

Ryan P. McLaughlin

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CURRENT POSITION

Associate Professor

Department of Chemistry, Seattle University, Seattle, WA

Research Interests: Atmospheric and Environmental Chemistry, Molecular Spectroscopy and Microscopy, Laser-Induced Breakdown Spectroscopy

EDUCATION and PROFESSIONAL EXPERIENCE

Interim Department Chair: Department of Chemistry, Seattle University, Seattle, WA (FQ 2020)

Department Chair: Department of Chemistry, Seattle University, Seattle, WA (2014-2017)

Associate Professor of Chemistry: Department of Chemistry, Seattle University, Seattle, WA (2007-present)

Fulbright Scholar and Visiting Professor

Department of Chemistry and Center for Research in Atmospheric Chemistry (CRAC),
University College Cork, Cork, Ireland (2009-10)

Assistant Professor of Chemistry

Department of Chemistry, Seattle University, Seattle, WA (2001-07)

Postdoctoral Fellow

Teacher-Scholar Program in Environmental/Physical Chemistry,
Department of Chemistry, University of Washington, Seattle, WA (2000-2001)

Research Project: *Phase-Dependent Photodissociation Dynamics of NO_x Reservoir Compounds*

Advisor: Philip J. Reid

Doctor of Philosophy, Physical Chemistry (1999)

University of California, Berkeley, CA

Thesis Title: *IR Laser Absorption Spectroscopy of Jet-Cooled Biomolecules and Water Clusters*

Advisor: Richard J. Saykally

Bachelor of Science, Chemistry, *cum laude*, Coolidge Otis Chapman Honors Scholar (1993)

University of Puget Sound (UPS), Tacoma, WA

Thesis title: *Synthesis of Opiate Affinity Ligands from β -Naltrexone*

Advisor: William E. Dasher

INSTRUCTIONAL EXPERIENCE

- General Chemistry I, II and III (CH 1500, 1510 and 1520) and Laboratory (CH 1501, 1511 and 1521)
- Physical Chemistry I, II and III (CH 3500, 3510 and 3520) and Laboratory (CH 3511 and 3521)
- Instrumental Analysis (CH 4000)
- Organic Chemistry Laboratory (CH 2501)
- Senior Research Seminar (CH 4985)
- Spectroscopy (CM 2007, *taught on sabbatical at UCC*)
- Kinetics (CM 3006, *taught on sabbatical at UCC*)
- Photochemistry (CM 4002, *taught on sabbatical at UCC*)

PUBLICATIONS (*designates undergraduate research student)

- 16) R.P. McLaughlin, "Spectroscopy, Overview," *Encyclopedia of Dairy Sciences*, 3rd Ed., Elsevier, ISBN: 978-0-12-374407-4 (2021)
- 15) R.P. McLaughlin; D. Parks, I. Grubb,* G.S. Mason; A.L. Miller, "A Predictive Model for Elemental Carbon, Organic Carbon and Total Carbon based on Laser Induced Breakdown Spectroscopy Measurements of Filter-Collected Diesel Particulate Matter," *Spectrochimica Acta B*, **168** 105871 (2020) [Nominated for CDC Charles C. Shepard Award]
- 14) R.P. McLaughlin; G.S. Mason; A.L. Miller; C.B. Stipe; J.D. Kearns,* M.W. Prier,* J.D. Rarick,* "Note: A Portable Laser Induced Breakdown Spectroscopy (LIBS) Instrument for Rapid Sampling and Analysis of Silicon-Containing Aerosols," *Review of Scientific Instruments*, DOI: 10.1063/1.4949506 (2016)
- 13) J.M. Langenhan; R.P. McLaughlin; L.M. Rozal,* M.S. Clay,* S.L. Loskot,* P.J. Alaimo, "Using Density Functional Theory to Calculate the Anomeric Effect in Hydroxylamine and Hydrazide Derivatives of Tetrahydropyran," *Journal of Carbohydrate Chemistry*, DOI:10.1080/07328303.2016.1139122 (2016)
- 12) D. O'Sullivan; R.P. McLaughlin; K. Clemitshaw; J.R. Sodeau, "Cold-Surface Photochemistry of Selected Organic Nitrates," *J. Phys. Chem. A* **118** 9890 (2014)
- 11) J.O. Richardson; D.J. Wales; S.C. Althorpe; R.P. McLaughlin; M.R. Viant; O. Shih; R.J. Saykally, "Investigation of Terahertz Vibration-Rotation Tunneling Spectra for the Water Octamer," *J. Phys. Chem. A* **117** 6960 (2013)
- 10) R.P. McLaughlin; D. O'Sullivan; J.R. Sodeau, "Cold Surface Photochemistry of Primary and Tertiary Alkyl Nitrites," *J. Phys. Chem. A* **116** 6759 (2012)
- 9) R.P. McLaughlin; J.D. Glennon, "Spectroscopy, Overview," *Encyclopedia of Dairy Sciences*, 2nd Ed., Elsevier (2011)
- 8) R.P. McLaughlin; W. Donald,* D. Jitjai,* Y. Zhang*, "Vibrational Analysis of N-butyl, Isobutyl Sec-butyl and Tert-butyl Nitrite," *Spectrochimica Acta A* **67** 178 (2007).
- 7) H. A Harker; M.R. Viant; F.N. Keutsch; E.A. Michael; R.P. McLaughlin; R.J. Saykally, "Water Pentamer: Characterization of the Torsional-Puckering Manifold by Terahertz VRT Spectroscopy," *J. Phys. Chem. A* **109** 6483 (2005). [cover article]
- 6) R.N. Caseas; J.B. Paul; R.P. McLaughlin; T. Mourik; R.J. Saykally, "Infrared Cavity Ringdown Spectroscopy of Jet-Cooled Nucleotide Base Clusters and Water Complexes," *J. Phys. Chem. A* **108** 10989 (2004).
- 5) R.P. McLaughlin; B. Barham; P.J. Reid, "Excited-State Dynamics of Isopropyl Nitrate in the Condensed Phase from Resonance Raman Intensities," *J. Phys. Chem. A* **107** 9105 (2003).
- 4) R.P. McLaughlin; B. Bird,* P.J. Reid, "Vibrational Mode Analysis of Isopropyl and Isobutyl Nitrate," *Spectrochimica Acta A* **58** 2571 (2002).
- 3) M.G. Brown; M.R. Viant; R.P. McLaughlin; C.J. Keoshian; R.J. Saykally, "Quantitative Characterization of the Water Trimer Torsional Manifold by Terahertz Laser Spectroscopy and Theoretical Analysis. II. (H₂O)₃," *J. Chem. Phys.* **111** 7789 (1999).
- 2) K. Liu; R.S. Fellers; M.R. Viant; R.P. McLaughlin; M.G. Brown; R.J. Saykally, "A Long Path-length Pulsed Slit Valve Appropriate for High Temperature Operation: Infrared Spectroscopy of Jet-Cooled Large Water Clusters and Nucleotide Bases," *Rev. Sci. Instr.* **67** 410 (1996).
- 1) M.R. Viant; R.S. Fellers; R.P. McLaughlin; R.J. Saykally, "Infrared Laser Spectroscopy of Uracil in a Pulsed Slit Jet," *J. Chem. Phys.* **103** 9502 (1995).

RESEARCH GRANTS and SUPPORT

- 13) **NIOSH Sub-grant Funding**, "R&D Services Aimed at Developing a LIBS-based Method for Quantitation of DPM," contracted with NIOSH, 2017; \$10,000
- 12) **Summer Faculty Fellowship**, "Detection of Airborne Diesel Particulate Matter using Laser Induced Breakdown Spectroscopy," Seattle University, 2017; \$9,700
- 11) **Development Grant** (#2012189:JVZ:5/23/2013), "Purchase of Spectroscopy Instrumentation, For a Shared Core Research Facility," Murdock Charitable Trust, July, 2013 – 2015; \$265,908.

- 10) **NSF Major Research Instrumentation (MRI) Grant** (# CHE-1229760), "*Acquisition of a Raman-LIBS Microscope for Interdisciplinary Research and Research Training at Seattle University*," National Science Foundation; August 2012 – 2014; \$275,809.
- 9) **Summer Faculty Fellowship**, "*Conformationally Dependent Photochemical Reaction Rates and Environmental Impact of Alkyl Nitrite Compounds*," Seattle University, 2012; \$7,100.
- 8) **Fulbright Scholar Grant**, "*Ice surface photochemistry of organic nitrates and the integration of novel atmospheric science with guided inquiry learning*," Fulbright Program, 2009-10, \$56,750
- 7) **Hewlett-Packard Technology in Teaching Leadership Grant**, "*Tablet PC's for integration of cooperative learning groups with a dynamic visual context: animations, simulations, and information mining*," Hewlett Packard Corporation, 2007-09; \$120,000 [with Greg Mason, Seattle University]
- 6) **Demonstration Projects in Assessment Grant**, "*Assessing the Role of Ab Initio Physical Chemistry Modeling Software for In-Class Cooperative Learning*," Seattle University, 2006-07; \$4820
- 5) **NSF Major Research Instrumentation (MRI) Grant**, "*Acquisition of a 400 MHz NMR spectrometer for research and research training at Seattle University*," National Science Foundation, 2006-09; \$368,401 [Co-PI]
- 4) **Murdock Charitable Trust Ramp-Up Grant**, "*Condensed Phase Photochemical Reaction Dynamics of Alkyl Nitrates*," M.J. Murdock Charitable Trust, 2004–06; \$53,051 [Co-PI]
- 3) **Summer Faculty Fellowship**, "*Condensed Phase Photochemical Reaction Dynamics of Alkyl Nitrates*," Seattle University, 2003; \$2,500
- 2) **Faculty Innovation Grant**, "*Condensed Phase Photochemical Reaction Dynamics of Alkyl Nitrates*," Seattle University, 2002; \$4,000
- 1) **American Chemical Society-Petroleum Research Fund**, "*Condensed Phase Photochemical Reaction Dynamics of Alkyl Nitrates*," Grant # 38009-GB6, 2002-04; **\$35,000**

PRESENTATIONS (Since 2001)

*Designates undergraduate research assistant and presenting authors are underlined

- 35) K. Ngo, "Laser Induced Breakdown Spectroscopy" **Oral presentation (virtual)** Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2020)
- 34) J. Barbosa, *A. Cordano, *D. Lee, *C. Tamura,*, R.P. McLaughlin, and G.S. Mason, "Laser Induced Breakdown Spectroscopy," STEM Research Showcase, Seattle University, Seattle, WA (Nov, 2019), **Poster presentation**
- 33) R.P. McLaughlin, I. Grubb, G. Mason, A. Miller, *Analysis of Airborne Diesel Particulate Matter Using Laser-Induced Breakdown Spectroscopy*, American Chemical Society Northwest Regional Meeting (NORM), Portland State University, Portland, OR June (2019) **Poster presentation**
- 32) T. Rackson* and R. McLaughlin, "Use of LIBS to measure Sr/Ca ratios in coral and estimate sea surface temperatures," **Oral presentation**, Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2019)
- 31) M. Moe,* I. Grubb,* G. Mason, R. McLaughlin, and A. Miller, "*A Portable Laser-Induced Breakdown (LIBS) Instrument for Rapid Analysis of Diesel Particulate Matter*," **Poster Presentation**, Murdock College Science Research Conference, Whitman College, Walla Walla, WA (Nov, 2017)
- 30) R.P. McLaughlin and G.S. Mason, "*A Portable Laser-Induced Breakdown Spectroscopy Instrument for the Analysis of Airborne Particulate Matter*," **Poster Presentation**, American Chemical Society Northwest Regional Meeting (NORM), Oregon State University, Corvallis, OR (April, 2017)
- 29) I. Gerbec,* C. Nguyen,* and R.P. McLaughlin, "*Laser Induced Breakdown Spectroscopy for the Detection of Airborne Silicates is Real-Time*," **Oral presentation**, Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2016)
- 28) R.P. McLaughlin, G.S. Mason, A.L. Miller, C.B. Stipe, J.D. Kearns,* M.W. Prier* and J.D. Rarick,* "*A Portable Laser Induced Breakdown Spectroscopy (LIBS) Instrument for Rapid Sampling and Analysis of Silicon-Containing Aerosols*," **Poster Presentation**, American Chemical Society Undergraduate Research Symposium, Central Washington University, Ellensburg, WA (April, 2016)

- 27) J.D. Rarick,* I. Gerbec,* M.W. Prier,* G.S. Mason, A.L. Miller, C.B. Stipe and R.P. McLaughlin, "*Laser Induced Breakdown Spectroscopy (LIBS) as a Tool for Real-time Analysis of Airborne Silica*," **Oral presentation**, Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2015).
- 26) J.D. Rarick,* I. Gerbec,* M.W. Prier,* G.S. Mason, A.L. Miller, C.B. Stipe and R.P. McLaughlin, "*Laser Induced Breakdown Spectroscopy (LIBS) as a Tool for Real-time Analysis of Airborne Silica*," **Poster presentation**, American Chemical Society Undergraduate Research Symposium, Pacific Lutheran College, Tacoma, WA (April, 2015)
- 25) J. Rarick,* P. McDonnell* and R.P. McLaughlin, "*Vibrational Characterization of Multi-Functional Alkyl Nitrates*," **Poster presentation**, Murdock College Science Research Conference, Vancouver, WA (Nov, 2014)
- 24) E. Charlesworth,* and R.P. McLaughlin, "*Investigation of Signal-to-Mass Ratio Relative to Particle Radius for Silica Particles Analyzed with Laser-Induced Breakdown Spectroscopy*," **Oral presentation**, Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2014).
- 23) L. Rozal,* S. Loskot,* R.P. McLaughlin and J.M. Langenhan, "*The Anomeric Effect*," **Oral presentation**, Seattle University Undergraduate Research Association (SUURA) Celebration of Student Scholarship Conference, Seattle University, Seattle, WA (May, 2013).
- 22) R.P. McLaughlin, D. O'Sullivan, K. Clemitshaw and J.R. Sodeau, "*Cold-Surface Photochemistry of Organic Nitrates*," **Poster presentation**, 245th American Chemical Society National Meeting, New Orleans, Louisiana (April, 2013)
- 21) R.P. McLaughlin, "*Cool Chemistry in Ireland: Exploring the Heterogeneous Processing of Organic Nitrates on Thin-films of Water-ice*," **Invited seminar**, Seattle University Natural Science Seminar, Seattle University, Seattle, WA (March 2012)
- 20) M. Clay,* J.M. Langenhan and R.P. McLaughlin, "*Quantifying the anomeric effect in glycosylated oxyamines and hydrazines*," **Oral presentation**, 20th Murdock Trust Regional Conference on Undergraduate Research, Seattle University, Seattle WA (November, 2011).
- 19) R.P. McLaughlin, D. O'Sullivan and J.R. Sodeau, "*Photolysis of Organic Nitrites and Nitrates on Thin-Films of Water Ice*," **Poster presentation**, International Polar Year Conference, Oslo. Norway (June, 2010).
- 18) R.P. McLaughlin, "*Use of Tablet PC Technology in a Group Learning Form*," **Poster presentation**, EdTech Conference, Athlone, Ireland (May, 2010).
- 17) R.P. McLaughlin, D. O'Sullivan and J.R. Sodeau, "*Study of Organic Nitrite and Nitrate Thin-film Photolysis using RAIRS*," **Invited seminar**, Environmental Research Institute, Cork, Ireland (April, 2010).
- 16) R.P. McLaughlin and Greg S. Mason, "*Tablet PC's for integration of cooperative learning groups with a dynamic visual context: animations, simulations, and information mining*," **Poster presentation**, Hewlett-Packard Technology for Teaching Worldwide Higher Education Conference, San Diego, CA (February, 2008).
- 15) R.P. McLaughlin, W. Donald,* D. Jitjai* and Y. Zhang*, "*Vibrational Analysis of n-butyl, iso-butyl, sec-butyl and tert-butyl nitrite*," **Poster Presentation**, Celebration of Faculty Scholarship and Research, Seattle University, Seattle, WA, (April, 2006).
- 14) W. Donald,* Y. Zhang*, D. Jitjai* and R.P. McLaughlin, "*Vibrational Analysis of n-butyl, iso-butyl, sec-butyl and tert-butyl nitrite*," **Poster presentation**, 14th Regional Conference on Undergraduate Research, Northwest Nazarene University, Nampa, ID (November, 2005).
- 13) W. Donald,* Y. Zhang* and R.P. McLaughlin, "*Vibrational Analysis of n-butyl, iso-butyl and tert-butyl nitrite*," **Poster presentation**, 60th Northwest Regional Meeting of the American Chemical Society, Westmark Conference Center, Fairbanks, AK (June, 2005).

- 12) W. Donald,* Y. Zhang* and R.P. McLaughlin, "*Vibrational Analysis of n-butyl, iso-butyl and tert-butyl nitrite*," **Poster presentation**, American Chemical Society Puget Sound Section Undergraduate Research Symposium, Seattle Pacific University, Seattle, WA (April, 2005).
- 11) W. Donald,* Y. Zhang* and R.P. McLaughlin, "*Vibrational Analysis of NO_x Reservoir Compounds*," **Poster presentation**, 13th Regional Conference on Undergraduate Research, University of Portland, Portland, OR (November, 2004).
- 10) R.P. McLaughlin, "*How We Describe Things We Can't See: Using Laser Spectroscopy to Watch Dissociative Reactions*," **Invited seminar**, Bannan Scholars, Seattle University, Seattle, WA (November, 2004).
- 9) R.P. McLaughlin, "*Thermal Imaging Technology and Limitations*," **Invited talk**, CRIM-305, School of Law, Seattle University, Seattle, WA (October, 2004).
- 8) R.P. McLaughlin, C. Capacci*, B. Nyholm and P. Reid, "*Resonance Raman Intensity Analysis of Isopropyl Nitrate in the Condensed Phase*," **Poster presentation**, 12th Regional Conference on Undergraduate Research, Pacific Lutheran University, Tacoma, WA (November, 2003).
- 7) C. Capacci* and R.P. McLaughlin, "*Alkyl Nitrate Photochemistry*," **Poster presentation**, American Chemical Society-Undergraduate Research Symposium, Seattle University, Seattle, WA (May, 2003).
- 6) R.P. McLaughlin and C. Capacci*, "*Vibrational Analysis of Atmospheric Alkyl Nitrates*," **Poster presentation**, Celebration of Faculty Scholarship and Research, Seattle University, Seattle, WA, (April, 2003).
- 5) C. Capacci* and R.P. McLaughlin, "*Resonance Raman Spectroscopy of Atmospheric Alkyl Nitrates*," **Poster presentation**, 11th Regional Conference on Undergraduate Research, Whitman College, Walla Walla, WA (November, 2002).
- 4) R.P. McLaughlin and P.J. Reid, "*Atmospheric Photochemistry of Alkyl Nitrates*," **Invited seminar**, Department of Chemistry, University of Idaho, Moscow, ID (April, 2002).
- 3) R.P. McLaughlin and P.J. Reid, "*Atmospheric Photochemistry of Alkyl Nitrates*," **Invited seminar**, Department of Chemistry, University of Puget Sound, Tacoma, WA (March, 2002).
- 2) R.P. McLaughlin, B. Bird* and P.J. Reid, "*Early-time Photochemical Reaction Dynamics of Isopropyl Nitrate in the Condensed Phase*," **Contributed talk**, 56th Northwest Regional Meeting American Chemical Society, Seattle University, Seattle, WA (June, 2001).
- 1) R.P. McLaughlin, B. Bird* and P.J. Reid, "*Early-time Photochemical Reaction Dynamics of Isopropyl Nitrate*," **Invited seminar**, Department of Chemistry, Western Washington University, Bellingham, WA (May, 2001).

PROFESSIONAL REVIEWS

- 1) **Manuscript Review**, M. Yang, W. Yu, Q. Zhang, Z. Zhou, and Y. Liu "*Real-time in-situ determination of total carbon in the atmosphere by laser-induced breakdown spectroscopy*," Spectrochimica Acta Part B: Atomic Spectroscopy (2022)
- 2) *Interactive simulations to support quantum mechanics instruction for chemistry students*," Journal of Chemical Education (2016)
- 3) **Process Oriented Guided Inquiry Learning (POGIL) Activity Review**, "*Phylogenetic Trees*" (2017)
- 4) **Manuscript Review**, A. Kohnle, C. Benfield, G. Haehner, and M Paetku, "*Interactive simulations to support quantum mechanics instruction for chemistry students*," Journal of Chemical Education (2016)
- 5) **External Review for Tenure and Promotion Decision**, Department of Chemistry, Loyola Marymount University, Los Angeles, CA (2015)
- 6) **Process Oriented Guided Inquiry Learning (POGIL) Physical Chemistry Laboratory Review** "*What are the kinetic parameters of a heterogeneous reaction?*"(2014)
- 7) **Grant Review**, American Chemical Society- Petroleum Research Fund "*Terahertz Spectroscopy of Gas Clathrate Hydrates*", PRF#53102 (2013)
- 8) **Process Oriented Guided Inquiry Learning (POGIL) Activity Review** , "*Point Groups*" (2013)
- 9) **Process Oriented Guided Inquiry Learning (POGIL) Activity Review**, "*Vibrational Spectroscopy*" (2013)

- 10) **External Tenure Review** – Requested by Associate Dean Christopher Brooks, University of San Francisco, Department of Arts and Sciences (2012)
- 11) **Grant Review**, American Chemical Society- Petroleum Research Fund, *“Investigating the Molecular Interactions Between Solute and Cosolvent Molecules in Supercritical CO₂,”* PRF # 44487-B4 (2005).
- 12) **Textbook Review**, Levine, *Quantum Chemistry*, 5th Ed., Chapt. 5 and 6, Prentice Hall (2005).
- 13) **Manuscript Review**, J. Lewins, *“A New Calculation of the Work of Formation of Bubbles and Drops,”* Paper # 04PA0340, Proceedings of the Royal Society A (2005).
- 14) **Grant Review**, American Chemical Society- Petroleum Research Fund, *“Atmospheric Dicarbonyl Photoproducts in Urban Air Pollution,”* Grant proposal # 38314-GB4 (2002).

PROFESSIONAL DEVELOPMENT

- 1) **American Chemical Society Workshop participant**, “Empowering Academic Researchers to Strengthen Safety Culture,” (2022).
- 2) **Science & Engineering Diversity Reading and Discussion Group participant**, Seattle University (2020)
- 3) **Faculty Learning Community: The Department Chair as Transformative Diversity Leader: Building Inclusive Learning Environments in Higher Education**, Center for Faculty Development, Seattle University, Seattle, WA (2017)
- 4) **New Chair and Director Institute**, Talaris Conference Center, Seattle, WA (2014)
- 5) **Faculty Training - New Health Professions Evaluation Process**, Seattle University, Seattle WA (2014)
- 6) **Panel Discussion, “The Short Straw? Pros and Cons of Becoming a Department Chair**, Seattle University, Seattle, WA (2013)
- 7) **Pre-Medical Advisor Conference**, University of Washington, Seattle, WA (2013)
- 8) **Advanced Process Oriented Guided Inquiry Learning (POGIL) Workshop**, Seattle University, Seattle, WA (2006).
- 9) **Process Oriented Guided Inquiry Learning (POGIL) Workshop**, Linfield College, McMinnville, OR (2005).
- 10) **Washington College Chemistry Teachers Association Conference**, Leavenworth, WA (2003 and 2006).
- 11) **Biennial Conference on Chemical Education**, Western Washington University, Bellingham, WA (2002).

SERVICE

- 1) **Member, Department Review Committee**, Dr. Christopher Whidbey Mid-Tenure File, Department of Chemistry, Seattle University (2022)
- 2) **Member, Chemistry Instrumentation Committee**, Chemistry Department Seattle University (FQ 2021)
- 3) **Interim Department Chair**, Department of Chemistry, Seattle University (FQ 2020)
- 4) **Alternate, Academic Grievance Board, Review Committee**, College of Science & Engineering (2020)
- 5) **Chair, Department Review Committee**, Dr. Katherine Frato Tenure and Promotion, Department of Chemistry, Seattle University (2019)
- 6) **Member, Departmental Safety Committee**, Chemistry Department Seattle University (2019 - present)
- 7) **Member, College Review Committee**, Dr. Andrea Verdan Senior Instructor Promotion File, Department of Chemistry, Seattle University (2019-2020)
- 8) **Member, Hiring Committee for Senior Administrative Assistant**, Department of Chemistry, Seattle University (2018)
- 9) **General Chemistry Committee, Co-Chair**, Seattle University (2016)
- 10) **Department Chair**, Department of Chemistry, Seattle University (2014 – 2017)
- 11) **College of Science and Engineering Curriculum Committee**, Seattle University (2014 – 16)

- 12) **Faculty Library Representative, Chemistry Department**, Seattle University (2015-16)
- 13) **Academic Dismissal Committee (ad hoc), Member**, College of Science and Engineering, Seattle University (2014)
- 14) **Master Teaching Schedule Committee, Member**, Chemistry Department, Seattle University (2013-14)
- 15) **Member, Search Committee**, Pre-Health Advisor, Seattle University (2013)
- 16) **University Core Curriculum Committee**, Seattle University (2013 – 2017)
- 17) **General Chemistry Curriculum Committee, Member**, Department of Chemistry, Seattle University (2012- present)
- 18) **Safety Committee, Chair**, Department of Chemistry, Seattle University (2012-13)
- 19) **Accepted Student Department Reception Leader**, College of Science and Engineering (2013)
- 20) **Graduate Fellowship and Scholarship Review Committee**, College of Science and Engineering (2012-13)
- 21) **Core Curriculum Review Committee**, Seattle University (2012-13)
- 22) **Curriculum Committee**, College of Science and Engineering (2012)
- 23) **Safety Committee, Member**, Department of Chemistry, Seattle University (2011-12)
- 24) **Pre-Health Interview Panel**, College of Science and Engineering, Seattle University (2010-2013)
- 25) **Science and Engineering Facilities Planning Committee**, Department of Chemistry Representative, Seattle University (2010-11)
- 26) **Academic Assembly**, College of Science and Engineering representative, Seattle University (2004-07)
- 27) **Panel Member**, "Preparing Chemical Leaders of Tomorrow", University of Washington(2004)
- 28) **Mentor**, Center for Workforce Development, University of Washington (2003)
- 29) **Academic Assembly**, College of Science and Engineering representative, Seattle University (2003)
- 30) **Discussion Leader**, Freshman Academic Day, Seattle University (2002)
- 31) **Panel Member**, "Meeting the Academic Challenge," Seattle University (2002)
- 32) **Faculty Co-Advisor**, Seattle University Chemistry Student Organization (2001-05)

SELECTED HONORS AND AWARDS

- 1) Fulbright U.S. Scholar Award (2009-10)
- 2) Abramson Fellowship (U.C. Berkeley, 1993)
- 3) Coolidge Otis Chapman Honors Scholar (UPS, 1993)
- 4) Allenmore Medical Foundation Scholarship (UPS, 1992)
- 5) Fehlandt Scholarship (UPS, 1992)
- 6) Enrichment Committee Research Grant (UPS, 1992)
- 7) Murdock Summer Research Award (UPS, 1991)
- 8) Phi Beta Kappa (1990-present)

PROFESSIONAL AFFILIATIONS

- 1) Washington College Chemistry Teachers Association (2001-present)
- 2) American Chemical Society (1999-present)