jennifer Loertscher, Vicky Minderhout, and Jennifer E. Lewis, "Development and analysis of an instrument to assess student understanding of foundational concepts prior to biochemistry coursework," *Biochemistry and Molecular Biology Education* 2011, 39 102-109.
12. Sachel M. Villafañe, Jennifer Loertscher, Vicky Minderhout, and Jennifer E. Lewis, "Uncovering Students' Incorrect Ideas About Foundational Concepts for Biochemistry," *Chemistry Education Research and Practice* 2011, 12 210-218.
13. Vicky Minderhout and Jennifer Loertscher, "Lecture-Free Biochemistry: A Process Oriented Guided Inquiry Approach," *Biochemistry and Molecular Biology Education* 2007 35 172-180.
14. Jennifer Loertscher, Lynnelle Larson, Clinton Matson, Mark Parrish, Alicia Felthouser, Aaron Sturm, Christine Tachibana, Martin Bard, and Robin Wright, "ER-Associated Degradation Is Required for Cold Adaptation and Regulation of Sterol Biosynthesis in the Yeast *Saccharomyces cerevisiae*," *Eukaryotic Cell* 2006 5(4) 712-22.
15. Jennifer Loertscher, Tien Min Lin, Richard Peterson, and B. Lynn Allen-Hoffmann, "In Utero Exposure to 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Causes Accelerated Terminal Differentiation in Fetal Mouse Skin," *Toxicological Science* 2002 68 465-472.
16. Jennifer Loertscher, Carol Sattler, and B. Lynn Allen-Hoffmann, "2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Alters the Differentiation Pattern of Human Keratinocytes in Organotypic Culture," *Toxicology and Applied Pharmacology* 2001 175 121-129.
17. Jennifer Loertscher, Christine Sadek, and B. Lynn Allen-Hoffmann, "Treatment of Normal Human Keratinocytes with 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Causes a Reduction in Cell Number, but No Increase in Apoptosis," *Toxicology and Applied Pharmacology* 2001 175 114-120.

#### **PUBLICATIONS: EDITOR-REVIEWED JOURNAL ARTICLES**

1. Victoria Del Gaizo Moore, Jennifer Loertscher, Diane M. Dean, Cheryl P. Bailey, Peter J. Kennelly, and Adele J. Wolfson, "Structuring and supporting excellence in undergraduate biochemistry and molecular biology education: The ASBMB degree accreditation program," *CBE-Life Science Education*, 2018, 17(4).

#### **PUBLICATIONS: BOOKS AND BOOK CHAPTERS**

1. Jennifer Loertscher, Vicky Minderhout, and Katherine Frato *Foundations of Biochemistry, 5<sup>th</sup> Edition*; Pacific Crest: Lisle IL, 2020.
2. Jennifer Loertscher and Vicky Minderhout, "Implementing guided inquiry in biochemistry: Challenges and opportunities," in *Biochemistry Education: From Theory to Practice*, Thomas Bussey, Kimberly Linenberger Cortes, and Rodney Austin, Eds., ACS Publications, Washington DC, 2019.
3. Mare Sullivan and Jennifer Loertscher, "POGIL Facilitation," in *Introduction to POGIL*, Shawn Simonson, Ed., Stylus Publishing, 2019.
4. Jennifer Loertscher, Vicky Minderhout, and Katherine Frato *Foundations of Biochemistry, 4<sup>th</sup> Edition*; Pacific Crest: Lisle IL, 2015.
5. Jennifer Loertscher and Vicky Minderhout *Foundations of Biochemistry, 3<sup>rd</sup> Edition*; Pacific Crest: Lisle IL, 2011.
6. Jennifer Loertscher and Vicky Minderhout *Foundations of Biochemistry, 2<sup>nd</sup> Edition*; Pacific Crest: Lisle IL, 2010.
7. Jennifer Loertscher, "Classroom Assessment in Support of Biochemistry Course Reform," in J. Ryan. T. Clark, A. Collier, Eds, *Assessment of Chemistry*; The Association for Institutional Research: Tallahassee, FL, 2010, pp. 113-125.

8. Jennifer Loertscher and Vicky Minderhout *Foundations of Biochemistry, 1<sup>st</sup> Edition*; Pacific Crest: Lisle IL, 2009.
9. Vicky Minderhout and Jennifer Loertscher, "Facilitation: The Role of the Instructor." in R. S. Moog, J. N. Spencer, Eds, *Process Oriented Guided Inquiry Learning*; American Chemical Society Symposium Series 994: Washington, DC, 2008.
10. Jennifer Loertscher and Vicky Minderhout "Assessing Learning Activities," in S. W. Beyerline, C. Holmes, D. K. Apple, Eds, *Faculty Guidebook: A Comprehensive Tool For Improving Faculty Performance*; Pacific Crest: Lisle IL, 2007, pp. 291-294.

#### **PUBLICATIONS: INVITED PERSPECTIVE PIECES**

1. Jennifer Loertscher, "Biochemistry and molecular biology education research: moving from ideas to action," *Biochemistry and Molecular Biology Education*, 2014, 42, 257-258.
2. Jennifer Loertscher, "A Call to Action Answered: Highlights from the ASBMB Student-Centered Education in the Molecular Life Sciences Symposium," *Biochemistry and Molecular Biology Education*, 2013, 40, 388-389.
3. Jennifer Loertscher, "Using a Scholarly Approach to Improve Teaching and Learning in Biochemistry Higher Education," *Biochemistry and Molecular Biology Education*, 2012, 40, 388-389.
4. Jennifer Loertscher, "Cooperative learning for faculty: building communities of practice," *Biochemistry and Molecular Biology Education*, 2011, 39, 391-392.
5. Jennifer Loertscher, "Threshold Concepts in Biochemistry," *Biochemistry and Molecular Biology Education* 2011, 39 56-57.
6. Jennifer Loertscher, "Book Review: Study and Communication Skills for the Biosciences," *Biochemistry and Molecular Biology Education* 2011, 39 243-244.
7. Jennifer Loertscher, "Using Assessment to Improve Learning in the Biochemistry Classroom," *Biochemistry and Molecular Biology Education* 2010, 38 188-189.
8. Jennifer Loertscher, "It Isn't Easy Glowing Green," *Life Sciences Education* 2008 8 11-12.
9. Jennifer Loertscher, "Teaching Cognitive Skills in the Biochemistry Classroom – A Community Effort," *Biochemistry and Molecular Biology Education* 2008, 36 435-436.

#### **INVITED RESEARCH PRESENTATIONS**

1. Jennifer Loertscher, "Design and implementation of a tool to assess students' understanding of metabolic dynamics and regulation," University of Washington, Seattle, WA March, 2022
2. Sachel Villafañe and Jennifer Loertscher, "Biochemistry assessment: Community engagement and impacts," National Meeting of the American Chemical Society, San Francisco, CA, Mar 2022.
3. Jennifer Loertscher, "Constructing understanding in teaching and learning," BioMolViz Workshop Plenary Presentation, Seattle, WA, June, 2021
4. Jennifer Loertscher, "Research and practice in a biochemistry education research community," University of Washington, Seattle, WA, November 2019.
5. Jennifer Loertscher, "Research and practice in a biochemistry education research community," Purdue University, West Lafayette, IN, October 2019.
6. Jennifer Loertscher, "Biochemistry education research: aspirations, evidence, and community," Wellesley College, Wellesley, MA, October 2018.
7. Jennifer Loertscher and Vicky Minderhout, "Using threshold concepts to improve learning in the molecular life sciences," NWBIO, Tacoma, WA, May 2017.
8. Jennifer Loertscher, Jennifer E. Lewis, Allison Mercer, Vicky Minderhout, "Community-produced assessment for biochemistry: Linking research and practice," Oral, National Meeting of the American Chemical Society, San Francisco, CA, March 2017.

9. Jennifer Loertscher, Jennifer E. Lewis, Vicky Minderhout, Xiaoying Xu, "Using Threshold Concepts to Improve BMB Instruction: *An Evidence Based Approach*," American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2016.
10. Jennifer Loertscher, Jennifer E. Lewis, Vicky Minderhout, Trey Morgan, Xiaoying Xu, "Using Threshold Concepts to Guide Changes in Active Learning Biochemistry Classrooms," Pacifichem, Honolulu, HI, December 2015.
11. Jennifer Loertscher and Vicky Minderhout "Using Threshold Concepts to Guide Changes in the Biochemistry Classroom," American Association for Biochemistry and Molecular Symposium on Student-Centered Education in the Molecular Life Sciences, St. Joseph, MO, July 2015
12. Jennifer Loertscher and Vicky Minderhout, "Using threshold concepts to guide changes in the biochemistry classroom," University of Washington Department of Biochemistry, Seattle, WA, July 2015.
13. Jennifer Loertscher, "Identifying and addressing student misconceptions in biology", Northwest Developmental Biology Conference, Friday Harbor, WA, March 2013.
14. Jennifer Loertscher, "Identifying and addressing student misconceptions in biochemistry", University of Georgia Department of Biochemistry, Athens, GA, October 2012.
15. Jennifer Loertscher, Vicky Minderhout, Jennifer Lewis, and Sachel Villafane, "Using Assessment to Improve Learning in Biochemistry," ASBMB-sponsored workshop on promoting concept driven teaching strategies in BMB through concept assessments, Seattle, WA, February 2011.
16. Jennifer Loertscher, Vicky Minderhout, Jennifer Lewis, and Sachel Villafane, "Assessment of Student Learning in Biochemistry," Conceptual Assessment in Biochemistry and Molecular Biology meeting, Bethesda, MD, March 2010.
17. Jennifer Loertscher, Vicky Minderhout, Jennifer E. Lewis and Sachel Villafane, "Creating a Portable Biochemistry Course with an Active Learning Emphasis," American Chemical Society, Salt Lake City, UT, March 2009.
18. Jennifer Loertscher and Vicky Minderhout, "Promoting Content-Independent Skills in the Biochemistry Active Learning Classroom," American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2008.

**SELECTED CONTRIBUTED RESEARCH PRESENTATIONS** (underline indicates Seattle University undergraduate)

1. Alyssa Konopaski, Renata Everett, Jennifer Loertscher "Introducing students to a systems thinking model," Poster, POGIL National Meeting, June 2022.
2. Jennifer Loertscher, "POGIL at a mission-driven institution: Broadening the reach of student-centered pedagogies," Poster, POGIL National Meeting, June 2021.
3. Jennifer Loertscher, Sachel Villafañe, Vicky Minderhout, "Assessing students' understanding of metabolic pathway dynamics and regulation," Poster, American Society for Biochemistry and Molecular Biology, April 2021.
4. Jennifer Loertscher, Bruce Heyen, Jennifer E. Lewis, Vicky Minderhout, Tracey A. Murray, Sachel Villafañe, "Development and use of a tool to assess student understanding of biochemical pathway dynamics and regulation," Poster, National Meeting of the American Chemical Society, Orlando, FL, March 2019.
5. Jennifer Loertscher, Stephanie Feola, Paula Lemons, Jennifer E. Lewis, Vicky Minderhout, Allison Mercer, "Use of a research-based framework to guide instructional design and assessment related to noncovalent interactions in a biochemical context," Poster, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2018.
6. Vicky Minderhout, Jennifer Loertscher, Jennifer E. Lewis, "Using threshold concepts to drive curriculum reform in biochemistry," Oral, National Meeting of the American Chemical Society, San Francisco, CA, March 2017.

7. Alexa Dragon, Jorence Pagdanganan, Jennifer Loertscher, Vicky Minderhout, "Investigating and supporting students' understanding of the physical basis of interactions," Poster, National Meeting of the American Chemical Society, San Francisco, CA, March 2017.
8. Jennifer Loertscher, Jennifer Lewis, Vicky Minderhout, Xiaoying Xu, Allison Mercer, "Using threshold concepts to support change in biochemistry learning and teaching," Poster, Gordon Research Conference on Chemistry Education Research and Practice, Lewiston, ME, June 2017.
9. Samantha Freese, Kristen James, Jennifer Loertscher, Jennifer Lewis, Vicky Minderhout, "Improving Undergraduate Biochemistry Curriculum Using Threshold Concepts An Analysis of Student Understanding" Poster, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2016.
10. Jennifer Loertscher, David Green, Jennifer Lewis, Vicky Minderhout, "Improving undergraduate STEM courses by focusing on threshold concepts: What content should we teach and how can we decide?" Poster, American Association for the Advancement of Science Annual Meeting, San Jose, CA. February, 2015.
11. Sara Lin, Trey Morgan, Jennifer Loertscher, David Green, Jennifer Lewis, Vicky Minderhout, "Use of student interviews to identify and refine threshold concepts for biochemistry," Poster, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2014.
12. Jennifer Loertscher, David Green, Jennifer Lewis, Vicky Minderhout, "Identifying and refining threshold concepts for biochemistry using a community of faculty and students," Poster, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2014.
13. Jennifer Loertscher, Vicky Minderhout, and Jennifer Lewis, "Using threshold concepts to improve learning and drive curriculum reform in biochemistry," Poster, American Society for Biochemistry and Molecular Biology Symposium on Student-Centered Education in the Molecular Life Sciences, Seattle, WA, August 2013.
14. Jennifer Loertscher, Vicky Minderhout, and Jennifer Lewis, "Using threshold concepts to improve learning and drive curriculum reform in biochemistry," Poster, American Society for Biochemistry and Molecular Biology, Boston, MA, April 2013.
15. Jennifer Loertscher, Vicky Minderhout, Jennifer Lewis, and Sachel Villafañe, "Probing and improving students' understanding of protein alpha helix structure using targeted assessment and classroom interventions," Oral, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2012.
16. Jennifer Loertscher, Vicky Minderhout, Jennifer Lewis, and Sachel Villafañe, "Community-based design and national testing of an assessment tool to measure student understanding of enzyme kinetics in undergraduate biochemistry," Poster, American Society for Biochemistry and Molecular Biology, San Diego, CA, April 2012.
17. Jennifer Loertscher, Vicky Minderhout, Jennifer Lewis, and Sachel Villafañe, "Probing and improving students' understanding of protein structure using targeted assessment and classroom interventions" Poster, American Chemical Society, San Diego, CA, April 2012.
18. Vicky Minderhout and Jennifer Loertscher, "Utilizing a multi-institutional 'community of practice' to develop and support classroom changes in responses to student learning data," Association of American Colleges and Universities, Student Success: Pushing Boundaries, Raising Bars, Seattle, WA, March 2012.

**Invited Presentations** (not research seminars)

1. Guest lecturer on Ignatian pedagogy in higher education STEM in Dr. Becky McNamara's class on Jesuit Education, November 2017, 2019.
2. Kristi Lee, Jennifer Loertscher, Colette Taylor, "Unheard voices and unrecognized contributions: What is valued and valuable in the academy?" NSF ADVANCE Site Visit, October 2019.

3. Panel member, "Connecting with your professors: How to make the most out of office hours," Seattle University, October 2016.
4. Panel member for New Faculty Institute, Seattle University, September 2016 and 2017.
5. Jennifer Loertscher, Russ Powell, Sonora Jha, Meena Rishi, "Jesuit Higher Ed in a Global Context: Exploring Connections in India," Moment for Mission Lunch Series, Seattle University, May 2016.
6. Jennifer Loertscher, Careers at teaching institutions, panelist, University of Washington, April 2012.
7. Jennifer Loertscher, "Ignatian Pedagogy in the Biochemistry Classroom," Colleagues, Seattle University, Seattle, WA, December 2009.
8. Ryan McLaughlin, Vicky Minderhout, and Jennifer Loertscher, "Creating an Interactive Group Learning Classroom with Tablet PCs," SU Connects 2008-09, Seattle University, Seattle, WA, February 2009.
9. Jennifer Loertscher, "A New Design for Senior Synthesis in Chemistry," 11<sup>th</sup> Annual Writing Center Winter Workshop, Seattle University, Seattle, WA, January 2004.
10. Jennifer Loertscher, "Wow, I Got a Job: First Year on the Tenure Track at a Primarily Undergraduate Institution," University of Washington, Seattle, WA, October 2004.

### **Workshops Led**

1. Ignatian Pedagogy Series, Whole Person Education, Seattle University, lead workshop designer, three 2.5-hour sessions (2023)
2. Strategies to support whole person education in STEM, Seattle University College of Science and Engineering, 90 min, (2022)
3. Teaching in the Jesuit Tradition workshop series, Seattle University, Eight 1-hour sessions (2020-2022)
4. Ignatian Pedagogy Series, Reflection, Three 3-hour sessions (2021)
5. Building capacity for assessment of student learning in undergraduate biochemistry and molecular biology, multi-day, NSF-funded, virtual workshop for BMB educators, July 2020.
6. Ignatian pedagogy active learning workshop, three 3-hour workshops, Seattle University, Seattle, WA, Fall 2017, 2018.
7. Biochemistry Active Learning Workshop, one-day workshop for faculty at Wright State University, Dayton, OH, July 2017.
8. Core Collaborators Workshop, NSF-funded three-day workshop, Seattle University, Seattle, WA, June 2016.
9. Jennifer Loertscher, David Green, Vicky Minderhout "Improving STEM courses by focusing on threshold concepts: What should we teach and how can we decide?" Association of American Colleges and Universities Conference Crossing Boundaries: Transforming STEM Education, Seattle, WA, November 2015.
10. Core Collaborators Workshop, NSF-funded three-day workshop, Seattle University, Seattle, WA, June 2015.
11. Threshold Concepts in Biochemistry Workshop, Biennial Conference on Chemical Education, Grand Valley State University, Allendale, MI, August 2014.
12. Core Collaborators Workshop, NSF-funded three-day workshop, Grand Valley State University, Allendale, MI, July 2014.
13. Threshold Concepts in Biochemistry Workshop, ASBMB Student-Centered Education Symposium, Seattle, WA, August 2013.
14. Core Collaborators Workshop, NSF-funded three-day workshop, Seattle University, Seattle, WA, August 2013.
15. Threshold Concepts Workshop, NSF-funded two-day workshop, Minneapolis, MN, June 2013.
16. POGIL Biochem Half-Day Workshop, Biennial Conference for Chemical Education, State College, PA, July 2012.

17. POGIL Biochem Core Collaborators Workshop, NSF-funded three-day workshop, Seattle University, Seattle, WA, June 2011.
18. Introductory POGIL Workshop, Seattle University, September 2011.
19. POGIL Half-Day Workshop, American Society for Biochemistry and Molecular Biology National Meeting, Washington DC, April 2011.
20. ASBMB-sponsored workshop on promoting concept driven teaching strategies in BMB through concept assessments, Seattle, WA, February 2011.
21. University Core and Teagle-sponsored faculty workshop on science and mathematics in the Core at Seattle University, Seattle, WA, October and November 2010.
22. POGIL One-Day Workshop, University of Minnesota, Minneapolis, MN, August 2010.
23. POGIL Northwest Regional Workshop, NSF-funded workshop, Seattle University, Seattle, WA, July 2010.
24. POGIL Biochem Dissemination Workshop, NSF-funded workshop at Student-Centered Education in Molecular Life Sciences, Colorado College, Colorado Spring, CO, August 2009.
25. POGIL Biochem Core Collaborators Workshop, NSF-funded four-day workshop, University of St. Thomas, St. Paul, MN, July 2009.
26. Advanced POGIL Workshop: Facilitating Upper Division POGIL Courses in Analytical, Physical and Biochemistry, Biennial Conference on Chemical Education, Bloomington, IN, July 2008.
27. POGIL Biochem Core Collaborators Writing Workshop, NSF-funded four-day workshop, Seattle University, Seattle, WA, July 2008.
28. Introduction to POGIL, invited workshop, University of Alaska, Anchorage, Anchorage, AK, October 2005.

## **SERVICE AT SEATTLE UNIVERSITY**

### **Leadership Roles**

Co-chair of the College of Science and Engineering Personnel Committee (2021-2022)  
 Founder and Lead Facilitator, Teaching in the Jesuit Tradition series for faculty (2020-present)  
 SU ADVANCE Task Force Working Group (2019-2021)  
 Co-facilitator for Jesuit Mission Fellows cohort (AY 2018-19)  
 Chair of the Academic Year Research Course Selection Committee (2017-2019)  
 Co-Chair of the Chemistry Department Student Relations Committee (2009-2018)  
 Tenure track hiring committee for Chemistry Department, Fall 2017  
 Coordinator of biochemistry curriculum revision (2015-2016)  
 Lead author on Chemistry Department assessment report (2015)  
 Co-Chair of University Core Assessment Committee (2005-2012)  
 Co-Chair of biochemistry faculty search committee (2012)  
 Co-Coordinator of Chemistry Department assessment projects (2005-2009)  
 Co-Coordinator of Chemistry Department prospective student recruitment (2007)

### **Participation in Service - University**

College of Science and Engineering Dean Search Committee (2021-2022)  
 Presenter on Ignatian Pedagogy for Arrupe Seminar (2018, 2019, 2020, 2021, 2023)  
 New Faculty Institute facilitator for Jesuit Education (2018, 2020, 2021, 2022)  
 Colleagues Planning Team (2010-2021)  
 Selection Committee for Endowed Mission Fund proposals (2016-2019)  
 Selection Committee for Institute for Catholic Thought and Culture Fellowships (2016-2018)  
 Book discussion facilitator for New Student Convocation (2016, 2017, 2018)



Delegate to Western Conversations (2009, 2018)  
Delegate to St. Joseph's College, Bangalore, India (2016, 2018)  
Panelist on teaching undergraduates for New Faculty Institute (2016, 2017)  
Host for St. Joseph's delegation at Seattle University (2017)  
Intra-University Discussion Group on the Undergraduate Experience (2013)  
Core Assessment Committee (2012-2013)  
Catholic, Jesuit Character Strategic Planning Committee (2010-2012)  
Faculty host of prospective students for Matteo Ricci College recruiting day (2008)  
Reader for Core Advancement Preparation Exam diagnostic essays (2005-2006)  
Facilitator for Learning Center tutor training (2006)  
Member of Core Assessment Committee (2004-2005)  
Academic Day Discussion Leader (2004-2005, 2010)  
Contributor to Seattle University Celebration of Faculty Scholarship (2004-2008)  
Panel Member, ENGL 110 taught by Dr. John Bean, Seattle University (2005-2006)  
Panel Member, Forensic Evidence Course taught by J. Mitchell, Seattle University School of Law (2004, 2007, 2009)

#### **Participation in Service - College of Science and Engineering**

Stakeholders committee for procurement of new equipment for the Sinegal Center (2021)  
Pre-health Committee student interviews (2020, 2021, 2022)  
Member of the *ad hoc* departmental personnel committee to evaluate the promotion file of Dr. L. Whitlow (2018)  
Member of the *ad hoc* departmental personnel committee to evaluate the promotion file of Dr. T. Shuman (2016)  
Coordinator of lunch visit for Fr. Jose Ramon Villarin, SJ, President of Ateneo de Manila University and head of the Climate Studies Division of the Manila Observatory, Speaking on Laudato Si (2016)  
Member of the *ad hoc* personnel committee to evaluate promotion file of Dr. K. Kuder (2015)  
Member of Dean-appointed committee for review of teaching release applications (2015 and 2016)  
Panelist (women in science) for Delta SEE GEMs visit to Seattle University (April 2009)  
Contributor to Science and Engineering newsletter (ongoing 2007-present)  
Presenter at New Student Summer Orientation (2006)  
Leader of laboratory workshop for Biology and Chemistry summer research students (2006)  
Presenter at Science and Engineering annual faculty meeting (2005)  
Presenter at Science and Engineering Advisory Board meeting (2005)  
Member of Seattle University Pre-Health Committee (2004)  
Presenter at Science and Engineering Advisory Board meeting (2004)

#### **Participation in Service – Department**

Departmental tenure and promotion committees (2010-present)  
Academic advisor - usually 8-12 advisees each year (2003-present)  
General chemistry committee (2013-present)  
Chemistry Department curriculum committee (2009-present)  
Student letters of recommendation (ongoing, 5-10 per year)  
Search Committee for Senior Administrative Assistant (2021)  
Acting Chair of the Chemistry Department (July 2021)  
Departmental representative for community outreach and the new CSI (2017)  
Safety committee (2015-2016)  
Contributor to Chemistry Department annual newsletter (2007-2011)

Bannan Building renovation facilities planning (2006-2007)  
Organizer and host of Chemistry Department Seminars (2005-2006)  
Benchmarking of Seattle University's Chemistry Department (2005)  
Departmental representative at fall preview day for prospective students (2005)  
Faculty search committee member for three faculty hires

## **EXTERNAL SERVICE AND OUTREACH**

### **Professional Service**

Advisory board member for NSF grant on graphing in biology teaching and learning, Stephanie Gardner PI (2021-present)  
Member of the Education and Professional Development Committee for the ASBMB (2017-present)  
Editorial Board Member and Monitoring Editor, *Life Sciences Education* (2016-present)  
Expert consultant for biochemistry education (2010-present)  
POGIL content expert reviewer for a collection of biochemistry activities (2021)  
Search committee member for *CBE-Life Science Education* Editor in Chief (2019-2020)  
NSF Grant Proposal Reviewer (2019)  
External reviewer for tenure/promotion at other institutions (2012, 2019, 2020)  
Associate Member of the Committee on Professional Training for the American Chemical Society (2018-2019)  
Advisory board member for Paula Lemons' CAREER Award entitled "Problem-solving skills as a predictors of success and persistence in science (2014-2018).  
Editorial Board Member, *Biochemistry and Molecular Biology Education* (2009-2016)  
POGIL curriculum collections, chair for collection endorsement (2012-2015)  
Steering Committee Member for National POGIL Project (2012-2015)  
Symposium Organizer, ASBMB Student-Centered Education in the Molecular Life Sciences, August 2013.  
Symposium Organizer, Biochemistry education research and practice, Biennial Conference for Chemical Education, August 2012.  
Peer-reviewer for *Biochemistry and Molecular Biology Education*, *Journal of Chemical Education*, *Journal of Women and Minorities in Science and Engineering* (ongoing).  
Contributor to *ASBMB Today*, newsletter of the American Society for Biochemistry and Molecular Biology (Periodic 2009-present)  
Steering committee member for the POGIL Northwest Network (May 2008-2012)  
Judge for undergraduate poster session at the national meeting of the American Society of Biochemistry and Molecular Biology (April 2008)  
Contributor to *Enzymatic*, newsletter of the Undergraduate Affiliate Network of the American Society of Biochemistry and Molecular Biology (September 2007)

### **Outreach**

Hosted 8<sup>th</sup> grade students from Bright Water Waldorf School for chemistry lab experience in the Sinegal Center (2022)  
Event coordinator for Protein Modeling at the Northwest Regional Science Olympiad, Seattle, WA (2011)  
Volunteer at an information table about domestic violence at Seattle University's Take Back the Night event (2008)  
Author of an article for a Wisconsin teacher's newsletter. The article was about the influence of Science Olympiad (a high school science competition in which I was a participant in high school) on students' decision to pursue a career in science (2007)

Leader of a three-day workshop on DNA fingerprinting for Science Splash, a summer science program for eighth grade girls held annually at Seattle University (2004-2007, 2009)

Volunteer - domestic violence crisis line and shelter, New Beginnings, Seattle, WA (2001-2007)

Leader of an after school science workshop for T.T. Minor elementary school students (2006)

Coordinator of the Chemistry Department's cooking and serving of a meal at Tent City (2005)

Organizing committee member for Seattle Expanding Your Horizons, half-day science workshops for fifth-eighth grade girls held annually at Seattle University (2003-2005)