

JOSEPH M. LANGENHAN, PH.D.

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EDUCATION

- University of Wisconsin;** Madison, WI 1998 – 2003
Ph.D., Organic Chemistry, June 2003
National Science Foundation Graduate Research Fellow
National Institutes of Health Biotechnology Training Program Fellow
Dissertation title: "Investigations of Strand-Forming Foldamers"
Advisor: Professor Samuel H. Gellman
- Allegheny College;** Meadville, PA 1994 – 1998
B.S., Chemistry, magna cum laude
Thesis title: "The Use of Fluorescent Oligonucleotides to Probe for Point Mutations in Codon 12 of the RAS Gene"
Advisor: Professor Edward J. Walsh

APPOINTMENTS

- Seattle University;** Seattle, WA
Professor, Department of Chemistry 2016 – present
Chair, Department of Chemistry 2017 – 2020
Associate Professor, Department of Chemistry 2011 – 2016
Assistant Professor, Department of Chemistry 2005 – 2011
- University of Washington;** Seattle, WA 2020-2021
Visiting Scholar, Department of Biology, Riffell Lab
- University of Wisconsin;** Madison, WI 2003-2005
National Institutes of Health Post-Doctoral Fellow, School of Pharmacy
Advisor: Professor Jon S. Thorson
- University of Rochester;** Rochester, NY 1997
National Science Foundation R.E.U. Fellow
Advisor: Professor Eric T. Kool
- Texas A&M University;** College Station, TX 1996
National Science Foundation R.E.U. Fellow
Advisor: Professor Daniel Romo

ACADEMIC LEADERSHIP EXPERIENCE

- Chair, Department of Chemistry, Seattle University;** Seattle, WA 2017-2020
- Oversaw schematic design and design development efforts for the spaces the department will occupy in the new Center for Science and Innovation
 - Consulted in an ongoing manner with Center for Science and Innovation architects to refine design plans during construction (e.g., office design, safety infrastructure, NMR room design)
 - Developed a comprehensive list of new equipment needed to move into the new Center for Science and Innovation

- Met with prospective CSI donors to cultivate, establish, or deepen philanthropic relationships
- Completed the accreditation process the American Chemical Society (ACS) has established to ensure the department remains ACS-approved
- Completed an institutional 5-year program review by meeting with the Provost's office and the Dean
- Developed transparent, inclusive processes to facilitate the successful recruitment and hiring of seven new employees including tenure-track faculty, instructors, lecturers, and staff
- Instituted a mentorship program for new tenure-track faculty and instructors
- Reviewed the promotion files of two faculty members (Frato, Verdan)
- Developed a "chair manual" to assist with chair succession
- Strengthened student recruitment efforts through the development of a new brochure, a new website, and a new Fall preview day presentation
- Worked toward improved student retention by organizing departmental community-building events and investigating barriers to major change
- Facilitated a conversation between faculty and the university CARE team to explore ways to better support students in crisis
- Reorganized departmental information displays to provide a warmer, more welcoming feeling as students enter chemistry spaces
- Oversaw a department-level discussion with representatives from Strategic Planning representatives
- Lead a process to define departmental goals and to plan their implementation
- Lead a collaborative process to define new departmental learning outcomes and a new 5-year assessment calendar
- Oversaw a democratic process to generate the annual master teaching schedule
- Instituted consolidated "weekly announcement" emails to facilitate clear, regular communication with the department without overfilling inboxes
- Oversaw the departmental budget and successfully advocated for financial resources at the College-level; successfully identified ways to reduce costs (e.g., gases, solvents)
- Initiated a dialog toward improving University-level support for chemical and biological safety
- Supported the efforts of the department safety committee, implementing reforms like new chemical demonstration approval protocols and revised accident response guidelines
- Led a discussion with criminal justice colleagues resulting in modifications to our cross-departmental forensic science offerings
- Developed and implemented an annual 360 degree review process for the department chair
- Developed and implemented a departmental survey to assess the performance of technical staff to ensure fairness in technical staff APRs
- Proposed and advocated for a faculty development fund distribution policy that was ultimately adopted
- Worked to refine the APR process for full-time lecturers

TEACHING EXPERIENCE

Courses Taught

Chem 2500 (Org. Chem. I: Structure and Reactivity), Chem 2510 (Org. Chem. II: Funct. Gp. Interconv.), Chem 2520 (Org. Chem. III: Rxns of Pi-Systems), Chem 2501 (Org. Chem. Lab I: Techniques), Chem 2511 (Org. Chem. Lab II: Applications), Chem 2521 (Org. Chem. Lab III: Projects), Chem 4802 (Advanced Organic Chemistry), Chem 4985 (Senior Synthesis Seminar I), Chem 4990 (Undergraduate Research).

Undergraduate Research Students

31. Alexander Aarona, B.S. expected 2020 (March 2020-present)

Current Position: SU undergraduate

30. Saumya Jain, B.S. 2020 (March 2018-June 2020)

Masters program in chemical engineering, UCLA

30. Paul Goo, B.S. 2020 (March 2018-June 2020)
Manufacturing associate, Inventprise
29. Chad Rosevear, B.A. 2019 (Jan. 2019-June 2019)
Stratos
28. Lydia Griggs, B.S. 2019 (March 2017-June 2019)
ThermoFisher
27. Paxton Reed, B.S. 2018 (March 2017-September 2017)
Lab technician, Benaroya Research Institute at Virginia Mason
26. Kate Sabourin, B.S. 2017 (January 2016-June 2017)
Medical school, Touro University
25. Katie Rykaczewski, B.S. 2018 (March 2016-June 2018)
PhD program in chemistry, University of Michigan
24. Karyl Yamakawa, B.S. 2018 (March 2016-July 2016)
Dental school, University of Washington
23. Sean Ryan, B.S. 2017 (March 2015-September 2015)
PhD Program in immunology, Univ. of Chicago
22. Nicholas Chock, B.S. 2016 (March 2014-June 2016)
Medical School, UW Spokane
21. Calvin Leonen, B.S. 2016 (March 2014-June 2016)
PhD program, University of Washington
20. Daniel Delurio, B.S. 2015 (September 2015-June 2015)
Restek Corporation
19. Steven Loskot, B.S. 2014 (April 2012-June 2014)
PhD program, Department of Chemistry, California Institute of Technology (Stoltz lab)
18. Leonardo Rozal, B.S. 2013 (April 2011-June 2013)
Medical school, Creighton University
17. Halina Werner, B.S. 2012 (April 2010-June 2012)
PhD program, Department of Chemistry, University of Pittsburgh (Horne lab)
16. Mackenzie Clay, B.S. 2012 (June 2009-Dec. 2012)
PhD program, Department of Chemical Engineering, University of California—Los Angeles (Monbouquette lab)
15. Anja Tjaden, B.S. expected 2011 (April 2009-June 2011)
Medical student, University of Washington
14. James Rohlfing, B.S. expected 2011 (April 2009-June 2011)
Medical school, OHSU
13. Maile Panerio-Langer, B.A. Psychology, Creighton Univ. (April 2009-June 2009)
Applying to graduate school
12. Derek Rogalsky, B.S. 2010 (June 2008-June 2010)
MD (2015) Georgetown Univ.; Medical resident OHSU
11. Liane Fukumoto, B.S. 2009 (Sept. 2007-June 2009)
MS (2011), Chemistry Department, UCLA (Kwon lab); Gilead Sciences, Inc.
10. Edouard Mullarky, B.S. 2009 (Jan. 2007-June 2009)
PhD (2016), Biological and Biomedical Sciences, Harvard University (Cantley lab)
9. Abigail Griebenow, B.S. 2008 (Oct. 2006-June 2008)
PharmD., University of Washington; Pharmacist at Providence Regional Medical Center
8. Matthew Endo, B.S. 2008 (Oct. 2006-June 2008)
MS (2016), Department of Chemistry, University of Illinois, Urbana-Champaign (Burke lab); LA county medical examiner
7. Rachel Seuss, B.S. 2007 (Oct. 2006-May 2007)
DDS (2011) Creighton University
6. Kyle Smith, B.S. 2008 (May 2005-Dec. 2006)
MD (2013) University of Washington; Medical resident Walter Reed-Bethesda
5. Ryan Lucker, B.A. 2008 (May 2005-June 2007)
Lab Technician, Lumera, Bothell, WA
4. Lauren Slevin, B.A. (double Chemistry & Biology) 2008 (Dec. 2005-June 2007)

- PhD (2015), BBSP Program, University of North Carolina—Chapel Hill (Slep lab); post-doctoral associate at UC Berkeley (Heald lab)
3. Lindsay Fay, B.S. 2008 (Dec. 2005-June 2008)
MS (2013), Chemistry Department, University of Wisconsin (Gelman lab); Seattle Genetics
 2. Jeffrey Engle, B.A. 2007 (Dec. 2005-June 2007)
PhD (2013), Chemistry Department, University of Oregon (Haley lab); Assoc. Prof. Tacoma Community College
 1. Stuart Munson, B.S. Univ. of Wisconsin 2002 (2001-2002)
Unknown

PEER REVIEWED PUBLICATIONS (SU undergraduate coworkers are underlined)

Seattle University (Manuscripts in Preparation)

None

Seattle University

29. Rykaczewski, K.A.; Sabourin, K.E.; Goo, P.J.; Griggs, L.H.; Jain, S.; Reed, P.A.M.; Langenhan, J.M. *Carbohydr. Res.* **2020**, 493, 108022. "Generation of a glycosylated asparagine residue through chemoselective acylation of a glycosylhydrazide."
28. Ferrenberg, S.; Langenhan, J.M.; Loskot, S.A.; Rozal, L.M.; Mitton, J.B. *Ecosphere* **2017**, 8, e01975. "Resin monoterpene defenses decline within three widespread species of pine (*Pinus*) along a 1530-m elevational gradient."
27. Langenhan, J.M.; McLaughlin, R.P.; Rozal, L.M.; Clay, M.S.; Loskot, S.L.; Alaimo, P.J. *J. Carbohydr. Res.* **2016**, 35, 106-117. "DFT anomeric effect estimates in tetrahydropyran hydroxylamine and hydrazide derivatives."
26. Ferrenberg, S.; Kane, J.M.; Langenhan, J.M. *Tree Physiol.* **2015**, 35, 107-111. "To grow or defend? Pine seedlings grow less but induce more defences when a key resource is limited."
25. Alaimo, P.J.; Langenhan, J.M.; Suydam, I.T. *J. Chem. Educ.* **2014**, 91, 2093-2098. "Aligning the Undergraduate Organic Laboratory Experience with Professional Work: The Centrality of Reliable and Meaningful Data."
 - Editorial highlight in *Science* **2014**, 346, 962.
24. Loskot, S.A.; Zhang, J.; Langenhan, J.M. *J. Org. Chem.* **2013**, 78, 12189-12193. "Nucleophilic Catalysis of *MeON*-Neoglycoside Formation by Aniline Derivatives."
23. Langenhan, J.M.; Mullarky, E.; Rogalsky, D.K.; Rohlfing, J.R.; Tjaden, A.E.; Werner, H.M.; Rozal, L.M.; Loskot, S.A. *J. Org. Chem.* **2013**, 78, 1670-1676. "Amphimediosides A-C: Synthesis, Chemoselective Glycosylation, and Biological Evaluation."
22. Langenhan, J.M.; Endo, M.M.; Engle, J.M.; Fukumoto, L.L.; Rogalsky, D.K.; Slevin, L.K.; Fay, L.R.; Lucker, R.W.; Rohlfing, J.R.; Smith, K.R.; Tjaden, A.E.; Werner, H.M. *Carbohydr. Res.* **2011**, 346, 2663-2676. "Synthesis and Biological Evaluation of *RON*-Neoglycosides as Tumor Cytotoxins."
21. Iyer, A.; Zhou, M.; Azad, N.; Elbaz, H.; Wang, L.; Rogalsky, D.K.; Rojanasakul, Y.; O'Doherty, G.A.; Langenhan, J.M. *ACS Med. Chem. Lett.* **2010**, 1, 326-330. "A Direct Comparison of the Anticancer Activities of Digitoxin *MeON*-Neoglycosides and *O*-Glycosides."
20. Alaimo, P.J.; Marshall, A.-L.; Andrews, D.M.; Langenhan, J.M. *Org. Synth.* **2010**, 87, 192-200. "1,3,5-Triacetylbenzene."
19. Langenhan, J.M.; Alaimo, P.J.; Tanner, M.J.; Ferrenberg, S.M., *J. Chem. Educ.*, **2010**, 87, 856-861. "Safety teams: An Approach to Engage Students in Laboratory Safety."
 - *Chemical & Engineering News* blog feature: <http://cenblog.org/the-safety-zone/2010/07/undergrad-laboratory-safety-teams/> (7/7/2010)
 - Editorial highlight in *J. Chem. Educ.* **2010**, 87, 764-765
18. Alaimo, P.J.; Bean, J.C.; Langenhan, J.M.; Nichols, L. *Writing Across the Curriculum Journal*, **2009**, 20, 17-32. "Eliminating Lab Reports: A Rhetorical Approach for Teaching the Scientific Paper in Sophomore Organic Chemistry."
 - Podcast highlight in *Science*: <http://www.sciencemag.org/content/332/6032/919/suppl/D>

17. Langenhan, J.M.; Engle, J.M.; Slevin, L.K.; Fay, L.R.; Lucker, R.W.; Smith, K.R.; Endo, M.M. *Bioorg. Med. Chem. Lett.* **2008**, *18*, 670-673. "Modifying the Glycosidic Linkage in Digitoxin Analogs Provides Selective Cytotoxins."

Prior to Seattle University Appointment

16. Griffith, B.R.; Langenhan, J.M.; Thorson, J.S. *Curr. Opin. Biotechnol.* **2005**, *16*, 622-630. "Sweetening' Natural Products via Glycorandomization."
15. Langenhan, J.M.; Griffith, B.R.; Thorson, J.S. *J. Nat. Prod.* **2005**, *68*, 1696-1711. "Neoglycorandomization and Chemoenzymatic Glycorandomization: Two Complementary Tools for Natural Product Diversification."
14. Langenhan, J.M.; Peters, N.R.; Guzei, I.A.; Hoffman, F.M.; Thorson, J.S. *Proc. Natl. Acad. Sci.* **2005**, *102*, 12305-12310. "Enhancing the Anti-Cancer Properties of Cardiac Glycosides via Neoglycorandomization."
- *Chemical & Engineering News* feature:
<http://pubs.acs.org/cen/news/83/i33/8333notw1.html> (8/15/2005)
13. Langenhan, J.M.; Thorson, J.S. *Curr. Org. Synth.* **2005**, *2*, 59-81. "Recent carbohydrate-based chemoselective ligation applications."
12. Fu, X.; Langenhan, J.M.; Thorson, J.S. *Disc. Med.* **2004**, *4*, 111-114. "Combinatorial chemoenzymatic strategies for *in vitro* glycorandomization: efforts toward antibiotic optimization."
11. Langenhan, J.M.; Gellman, S.H. *Org. Lett.*, **2004**, *6*, 937-940. "Effects of alternative side chain pairings and reverse turn sequences on antiparallel sheet structure in β -peptide hairpins."
10. Guzei, I.L.; Langenhan, J.M. *Acta. Cryst.*, **2003**, *C59*, i95-i96. "The correct space group of $\text{NaPF}_6 \cdot \text{H}_2\text{O}$."
9. Langenhan, J.M.; Gellman, S.H. *J. Org. Chem.* **2003**, *68*, 6440-6443. "Preparation of protected *syn*- α,β -dialkyl β -amino acids that contain polar side chain functionality."
8. Langenhan, J.M.; Christianson, L.A.; Guzei, I.A.; Gellman, S.H. *Angew. Chem. Int. Ed.*, **2003**, *42*, 2402-2405. "Parallel sheet structure in β -peptides."
7. Schinnerl, M.; Murray, J.K.; Langenhan, J.M.; Gellman, S.H. *Eur. J. Org. Chem.*, **2003**, *4*, 721-726. "Asymmetric synthesis of a new helix-forming β -amino acid: *trans*-4-aminopiperidine-3-carboxylic acid."
6. Guzei, I.L.; Langenhan, J.M.; Chung, Y.J. *Acta. Cryst.*, **2002**, *E58*, o65-o66. "2*S*,3*S*-2-Benzyl-3-(nosylamino)butano-4-lactone."
5. Langenhan, J.M.; Fisk, J.D.; Gellman, S.H. *Org. Lett.*, **2001**, *3*, 2559-2562. "Evaluation of hydrogen bonding complementarity between a secondary sulfonamide and an α -amino acid residue."
4. Romo, D.; Rzasa, R. M.; Schmitz, W. D.; Yang, J.; Cohn, S. T.; Buchler, I. P.; Shea, H. A.; Park, K.; Langenhan, J. M.; Messerschmidt, N. B.; Cox, M. M. Total Synthesis of Marine Natural Products Driven by Novel Structure, Potent Biological Activity, and/or Synthetic Methodology. In *The Role of Natural Products in Drug Discovery*; Mulzer, J.; Bohlmann, R., Eds.; Ernst Schering Research Foundation Workshop 32; Springer-Verlag Publishers: Berlin, Germany, **2000**; pp 103-148.
3. Huck, B.R.; Langenhan, J.M.; Gellman, S.H. *Org. Lett.*, **1999**, *1*, 1717-1720. "Non-hydrogen-bonded secondary structure in β -peptides: evidence from circular dichroism of (S)-pyrrolidine-3-carboxylic acid oligomers and (S)-nipecotic acid oligomers."
2. Paris, P.L.; Langenhan, J.M.; Kool, E.T. *Nucleic Acids Res.*, **1998**, *26*, 3789-3793. "Probing DNA sequences in solution with a monomer-excimer fluorescence color change."
1. Romo, D.; Rzasa, R.M.; Shea, H.A.; Park, P.; Langenhan, J.M.; Sun, L.; Akhiezer, A.; Lui, J.O. *J. Am. Chem. Soc.*, **1998**, *120*, 12237-12254. "Total synthesis and immunosuppressive activity of (-)-pateamine A and related compounds: implementation of a β -lactam-based macrocyclization."

NON-PEER REVIEWED PUBLICATIONS

1. Alaimo, P.J.; Langenhan, J.M. *Chemical and Engineering News* Jan., 7 2019 issue, p. 21. "How to instill a robust safety ethic." Invited contribution.

PATENTS

Seattle University

2. Thorson J.S.; Langenhan, J.M. Neoglycorandomization and digitoxin analogs. US 8,344,133 (issued 01/01/13).

Prior to Seattle University Appointment

1. Thorson, J.S.; Langenhan, J.M. Neoglycorandomization and digitoxin analogs. US 7,754,874 (issued 07/13/10).

RESEARCH & EQUIPMENT GRANTS**Extramural Funding**

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| 7. National Institutes of Health Academic Research Enhancement Award (AREA) Grant (2014) " <i>Methodology for the Synthesis of Structurally Homogeneous N-Linked Glycopeptides.</i> " | \$ 256,272 |
| 6. Research Corporation Cottrell College Science Award (2007-2011) " <i>Optimization of Oxyamine-Mediated Glycosylation: Improving Stereoselectivity, Enhancing Diversity, and Novel Applications.</i> " | \$ 38,318 |
| 5. NSF Major Research Instrumentation (MRI) Grant (2006) " <i>Acquisition of a 400 MHz NMR spectrometer for research and research Training at Seattle University.</i> " (Co-P.I.) | \$ 368,401 |
| 4. Camille and Henry Dreyfus Foundation Faculty Start-Up Award (2005) " <i>Study of Backbone-Modified Oligonucleotides.</i> " | \$ 30,000 |
| 3. National Institutes of Health Post-Doctoral Fellowship (2003-2005) " <i>The Chemoglycorandomization of Natural Products.</i> " | \$ 81,308 |
| 2. National Science Foundation Graduate Research Fellowship (1999-2002) | \$ 45,000 |
| 1. National Institutes of Health Biotechnology Training Program Fellowship (1999) | \$ 15,000 |

Intramural Funding

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| 10. Seattle University Summer Faculty Fellowship (2019) | \$ 7,100 |
| 9. Seattle University Summer Faculty Fellowship (2014) | \$ 7,100 |
| 8. Murdock Charitable Trust Undergraduate Research Grant (2012) | \$ 17,020 |
| 7. Murdock Charitable Trust Undergraduate Research Grant (2011) | \$ 15,820 |
| 6. Murdock Charitable Trust Undergraduate Research Grant (2010) | \$ 12,700 |
| 5. Murdock Charitable Trust Summer Faculty Fellowship (2009) | \$ 18,000 |
| 4. Seattle University Provost's Office Assessment Grant (2009) " <i>Assessing the Effectiveness of a Novel Pedagogical Approach for Teaching Professional-Style Scientific Writing to Undergraduates</i> " | \$ 5,000 |
| 3. Seattle University Provost's Office Assessment Grant (2008) " <i>Assessing the Effectiveness of a Novel Pedagogical Approach for Teaching Professional-Style Scientific Writing to Undergraduates</i> " | \$ 5,700 |
| 2. Seattle University Summer Faculty Fellowship (2007) " <i>Optimization of Oxyamine-Mediated Glycosylation.</i> " | \$ 6,744 |
| 1. Bannan Foundation Equipment Award (2007) " <i>Acquisition of Solvent Purification System.</i> " | \$ 26,819 |

Applications Under Review

None

Other funding

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| 1. ACS Division of Organic Chemistry Travel Award (2015) | \$ 600 |
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Declined Applications

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| 5. Henry Dreyfus Teacher Scholar Award, "Methodology for the Synthesis of Tumor-Selective Apoptotic Agents." | \$ 30,000 |
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4. National Institutes of Health Academic Research Enhancement Award (AREA) Grant (2013) "*Methodology for the Synthesis of Tumor-Selective Apoptotic Agents and Structurally Homogeneous N-Linked Glycopeptides.*" \$ 300,891
3. National Science Foundation Research in Undergraduate Institutions (RUI) Program (2011) "*RUI: Methodology for the Synthesis of Homogeneous N-Linked Glycopeptides.*" \$ 276,726
2. National Science Foundation Early Career Development (CAREER) Program (2010) "*CAREER: Methodology for the Synthesis of Tumor-Selective Drugs and Homogeneous Glycopeptides.*" \$ 531,418
1. National Science Foundation Early Career Development (CAREER) Program (2009) "*CAREER: Methodology for the Synthesis of Tumor-Selective Drugs and Homogeneous Glycopeptides.*" \$ 420,311

PRESENTATIONS, CONFERENCES, AND WORKSHOPS

Invited Research Presentations

8. 97th Canadian Society for Chemistry Conference, Seminar. *Alkoxyamine and Hydrazide Glycosylation: Rate Enhancements and Novel Applications.* (Vancouver, Canada, June 2014).
7. Pacific Lutheran University, Department of Chemistry (Oct. 2009)
6. Santa Clara University, Department of Chemistry (May 2009)
5. Fort Lewis College, Department of Chemistry (Nov. 2007)
4. Seattle University Writing Center Winter Workshop "Writing Initiatives in Chemistry." (Jan. 2007)
3. Allegheny College, Department of Chemistry (Sept. 2006)
2. Seattle University, Department of Chemistry (Jan. 2005)
1. Harvey Mudd College, Department of Chemistry (Nov. 2005)

Contributed Research Presentations (*undergraduate coworkers are underlined*)

21. J.M. Langenhan, K. Rykaczewski, L. Griggs, P. Goo, S. Jain. American Peptide Symposium 2019, Poster. *Synthesis of Glycosylated Amino Acid Building Blocks via Acylation of β -Glycosylhydrazides* (Monterey, CA, June 2019).
20. J.M. Langenhan, K. Rykaczewski, L. Griggs, P. Goo, S. Jain. 29th International Carbohydrate Symposium, Poster. *Progress Toward a Novel Synthesis of Glycosylated Asparagine Residues* (Lisbon, Portugal, July 2018).
19. J.M. Langenhan, S.A. Loskot, N.A. Chock, C.J.A. Leonen, S.M. Ryan. 44th National Organic Symposium, Poster. *Hydrazide Glycosylation: Rate Enhancements and Novel Applications* (College Park, MD, June 2015).
18. S. Ferrenberg, J. Langenhan. Entomological Society of America National Annual Meeting, Poster. *Do Tree Defenses Against Bark Beetles Decline With Increasing Elevation?* (Austin, TX, Nov. 2013).
17. P.J. Alaimo, J.M. Langenhan, I.T. Suydam. 245th ACS National Meeting, ACS Award Symposium for Research at an Undergraduate Institution, Seminar. *Integrating Professional Training with Organic Chemistry Teaching Labs* (New Orleans, LA, Apr. 2013).
16. J. Langenhan, S. Ferrenberg. Entomological Society of America Pacific Branch Annual Meeting, Poster. *High elevation pines are less defended against bark beetles than low elevation pines* (Lake Tahoe, NV, Apr. 2013).
15. S. Ferrenberg, J. Langenhan, J. Mitton. Mountain Climate Research Conference, Poster. *Pine Tree Defenses Against Bark Beetles Decrease with Elevation—Bad News for Trees as Bark Beetle Ranges Expand in a Warming World* (Estes Park, CO, Oct. 2012).
14. J.M. Langenhan, J.R. Rohlfing, D.K. Rogalsky, A. Tjaden, H. Werner, E. Mullarky. 242nd ACS National Meeting, Poster. *Total Synthesis of Amphimedosides A-C.* (Denver, CO, Aug. 2011).
13. P.J. Alaimo, J.M. Langenhan, I.T. Suydam. 242nd ACS National Meeting, Poster. *Thinking like a scientist in the organic chemistry teaching lab: Designing experiments to generate data for analysis and discussion.* (Denver, CO, Aug. 2011)

12. J.M. Langenhan, D.K. Rogalsky, J.R. Rohlfing, A. Tjaden, L.L. Fukumoto, M.M. Endo, J.M. Engle, L.R. Fay, R.W. Lucker, L.K. Slevin, K.R. Smith. 25th International Carbohydrate Symposium, Poster. *Generating Selective Cytotoxins through Oxyamine Glycosylation*. (Tokyo, July 2010)
11. J.M. Langenhan, L.L. Fukumoto, D.K. Rogalsky, J.R. Rohlfing, M.M. Endo, J.M. Engle, L.R. Fay, R.W. Lucker, L.K. Slevin, K.R. Smith. 50th Anniversary Meeting of the American Society of Pharmacognosy, Poster. *Developing Oxyamine Glycosylation to Generate Tumor-Selective Cytotoxins*. (Honolulu, HI, June 2009)
10. J. Loertscher, P.J. Alaimo, J.M. Langenhan, R. McLaughlin. 20th Biennial Conference on Chemical Education, Poster. *Novel Pedagogical Approach for Teaching Professional Style Scientific Writing to Undergraduates*. (Bloomington, IN, July 2008)
9. J.M. Langenhan, P.J. Alaimo. 2008 National Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Institute, Seminar. *Professional Development for Undergraduate Science Students: Teaching and Assessing Professional Scientific Writing*. (Omaha, NE, June 2008)
8. J.M. Langenhan, P.J. Alaimo. 9th Biennial 2008 International Writing Across the Curriculum Conference, Seminar. *Teaching Professional Writing in an Organic Chemistry Laboratory by Abolishing the Lab Report: Rethinking Writing and Learning in the Discipline of Chemistry*. (Austin, TX, May 2008)
7. J.M. Langenhan. 234th ACS National Meeting, Seminar. *Expanding the Scope of Oxyamine Neoglycosylation to Enhance Biological Activities*. (Boston, MA, Aug. 2007)
6. J.M. Langenhan, P.J. Alaimo, J. Loertscher. 234th ACS National Meeting, Poster. *Teaching students professional writing in organic chemistry lab courses*. (Boston, MA, Aug. 2007)
5. J.M. Langenhan, P.J. Alaimo. 234th ACS National Meeting, Poster. *Chemical safety teams: an approach for teaching laboratory safety*. (Boston, MA, Aug. 2007)
4. J.M. Langenhan, J.M. Engle, L.R. Fay, R.W. Lucker, L.K. Slevin, K.R. Smith. 23rd International Carbohydrate Symposium, Poster. *Exploring the Scope of Oxyamine-Mediated Glycosylation*. (Whistler, July 2006)
3. J.M. Langenhan, J.S. Thorson. 22nd International Carbohydrate Symposium, Poster. *Strategies for Natural Product Glycorandomization*. (Glasgow, July 2004)
2. J.M. Langenhan, J.S. Thorson. 29th National Medicinal Chemistry Symposium, Poster. *Strategies for Natural Product Glycorandomization*. (Madison, June 2004)
1. J.M. Langenhan, S.H. Gellman. 224th ACS National Meeting, Poster. *Synthesis of syn- $\beta^{2,3}$ -Disubstituted β -Amino Acids: Progress Toward the Design of Diversely Functionalized β -Peptide Hairpins*. (Boston, Aug. 2002)

Undergraduate Research Presentations (*undergraduates are underlined*)

28. K. Rykaczewski,* L. Griggs,* J. Langenhan. ACS National Meeting, poster. *Progress Toward a Novel Synthesis of a Glycosylated Asparagine Residue*. (New Orleans, March 2018).
27. K. Sabourin,* J. Langenhan. University of Washington Volcano Conference, seminar. *Progress Toward a Novel Synthesis of Glycosylated Asparagine Residues Using Protected Glycosylhydrazides*. (Eatonville, March 2017).
26. K. Rykaczewski,* J. Langenhan. University of Washington Volcano Conference, seminar. *Progress Toward a Novel Synthesis of N-Linked Glycopeptides*. (Eatonville, March 2017).
25. K. Rykaczewski,* K. Sabourin,* J. Langenhan. 2016 Linus Pauling Medal Symposium, poster. *Progress Toward a Novel Synthesis of a Glycosylated Amino Acid*. (Tacoma, Nov. 2016).
24. K. Rykaczewski,* K. Sabourin, J. Langenhan. Murdock Charitable Trust, 25th Regional Conference on Undergraduate Research, poster. *Progress Toward a Novel Synthesis of a Glycosylated Amino Acid*. (Spokane, Nov. 2016).
23. N. Chock,* C. Leonen,* J. Langenhan. 18th Annual Undergraduate Research Symposium, University of Washington, poster. *Nucleophilic catalysis of hydrazide glycosylation*. (Seattle, WA, May 2015).
22. N. Chock,* C. Leonen,* S. Ryan, J. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, seminar. *Aniline derivatives catalyze hydrazide glycosylation*. (Seattle, Apr. 2015).
21. L. Rozal, S. Loskot, J.M. Langenhan. Murdock Charitable Trust, 21st Regional Conference on Undergraduate Research, poster. *Applications of Hydrazine and Oxyamine Glycosylation*. (Walla Walla, Oct. 2012).

20. H. Werner, L. Rozal, S. Loskot, A. Tjaden, J. Rohlfing, D. Rogalsky, E. Mullarky, J.M. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, poster. *Total Synthesis of Amphimedosides A-C*. (Seattle, Apr. 2012).
19. M. Clay, J.M. Langenhan. Murdock Charitable Trust, 20th Regional Conference on Undergraduate Research, seminar. *DFT Anomeric Effect Estimates in Tetrahydropyran Hydroxylamine and Hydrazine Derivatives*. (Seattle, Nov. 2011).
18. J. Rohlfing, D. Rogalsky, A. Tjaden, H. Werner, L. Rozal, E. Mullarky, J.M. Langenhan. Murdock Charitable Trust, 20th Regional Conference on Undergraduate Research, poster. *Total Synthesis of Amphimedosides A-C*. (Seattle, Nov. 2011).
17. H. Werner, J. Rohlfing, A. Tjaden, D. Rogalsky, E. Mullarky, J.M. Langenhan. National Conference on Undergraduate Research, poster. *Total Synthesis of the Amphimedosides*. (Ithaca, Apr. 2011).
16. J. Rohlfing, D. Rogalsky, A. Tjaden, H. Werner, E. Mullarky, J.M. Langenhan. Murdock Charitable Trust, 19th Regional Conference on Undergraduate Research, poster. *Total Synthesis of the Amphimedosides*. (McMinnville, Nov. 2010).
15. D.K. Rogalsky, J.M. Langenhan. Murdock Charitable Trust, 18th Regional Conference on Undergraduate Research, seminar. *Oxamine Glycosylation: A Tool in the Fight Against Cancer*. (Spokane, Nov. 2009).
14. J. Rohlfing, E. Mullarky, D. Rogalsky, A. Tjaden, J.M. Langenhan. Murdock Charitable Trust, 18th Regional Conference on Undergraduate Research, poster. *Total Synthesis of the Amphimedosides*. (Spokane, Nov. 2009).
13. D.K. Rogalsky, J.M. Langenhan. Council on Undergraduate Research, Posters on the Hill, poster. *Developing "Oxamine Glycosylation" Leads to Cancer Drug Candidates*. (Washington, D.C., May 2009).
12. L.L. Fukumoto, D.K. Rogalsky, M.M. Endo, J.M. Langenhan. Murdock Charitable Trust, 17th Regional Conference on Undergraduate Research, poster. *Expanding the Scope of Oxamine Glycosylation to Enhance Biological Activity*. (Tacoma, Nov. 2008).
11. E. Mullarky, J.M. Langenhan. Murdock Charitable Trust, 17th Regional Conference on Undergraduate Research, poster. *Total Synthesis of Amphimedosides*. (Tacoma, Nov. 2008).
10. A.L. Marshall, P.J. Alaimo, J.M. Langenhan. Murdock Charitable Trust, 17th Regional Conference on Undergraduate Research, poster. *Implications Resulting from an Unexpected Synthesis of 1,3,5-triacetylbenzene*. (Tacoma, Nov. 2008).
9. L.R. Fay, J.M. Engle, R.W. Lucker, L.K. Slevin, K.R. Smith, J.M. Langenhan. National Conference on Undergraduate Research, poster. *Expanding the Scope of Oxamine Glycosylation to Enhance Biological Activity*. (Salisbury, Apr. 2008).
8. L.R. Fay, J.M. Engle, R.W. Lucker, L.K. Slevin, K.R. Smith, J.M. Langenhan. Murdock Charitable Trust, 16th Regional Conference on Undergraduate Research, poster. *Expanding the Scope of Oxamine Glycosylation to Enhance Biological Activity*. (Salem, Nov. 2007).
7. L.K. Slevin, A. Griebenow, E. Mullarky, L.R. Fay, R. Suess, J.M. Langenhan. Murdock Charitable Trust, 16th Regional Conference on Undergraduate Research, poster. *Total Synthesis of Amphimedosides*. (Salem, Nov. 2007).
6. L.K. Slevin, J.M. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, seminar. *Expanding the Scope of Oxamine-Mediated Glycosylation*. (Tacoma, May. 2007).
5. A. Griebenow, E. Mullarky, L.R. Fay, L.K. Slevin, R. Suess, J.M. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, poster. *Total Synthesis of the Amphimedosides*. (Tacoma, May. 2007).
4. L.R. Fay, J.M. Engle, R.W. Lucker, L.K. Slevin, J.M. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, poster. *Effect of Different Solvents on Oxamine-Mediated Glycosylation*. (Tacoma, May. 2007).
3. J.M. Engle, M.M. Endo, L.R. Fay, R.W. Lucker, L.K. Slevin, K.R. Smith, J.M. Langenhan. ACS Puget Sound Section Undergraduate Research Symposium, poster. *Exploring the Scope of Oxamine-Mediated Glycosylation*. (Tacoma, May. 2007).
2. R.W. Lucker, J.M. Engle, K.R. Smith, L.R. Fay, L.K. Slevin, J.M. Langenhan. Murdock Charitable Trust 15th Regional Conference on Undergraduate Research, poster. *Effect of Different Solvents on Oxamine-Mediated Glycosylation*. (Portland, Oct. 2006).

1. J.M. Engle, L.R. Fay, R.W. Lucker, L.K. Slevin, K.R. Smith, J.M. Langenhan. Murdock Charitable Trust 15th Regional Conference on Undergraduate Research, poster. *Exploring the Scope of Oxyamine-Mediated Glycosylation*. (Portland, Oct. 2006)

Conferences Attended

23. American Peptide Symposium (Monterey, CA, 2019)
22. 29th International Carbohydrate Symposium (Lisbon, Portugal, July 2018)
21. 44th National Organic Symposium (College Park, MD, June 2015)
20. ACS Puget Sound Section Undergraduate Research Symposium (Puyallup, WA, May 2015)
19. 97th Canadian Society for Chemistry Conference (Vancouver, Canada, June 2014)
18. Entomological Society of America National Annual Meeting (Austin, TX, Nov. 2013)
17. Entomological Society of America Pacific Branch Annual Meeting (Lake Tahoe, NV, Apr. 2013)
16. 242nd ACS National Meeting (Denver, 2011)
15. 25th International Carbohydrate Symposium (Tokyo, July 2010)
14. Murdock Charitable Trust, 18th Regional Conference on Undergraduate Research (Spokane, 2009)
13. 50th Anniversary Meeting of the American Society of Pharmacognosy (Honolulu, 2009)
12. Council on Undergraduate Research Posters on the Hill (Washington, D.C., 2009)
11. National Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Institute (Omaha, 2008)
10. 9th Biennial International Writing Across the Curriculum Conference (Austin, 2008)
9. Murdock Charitable Trust, 16th Regional Conference on Undergraduate Research (Salem, 2007)
8. 234th ACS National Meeting (Boston, 2007)
7. ACS Puget Sound Section Undergraduate Research Symposium (Tacoma, 2007)
6. 23rd International Carbohydrate Symposium (Whistler, 2006)
5. 22nd International Carbohydrate Symposium (Glasgow, 2004)
4. 29th National Medicinal Chemistry Symposium (Madison, 2004)
3. 224th ACS National Meeting (Boston, 2002)
2. 36th National Organic Symposium (Madison, 1999)
1. Paul Dowd Memorial Symposium (Pittsburgh, 1997)

Workshops Attended

- CIC 2018 Workshop for Department and Division Chairs
- CIC 2017 Workshop for Department and Division Chairs
- Seattle University Center for Excellence in Teaching and Learning (CETL)
 - Participated in over 25 workshops on improving teaching and learning practices since 2005
- Process Oriented Guided Inquiry Learning (POGIL) in the Classroom and Laboratory: A One-day NSF-Sponsored Workshop (Seattle, 2005)
- *Chem 901: The Teaching of Chemistry*, Cathy Middlecamp, discussion leader. (Madison, 1999)

AWARDS

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| Class of 2010 Outstanding Faculty Award, Seattle University | 2010 |
| Office of Multicultural Affairs, Seattle University, Lavender Award, nominee | 2008 |
| Carnegie Academy for the Scholarship of Teaching and Learning, Institute Scholar | 2008 |
| Organic Synthesis Citizenship Award (University of Wisconsin) | 2003 |
| Teaching Commendation (University of Wisconsin) | 1999 |
| McElvain Fellowship (University of Wisconsin) | 1998 |
| Richard I. Lee Prize (Allegheny College, Most Likely to Succeed Chemistry Major) | 1998 |
| Community Service Impact Award (Allegheny College) | 1997 |

PROFESSIONAL MEMBERSHIPS

- American Chemical Society (1998-present)
- Council on Undergraduate Research (2006-present)

Sigma Xi, The Scientific Research Society (2006-2013)

EXTERNAL PROFESSIONAL SERVICE

Grant Proposal Reviewer

- Research Corporation (2011-present)
- Murdock Charitable Trust (2009-present)
- National Science Foundation, Division of Molecular and Cellular Biosciences (2010)

Manuscript Reviewer

- Manuscript reviewer, Nature Communications (2019-present)
- Manuscript reviewer, Journal of Chemical Education (2015-present)
- Manuscript reviewer, Journal of Medicinal Chemistry (2014-present)
- Manuscript reviewer, Medicinal Chemistry Communications (2014-present)
- Manuscript reviewer, ACS Medicinal Chemistry Letters (2010-present)
- Manuscript reviewer, Bioorganic Medicinal Chemistry Letters (2008-present)
- Manuscript reviewer, Carbohydrate Research (2008-present)
- Manuscript reviewer, Journal of Organic Chemistry (2010-present)
- Manuscript reviewer, Journal of Undergraduate Chemistry Research (2010-present)
- Manuscript reviewer, Organic Letters (2010-present)

Medical Advisory Board, Nancy R. Gelman Foundation (2006-2014)

Other

- Preparing Future Faculty Program, University of Washington, Panelist (Sept. 12, 2006)
- Session co-chair (CARB: Carbohydrate Chemistry and Biochemistry), 234th ACS National Meeting (Boston, 2007)
- Reviewed a promotion to full professor dossier for a faculty member at LMU (2017)

INTERNAL PROFESSIONAL SERVICE

Seattle University

SU Provost Search Committee (2016-2017)
Center for Science and Innovation Design Committee (2014)
Center for Science and Innovation Planning Committee (2014)
Fulbright Grant Review Committee, member (2011-2018)
Academic Strategic Action Plan (ASAP) II Team, College of Sci. & Eng. representative (2014)
Goldwater Scholarship Review Committee (2008, 2010-2011)
University Summer Faculty Fellowship Committee (2007-2009)
Learning Center "Characteristics of an Effective Mentor and Tutor" panelist (2008)
SU Academic Day Discussion Leader (2007)
Summer in Seattle Freshman Orientation, lecturer (2006)
Serve Seattle, Team Leader (Sept. 21, 2006)
Fall Preview Day for prospective students, departmental representative (Nov. 2005)

College of Science and Engineering

Personnel Committee for a Biology Department Promotion (2021)
Department Chair (2017-2020)
CSI Project Shepherd Selection Committee (2016)
College Personnel Committee (2014-2017)
Science Futures Committee, chair (2014-2017)
S&E Prestigious Student Fellowships Review Committee (2014-2017)
Bannan Scholars/Career Services "How to Choose a Graduate School," discussion leader (2009)

Engineering Graduate School Seminar, panelist (Sept. 29, 2006)

Chemistry Department

Instrument Committee, chair (2021-present)

Chemistry Department Personnel Committee, member (2011-present)

Academic advisor to ~15 students per year (2005-present)

Faculty Search Committee, chair (2017)

Laboratory Supervisor Search Committee, member (2017)

Laboratory Manager Search Committee, member (2017)

NMR Facility Manager (2006-present)

Chemistry Department New Program Response Project, coordinator (2013-2014)

Chemistry Department Safety Committee, chair (2006-2013)

Chemistry Department Research Committee, member (2009-2013)

Organic Chemistry Sabbatical Replacement Search Committee, chair (2012)

Faculty Search Committee, member (2005, 2009)

Chemistry Department Seminar Series, co-organizer (2006-2010)

Chemistry Department Senior Synthesis Curriculum Committee (2008)

Chemistry Department Newsletter, designer and editor (2006-2009)

Bannan Scholars Discussion "How to Choose a Graduate School," discussion leader (2006)

SU Chemistry Department Benchmarking Project, member (2005)

Internal Service (Prior to Seattle University Appointment)

Organic McElvain Seminar Series, co-organizer (2001-2002)

Graduate Student Recruiting, student/faculty liaison (2001-2002)