Curriculum Vitae, Erica T. Cline, Ph.D.

Education and Training

University of Puget Sound, magna cum laude	Biology	B. Sci., 1992
University of Leiden, the Netherlands, cum laude	Cell Biology	M. Sci, 1994
University of Washington, Seattle	Forest Resources	Ph.D., 2004

Employment History

Associate Professor, **2012-present**
Assistant Professor **2006 to 2012**
Interdisciplinary Arts & Sciences,
Environmental Sciences,
University of Washington, Tacoma

Research areas: Ecology of mycorrhizal fungi in forests and coffee fields; effects of biosolids and metals contamination within forests and in edible mushrooms; phytochelatins in trees and fungi; salmon market substitution.

Adjunct appointment in the School of Forest Resources,
University of Washington Seattle 2008 to present

Adjunct appointment in the Canadian Studies Institute, 2008 to present
University of Washington Seattle

Post-Doctoral Researcher,
Systematic Botany and Mycology Lab,
USDA Agricultural Research Service,
Beltsville, MD Feb 2005-Aug 2006

Research area: Systematics of plant pathogenic fungi

Research and Teaching Assistant,
College of Forest Resources and Biology Program
University of Washington Seattle Periodic, 1994-2002

Dissertation title: Mycorrhizal fungus communities of Douglas-fir (*Pseudotsuga menziesii*) seedlings and trees: effects of proximity to residual trees

Scholarship

Peer-Reviewed Publications in preparation

Cline, E.T., Clouse, M. Uptake of Metals by Edible Mushrooms from Biosolids-Treated Forests. To be submitted to Environmental Pollution.

Cline, E.T., Tournay, R., Kovatch, J. Antimicrobial properties of some traditional medicinal plants of Costa Rica. To be submitted to Revista Biologia Tropicale.

Galligan, K.G., Cline, E.T., Bakker, J.D., Ettl, G.J. Effects of Soil Chemistry on the Ectomycorrhizal Community Composition of Red Alder (*Alnus rubra*). To be submitted to New Phytologist.

Peer-Reviewed Publications

Cline, E.T. 2012. Marketplace substitution of Atlantic salmon for Pacific salmon in Washington State detected by DNA barcoding. Food Research International 45: 388–393.

Cline, E.T., Elliott, M. 2012. Community service learning—The *Phytophthora ramorum* (sudden oak death) stream monitoring project. American Biology Teacher 74(3), 191-192.

Cline, E.T., Nguyen, Q.T.N., Rollins, L., and Gawel, J.E., 2012. Metal stress and decreased tree growth in response to biosolids application in greenhouse seedlings and in situ Douglas-fir stands. Environmental Pollution 160: 139-144.

Cline, E.T., Gogarten, J. 2012. Using phylogenetic analysis to detect market substitution of Atlantic salmon for Pacific salmon: an introductory biology laboratory experiment. American Biology Teacher 74 (4):244-249.

Banks, J.E., **Cline, E.T.,** Castro, S., Urena, N., Nichols, K., Hannon, L., Singer, R., and Chandler, M. 2011. Effects of synthetic fertilizer on coffee yields and ecosystem services: soil glomalin and parasitoids in a Costa Rican coffee agroecosystem. The Journal of Crop Improvement 25: 650-663.
*I performed the lab and data analyses for glomalin and wrote the glomalin half of this paper.

Hernández, J.R. & **E.T. Cline**. 2010. *Goplana dioscoreae-alatae* nom. nov. and other *Uredinales* on *Dioscoreaceae* : nomenclature and taxonomy. Mycotaxon 111: 263–268.
*I developed the concept, Jose and I contributed equally to the analysis and writing of this paper, and I was the corresponding author.

*Krupinsky, J.M. and **Cline, E.T.** 2010a. *Ascochyta* leaf spot. Compendium of Wheat Diseases and Pests, APS Press, St. Paul, MN, p. 18-19.

*Krupinsky, J.M. and **Cline, E.T**. 2010b. *Phoma* leaf spot. Compendium of Wheat Diseases and Pests, APS Press, St. Paul, MN, p. 42.

*Krupinsky, J.M. and **Cline, E.T**. 2010c. *Platyspora* leaf spot. Compendium of Wheat Diseases and Pests, APS Press, St. Paul, MN, p. 42.

*For all three of these short papers, I wrote the nomenclature and taxonomy sections of the papers.

Park, J., Park, B., Veeraraghavan, N., et al. (**E. Cline, 22nd author**). 2008. *Phytophthora* Database: A cyberinfrastructure supporting the identification and monitoring of *Phytophthora*. Plant Disease 92(6)966-972.

*My nomenclature data were utilized for this collaborative database.

Cline, E.T., Farr, D.F., and Rossman, A.Y. 2008. Synopsis of *Phytophthora* with emphasis on species not in the United States. Online. Plant Health Progress, 12 pp.

Cline, E.T., Vinyard, B., and Edmonds, R. 2007. Spatial effects of retention trees on mycorrhizas and biomass of Douglas-fir seedlings. Canadian Journal of Forest Research 37:430-438.

Cline, E.T. and Rossman, A.Y. 2006. *Septoria malagutii* sp. nov., cause of annular leaf spot of potato. Mycotaxon 98:125-135.

Cline, E. T. and Farr, D. F. 2006. Synopsis of fungi listed as regulated plant pests by the USDA Animal and Plant Health Inspection Service: Notes on nomenclature, disease, plant hosts and geographic distribution. Online. Plant Health Progress, 63 pp.

Cline, E. T., Ammirati, J. and Edmonds, R. 2005. Does proximity to mature trees influence ectomycorrhizal fungus communities of Douglas-fir seedlings? New Phytologist 166(3) 993-1009.

Cline, E. T. 2004. Mycorrhizal fungus communities of Douglas-fir (*Pseudotsuga menziesii*) seedlings and trees: effects of proximity to residual trees. PhD thesis. College of Forest Resources, University of Washington. Seattle.

Trudell, S., **E. Cline**, Elliott, M., and Edmonds, R. 1999. Possible role of mycorrhizas in resistance to decline in *Arbutus menziesii*. In: Adams, A.B. and C. Hamilton (eds.), The Decline of Pacific Madrone (*Arbutus menziesii* Pursh): Current Theory and Research Directions. The Pollard Group, Tacoma WA USA, pp. 123-130.

*I contributed my research findings and approximately 1/3 of the writing for this paper.

Book Reviews and Non-Peer Reviewed Articles

Cline, E. 2008a. Review of Exeter, R., Norvell, L., and Cazares, E. 2006. *Ramaria* of the Pacific Northwestern United States. USDI BLM/OR/WA/PT-06/050-1792. In: Inoculum (supplement to Mycologia) 59(5):26-27.

Cline, E. 2008b. Review of Pilz et al. 2007. Ecology and management of morels harvested from the forests of western North America. General Technical Report PNW-GTR-710. In: Inoculum (supplement to Mycologia) 59(5):24.
*Review translated into Spanish in Revista Fitotecnia Mexicana, 2008.

Cline, E. 2006. Review of Adams, G.C., Wingfield, M.J, Common, M.J., and Roux, J. 2005. Phylogenetic relationships and morphology of *Cytospora* species and related teleomorphs (Ascomycota, Diaporthales, Valsaceae) from *Eucalyptus*. Stud. Mycol. 52: 1-147. In: Inoculum (supplement to Mycologia) 57(6): 12.

Cline, E. 2005. Implications of changes to Article 59 of the International Code of Botanical Nomenclature Enacted at the Vienna Congress 2005. Inoculum (supplement to Mycologia) 56(6):3-5.

Grants Received

IAS Research and Teaching Award, March 2013, for: Developing a regional network of college campuses to monitor market substitution of Atlantic for Pacific Salmon via introductory biology courses. $1200.

Sabbatical leave, Autumn 2012-June 2013.

IAS Research and Teaching Award, November 2012, for: Expression of phytochelatin synthase in red spruce experience forest decline in the Appalachian Mountains. $2128.

IAS Research and Teaching Award, April 2012, for: Metal Pollution and Forest Decline in the Appalachian Mountains of New England. $2360.

IAS Research and Teaching Award, March 2012, for: Metal Pollution and Forest Decline in the Appalachian Mountains of New England. $2100

Advisor for Kate Galligan, Masters student, for her Sigma Xi Research Award, April 2011, $500, and her Puget Sound Mycological Society Award, August 2011, $1500 for Effects of Soil Moisture on Red Alder Mycorrhizal Communities.

Advisor for Robert Tournay, undergraduate student, for his Mary Cline Memorial Undergraduate Research Award, June 2011-2012, $720, his Mary Gates Research Scholar Award, Jan-April 2012, $4000, and his IAS Research and Teaching Awards, March 2012, $2000, and March 2013, $1450 (continuing funding) for Phytochelatin Synthase Gene Expression in Conifers.

UW Tacoma Chancellor's Grant for Scholarship and Research, 2010-2011. Effects of Biosolids at Pack Forest, WA: Are Mushrooms Accumulating Heavy Metals? $3160.

Advisor for Rebecca Singer, undergraduate student, for her UW Tacoma Founder's Grant, 2009-2010. Soil Glomalin in Costa Rican Coffee Farms, $3010.

Research Quarter Course Release, Autumn 2009.

UW Royalty Research Fund, 2008-2009. Effects of Shade Trees on Mycorrhizal Diversity and Abundance, Soil Fertility, and Coffee Health and Yield in Costa Rica Coffee Plantations, $34,248.

UW Tacoma Founders Endowment Award, 2008-2009. Do Biosolids Cause Tree Stress? Undergraduate Research Assessing Metal Stress in Douglas-fir Trees Treated with Municipal Biosolids and the Role of Mycorrhizal Root Communities in Metal Uptake, $6413.

UW Tacoma Chancellor's Grant for Scholarship and Research, 2007-2008. Ectomycorrhizas of Douglas-fir in Forests Treated with Municipal Biosolids, $7520.

External Proposals Written as Co-PI (Unfunded)

USDA International Science and Education grant, $99,800, John Banks and Erica Cline Co-PIs. Undergraduate field research opportunities in Costa Rica: coffee berry borer beetle and its suppression by insectivorous fungi, submitted Jan. 2008 (Co-PI).

NSF Major Research Instrumentation grant, $339,000. Acquisition of an environmental scanning electron microscope for collaborative and interdisciplinary research and science education at two primarily undergraduate institutions, submitted Jan 2007 (Co-PI).

External Proposals Written as Participant or Personnel (Unfunded)

NSF grant, $999,700, Gary Chastagner, Co-PIs (WSU Puyallup). A community-based stream monitoring program in western Washington for early detection of *Phytophthora ramorum*, submitted June 2010 (participant).

NSF Phylogenetic Systematics grant, $999,800, Ted Pietsch, PI (UW Seattle). Dam Removal on the Elwha: An Urgent Need for Biotic Survey and Inventory, submitted June 2008, resubmitted July 2009 (participant).

NSF Microbial Observatories grant, $999,000, William Eaton (PI). Microbial diversity in sediments and riparian habitats associated with Lake Mills and the Elwha watershed, submitted Oct. 2006 (senior personnel).

Presentations

"Metals Uptake by Edible Mushrooms in Biosolids Treated Forests," Northwest Science Annual Meeting, Portland OR, March 2013.

"Metals Uptake by Edible Mushrooms in Biosolids Treated Forests," University of Puget Sound Science Seminar, Tacoma WA, March 2013.

"Mycorrhizal Fungal Diversity of Pacific Northwest Forests," UW Environmental and Forest Sciences, SEFS522 Plant Microbiology Seminar, March 2013.

"Influence of soil moisture on *Alnus rubra* ectomycorrhizal fungal community distribution throughout a growing season," Galligan, Kate, Cline, E., Ettl, G. Society of American Foresters National Convention, Spokane WA October 2012.

"Catching Cheaters" Workshop: Using DNA Sequencing to Detect Market Substitution of Salmon," Multi-day workshop training biology faculty to adopt the salmon project, Northwest Biology Instructors Annual Meeting, May 2012.

"Salmon market substitution," Highline Community College Math Science Teaching Center, Des Moines WA, May 2012.

"Using phylogenetic analysis to detect market substitution: a hands-on multi-day workshop for biology educators," Northwest Biology Instructors annual meeting, Everett WA, April 2012.

"Using phylogenetic analysis to identify market substitution of Atlantic salmon for Pacific salmon with an introductory biology class," Centralia College Science Seminar, March 2012.

"Effects of biosolids on forests and fungi: Free fertilizer but with toxic metals as a hidden cost," UWT IAS Environmental Science Seminar, December 2011.

"Mycorrhizal fungal diversity of Pacific Northwest forests," Lewis and Clark College, Dept of Biology Seminar, September 2011.

Galligan, K.G., Cline, E.T., and Ettl, G.J. "Influence of soil moisture on *Alnus rubra* ectomycorrhizal fungal community distribution throughout a growing season." Ecological Society of America Annual Meeting, August 2011.

"Effects of synthetic fertilizer on soil glomalin and coffee yields in Costa Rica coffee fields," Cline, Erica T., Singer, R., Castro Tanzi, S., Nichols, K. Soil Ecology Society Annual Meeting, Kelowna BC, Canada, May 2011.

"Involving undergraduates in a community-based monitoring project for *Phytophthora ramorum*, cause of sudden oak death," Cline, E., Elliott, M., Soil Ecology Society Annual Meeting, Kelowna BC, Canada, May 2011.

"Using phylogenetic analysis to identify market substitution of Atlantic salmon for Pacific salmon: an introductory biology laboratory experiment," Northwest Biology Instructors Meeting, Yakima, WA, May 2011.

"Developing and using hands-on, authentic scientific inquiry-based exercises" Cline, E., Becker, B., Gogarten, J. UWT Teaching Forum, February 4, 2011.

"Unlocking the secrets of mycorrhizal ecology: Molecular tools for identification," guest lecture for Dr. Bob Edmonds ESRM409 Soil Ecology course, UW Seattle School of Forest Resources, October 2010 and October 2011.

"How to add a 'W' to your course," Cline, E., Nascimento, A., Oswal, S., Selkin, P., UWT Teaching Forum, April, 2010.

"Conservation and Farmer Practices: Sustainable Coffee in Tarrazu, Costa Rica," E. Cline, J. Banks, L. Hannon, R. Singer, at the Conservation in Practice from Anthropology to Zoology Conservation Colloquium, University of Washington Seattle, March 2010.

"Catching Cheaters: A Lab on Phylogenetic Analysis of Salmon," Curriculum for the Bioregion Conference, Pacific Lutheran University, March 2010.

"Why 'Eat Less Meat' is the Environmental Battle Cry: Saving Energy One Bite at a Time", UW Tacoma Energy Summit, December 2009.

"Unlocking the Secrets of Evolutionary History and Ecology: Phylogenetic and other Molecular Analyses," guest lecture, The Evergreen State College, Steve Trudell, instructor, November 2009.

"Integrating Writing into the Undergraduate Science Curriculum: Perspectives from an Interdisciplinary Environmental Sciences Program," E. Cline, P. Selkin. Transforming Undergraduate Biology Education: Mobilizing the Community for Change conference, Washington DC, July 2009 (Invited Participant).

"Why 'Eat Less Meat' is the Environmental Battle Cry: Saving Energy One Bite at a Time", Marine Science Technology Center, Highline Community College, June 2009.

"Mycorrhizal Fungal Diversity of Pacific Northwest Forests," University of Washington Tacoma, Environmental Science Seminar, June 2009.

"Adventures in International Research: Coffee Research in Costa Rica with Undergraduates," NW Biology Instructor's Conference, Astoria OR, May 2009.

"Mycorrhizal Fungal Diversity of Pacific Northwest Forests," University of Puget Sound Science Seminar, March 12, 2009.

"Food Energetics: Using Personal Audits and Footprint Measures," Curriculum for the Bioregion Conference, University of Puget Sound, March 6, 2009.

"Development of an interdisciplinary exercise to introduce non-science majors to the sustainability of agricultural energy use by investigating their own fossil fuel inputs for one week of food consumption: A bottom-up approach," C. Thomas, E. Cline, Ecological Society of America Annual Meeting, Milwaukee WI, August 2008.

"Catching Cheaters: Using Salmon Phylogenetics to Detect Commercial Mislabeling," Northwest Biology Instructors' Conference, Salem OR, May 2008.

"From Fungi to Fish Fraud and Food Fossil Fuels: How Teaching can Transform Research (and vice versa)," keynote address, UW College of Forest Resources graduate student symposium, January 2008.

"Do residual trees help seedlings? Exploring the "nurse-tree" effect on mycorrhizal colonization," Biology Seminar Series, University of British Columbia Kelowna, September 2007.

"Septoria malagutii, the newly validated and redescribed fungus causing annular leaf spot of potato," Cline, E. and Rossman, A., Mycological Society of America annual conference, Baton Rouge, LA, August 2007.

"Ectomycorrhizal fungi in managed Douglas-fir forests: What changes occur after harvesting?" Soil Ecology Society meeting, Moab, Utah, May 2007.

Conference Presentations with Undergraduate Students

"The Optimization of RNA Analysis via Northern Blotting," mentor for Derek Eppright, UWT Autumn Student Showcase, December 2012.

"Metal Accumulation of Edible Fungi within Biosolids-Treated Sites at Pack Forest, Washington," mentor for Mary Clouse, UW Undergraduate Research Symposium, May 2012, and UWT Environmental Seminar (UWaTERS), June 2012.

"The Discovery and Characterization of Phytochelatin Synthase Gene in Conifers," mentor for Robert Tournay, UW Undergraduate Research Symposium, May 2012, and UWT Environmental Seminar (UWaTERS) June 2012.

"Effects of Biosolids on Toxic Metals in Edible Mushrooms," mentor for Candice Hindle (*Clavulina*), Allison Williams (*Cantharellus*), Anthony Okrasinski (*Helvella*), and Mary Clouse (all other species), each presenting a separate poster, UWT Autumn Student Showcase, December 2011, and UWT Environmental Seminar (UWaTERS) June 2012.

"The relationship between soil copper and glomalin in coffee plantations in Tarrazu, Costa Rica," mentor for Aaron Copado, UW Undergraduate Research Symposium, May 2011; UW Tacoma Environmental Research Symposium, June 2011.

"Phytochelatin production in *Pseudotsuga menziesii* seedlings: a greenhouse study," co-mentor (with Jim Gawel) for Lucy Rollins, UW Undergraduate Research Symposium, May 2010; UW Tacoma Environmental Research Symposium, June 2010.

"The effects of biosolids amendments on ectomycorrhizal fungi of Douglas-fir seedlings: a greenhouse study," mentor for Amanda Watts, UW Undergraduate Research Symposium, May 2010; UW Tacoma Environmental Research Symposium, June 2010.

"Fertilizer reduction increases glomalin, a soil aggregation protein, in Costa Rican coffee fields," mentor for Rebecca Singer, UW Undergraduate Research Symposium, May 2010; UW Tacoma Environmental Research Symposium, June 2010.

"Phytochelatins as bioindicators suggesting metal stress in Douglas-fir trees treated with municipal biosolids" co-mentor (with Jim Gawel) for Quyen Nguyen (undergraduate student), UW Undergraduate Research Symposium, May 2009, and UW Tacoma Environmental Research Symposium, June 2009.

"Effects of historical biosolids application on mycorrhizal communities of managed Douglas-fir forests at Pack Forest, Washington" mentor for Jill Mountford (undergraduate student), UW Undergraduate Research Symposium, May 2009, and UW Tacoma Environmental Research Symposium, June 2009.

"The effects of shade tree density on stomata densities of *Coffea arabica* var. *catuai* coffee plants in Tarrazu, Costa Rica" mentor for Rebecca Singer (undergraduate student), UW Undergraduate Research Symposium, May 2009, and UW Tacoma Environmental Research Symposium, June 2009.

"A preliminary ectomycorrhizal fungal survey of the Elwha River Valley," mentor for Katri Rahkonen (undergraduate student), UW Undergraduate Research Symposium, May 2009, and UW Tacoma Environmental Research Symposium, June 2009.

"Possible Detection of Pathogenic *E. coli* O157 in Soils at Pack Forest Treated with Septage," mentor for Matt Ridgway (undergraduate student), UW Undergraduate Research Symposium, May 2008, and UW Tacoma Environmental Research Symposium, June 2008.

"Effects of Biosolids on Growth of Douglas-fir at Pack Forest," mentor for Jeff Smith (undergraduate student), UW Undergraduate Research Symposium, May 2008, and UW Tacoma Environmental Research Symposium, June 2008.

Teaching

Courses

Assistant Professor, UW Tacoma, 2006 to present:
TESC 120 Introductory Biology I: Ecology, Evolution, Genetics
TESC 130 Introductory Biology II: Cell and Molecular Biology
TESC 140 Introductory Biology III: Plant and Animal Physiology
TESC 200 Environmental Seminar
TESC 236 Sustainable Agriculture
TESC 378 Environmental Microbiology
TESC 340 Ecology and its Applications
TESC 404 Costa Rica Field Studies: Tropical Ecology & Community
TESC 432 Forest Ecology Field Studies
TESC 495 Environmental Research Experience

Lecturer, UW Seattle, 2002-2004:
Biol 102 Ecology and Evolution
Biol 180 Ecology and Genetics
Biol 220 Animal and Plant Physiology

Teaching Assistant, UW Seattle, 1995-2002:
Biol 180, 200, 220, 201, 202, 203: Introductory Biology I, II, III
ESC 210 Introduction to Soil Science
CFR 101 Forests and Society

Honors and Awards

Charlotte Cornell Crary Award for Excellence in Biology Teaching, 1999

Provost Award to support the Peru International Programs course in summer 2012, $3500.

Undergraduate research capstone projects

- Robert Tournay (IAS Honors thesis), Jennifer Vittetoe, Jami Kovatch, Sharon Hunter (ongoing)
- Mary Clouse, Derek Eppright, Candice Hindle, Allison Williams, Anthony Okrasinski, Devin Dmitriev, Jennifer Guenther (completed 2012)

- Aaron Copado (completed 2011)
- Lucy Rollins, Rebecca Singer (IAS honors thesis), Devon Sorensen, Amanda Watts (completed 2010)
- Kim Dennett, Quyen Nguyen, Jill Mountford, Katri Rahkonen, Nels Lund (Marlboro College) (completed 2009)
- Jeff Smith, Matt Ridgway (completed 2008)

Undergraduate internship capstone projects

- Margot Tsakonas, Lesley Hogue (2011-2012)
- Jacklyn Milner (2009-2010)
- Nicole Hokett, Travis Turner, Shameka Henson (2008-2009)

Graduate Student Committees

- Katrina Mendrey (Sally Brown, chair), Master of Science, UW Seattle School of Environmental and Forest Sciences, April 2012-present.
- Kate Galligan (Greg Ettl, chair), Master of Science, UW Seattle School of Environmental and Forest Sciences, April 2011-December 2012.
- Rebecca Singer (Sally Brown, chair), Master of Science, UW Seattle School of Environmental and Forest Sciences, final thesis review August 2012.
- Nauman Mumtaz (John Banks, chair), UWT MAIS program (withdrawn).
- Amy Honan (Bob Edmonds, chair), Ph.D., UW Seattle School of Forest Resources (withdrawn).

Service

Committee Membership

- Curriculum for the Bioregion steering committee member (2008-present)
- IAS Faculty Council (spring 2010-spring 2012)
- Kleiner award scholarship review committee (spring 2011)
- UWT Faculty Affairs committee (spring-fall 2010)
- UW tri-campus Restoration Ecology Network steering committee (2008-present)
- IAS Tenure and Promotion Guidelines ad-hoc committee (2009)
- Foundations of Excellence Faculty committee (2009)
- Center for Leadership and Social Responsibility Course Development grant review committee, May 2008
- UWT library committee (spring 2008).
- UWT Transportation Visioning Advisory Committee (2007)
- Pre-Allied Health (pre-MVPD) PARC proposal (2007)

Hiring Committees

- Biochemistry tenure track faculty position (2011-2012), search committee
- School of Environmental and Forest Sciences Director search committee (2011-2012)
- Math tenure track faculty position (Julie Eaton, 2011), interview committee
- Biology instructor (Jack Vincent, 2011), chair of search committee
- Biology instructor (Jutta Heller, 2010), chair of search committee
- Laboratory coordinator (Jessica Asplund, 2009), search committee
- Math tenure track faculty position (Paul Allen, 2008), interview committee
- Physics tenure track faculty position (Peter Selkin, 2008), interview committee
- Biology instructor (Jennifer Gogarten, 2007), chair of search committee
- Chemistry tenure track faculty position (Joyce Dinglasan-Panlilio, 2007), interview committee
- Laboratory instructor/coordinator (2007), search committee

Student Advising

- Faculty advisor for approximately 25-30 undergraduate students per year

Professional Development and Community Involvement

- Advisor for Robyn Zaches, Aviation High School, Seattle WA for cod market substitution project (March-June 2013)
- Coordinator and advisor for Yakima Valley Community College, Lake Washington technical institute, and Everett Community College salmon substitution projects (2012-2013)
- UWT Sophomore Summit, Pack Forest (September 2012)
- UWT Math Science Leadership program, advisor for "DNA Detectives" salmon market substitution project (2012)
- Advisor for Arlington High School salmon market substitution project, working with Sound Salmon Solutions (2012)
- UWT "Core Camp" (multi-day workshop on Gen-Ed core and 'first-year' teaching) (June 2009)
- Curriculum for the Bioregion/UWT-Community College summer institute, Puget Sound health and ecology (2009)
- Environmental Education Association of Washington Higher Education strategy session (2008)
- Curriculum for the Bioregion Biology Learning Community (2007-2008): developed and posted instructional materials to share with educators throughout the region
- UWT Writing Fellow (2007-2008)
- UWT-Community College summer institute (Sept 2007)

Professional Service

- National Science Foundation proposal review panel member for Course Curriculum and Laboratory Improvement (CCLI), Type I, Assessment program, July 2009
- Chair of National Science Foundation proposal review panel for Transforming Undergraduate Education (TUES), Biology program, July 2010
- Primary organizer for the Western Mycorrhiza Gathering annual conference, Pack Forest WA, May 2012.
- National Science Foundation proposal review panel member for Course Curriculum and Laboratory Improvement (CCLI), Type I, Assessment program, July 2012