

EDWARD P. KOLODZIEJ

Interdisciplinary Arts and Sciences (UW Tacoma)
Department of Civil and Environmental Engineering (UW Seattle)
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EDUCATION

University of California, Berkeley. Ph.D., Environmental Engineering, December 2004.

Dissertation topic: *The Occurrence and Environmental Fate of Steroid Hormones with Endocrine and Pheromonal Activity in Fish.*

-minor emphases in Chemical Ecology and Endocrinology

University of California, Berkeley. M.S., with honors in Environmental Engineering, May 1999.

Johns Hopkins University. B.S., with general honors in Chemical Engineering, May 1998.

PROFESSIONAL EXPERIENCE

University of Washington. September 2014 – Present. Associate Professor, Interdisciplinary Arts and Sciences (UW Tacoma); Associate Professor, Department of Civil and Environmental Engineering (UW Seattle). Principal Investigator, Center for Urban Waters. Research expertise includes the occurrence, fate and transport of contaminants in natural and engineered systems, characterization of storm water and non-point source pollution, source apportionment, optimization of engineered treatment systems for organic contaminants, development of sustainable, low-cost engineered systems for pollution control, mitigation of contaminants in agricultural runoff, transformations of endocrine disruptors and other emerging contaminants, analytical method development for organic contaminants, innovative and transformative technologies for water quality improvement, and ecosystem health.

University of Nevada, Reno, Reno, NV. July 2013 – August 2014. Associate Professor, Department of Civil and Environmental Engineering. *January 2007 – June 2013*, Assistant Professor, Department of Civil and Environmental Engineering. Research expertise includes the occurrence, fate and transport of contaminants in natural and engineered systems, optimization of engineered water reclamation systems, mitigation of contaminants in agricultural runoff, transformations of endocrine disruptors and other emerging contaminants, analytical method development for trace organic contaminants, fate of contaminants during groundwater recharge, innovative and transformative technologies for water quality improvement, application of high resolution mass spectrometry to elucidate reaction mechanisms, and disruption of chemical ecology by anthropogenic contaminants.

University of California, Berkeley, Berkeley, CA. January 2005 – December 2006. Post-Doctoral Scholar; CALFED Project Manager. Research focused on the occurrence of endocrine disrupting compounds at regional scales and the fate of steroid hormones in watersheds with intensive cattle grazing. Additional duties included experimental design, writing, budgeting, and coordinating the multi-investigator CALFED research project “Identifying the Causes of Feminization of Chinook Salmon in the Sacramento and San Joaquin River System”. Responsibilities for this project included all project management duties, in addition to field sampling, analytical method development, data analysis, and presentation/publication.

University of California, Berkeley, Berkeley, CA. August 1999 - December 2004. Ph.D. Candidate in Environmental Engineering. Research focused on the occurrence and environmental fate of anthropogenic steroid hormones that are implicated in endocrine disruption or disruption of pheromone signaling. Responsibilities included experimental design, GC/MS/MS analytical method development, field sampling, chemical analysis, and interpretation, presentation, and publication of experimental data.

University of California, Berkeley, Berkeley, CA. *October 1998 - August 1999*. Graduate Student Researcher. Research focused upon the design and implementation of a novel chemical treatment process for remediation of acid mine drainage in California's Lake Shasta region.

Michigan Technological University, Houghton, MI. *Summer 1997*. Student Intern for the National Science Foundation Research Experiences for Undergraduates (REU) program. Investigated the formation and control of trihalomethane disinfection by-products in reservoirs that provide the drinking water supply for New York City.

PUBLICATIONS

(ORCID ID# 0000-0002-7968-4198)

- 1) Salls, K.A., Won, D., Kolodziej, E.P., Childress, A.E., Hiibel, S.R. "Transport of Metals and Semi-Volatile Contaminants In Direct Contact Membrane Distillation." 2017. In Press. *Desalination*
- 2) Pflug, N.C., Hankard, M.K., Berg, S.M., O'Connor, M., Gloer, J.C., Kolodziej, E.P., Cwiertny, D.M., Wammer, K.H. 2017. "Environmental Photochemistry of Dienogest: Phototransformation to Estrogenic Products and Increased Environmental Persistence via Reversible Photohydration. In press. *Environ. Sci. Processes Impacts*.
- 3) Du, B., Lofton, J.M., Peter, K.T., Gipe, A.D., James, C.A., McIntyre, J.K., Scholz, N.L., Baker, J.E., Kolodziej, E.P. "Development of Suspect and Non-Target Screening Methods for Detection of Organic Contaminants in Highway Runoff and Fish Tissue with High-Resolution Time-of-Flight Mass Spectrometry." 2017. *Environ. Sci. Processes Impacts*. **19**, 1185-1196. DOI 10.1039/C7EM00243B
- 4) Kolodziej E.P., Choi, K., Marfil-Vega, R., Brooks, B.W. "The Necessity of Bioanalytical Tools for Advancing Water and Sediment Quality Assessment." 2017. *Environ. Sci. Processes Impacts*. **19**, 1113-1116. DOI: 10.1039/C7EM90032E
-Editorial content, non peer-reviewed
- 5) Pflug, N.C., Kupsco, A., Kolodziej, E.P., Schlenk, D., Teesch, L.M., Gloer, J.B., Cwiertny, D.M. "Formation of Bioactive Transformation Products During Glucocorticoid Chlorination." 2017. *Environmental Science: Water Research and Technology*. **3**, 450-461. DOI 10.1039/C7EW00033B
- 6) Wammer, K.H., Anderson, K.C., Erickson, P.R., Kliegman, S., Moffat, M.E., Heitzman, J.A., McNeill, K., Martinovic-Weigelt, D., Cwiertny, D.M., Kolodziej, E.P. 2016. "Environmental Photochemistry of Altrenogest: Photoisomerization Followed by Reversible Photohydration." *Environ. Sci. Technol.* **50**(14). 7480-7488. DOI 10.1021/acs.est.6b02608
- 7) Baltrusiatis, J., Patterson, E., O'Connor, M., Shen, Q., Kolodziej E.P., Cwiertny, D.M. 2016. "Reversible Photohydration of Trenbolone Acetate Metabolites: Mechanistic Understanding of Product-To-Parent Reversion through Complementary Experimental and Theoretical Approaches." *Environ. Sci. Technol.* **50**(13). 6753-6761. DOI 10.1021/acs.est.5b03905
- 8) Ward, A.S., Cwiertny, D.M., Kolodziej, E.P., Brehm, C.C. 2015. "Stream-Hyporheic Spiraling Increases Environmental Persistence of Trenbolone Metabolites." *Nature Communications*, **6**, Article #7067, DOI 10.1038/ncomms8067
- 9) Cole, E.A. McBride, S., Kimbrough K.C., Marchand, E.A., Cwiertny, D.M., Kolodziej, E.P. 2015. "Rates and Product Identification for Trenbolone Acetate Metabolite Biotransformation in Aerobic Conditions." *Environ. Toxicol. Chem.* **34**(7), 1472-1484, DOI: 10.1002/etc.2962
- 10) Qu, S., Kolodziej, E.P., Cwiertny, D.M. 2014. "Sorption and Mineral Promoted Transformation of Synthetic Hormone Growth Promoters in Soil Systems" *J. Agricul. Food Chem.* **62**(51), 12277-12286. DOI 10.1021/jf5035527
- 11) Jones, G.D., Benchetler, P.V., Tate, K.W., Kolodziej E.P. 2014. "Trenbolone Acetate Metabolite Transport in Rangelands and Irrigated Pastures: Observations and Conceptual Approaches for Agro-Ecosystems." *Environ. Sci. Technol.* **48**(21) 12569-12576. DOI: 10.1021/es503406h

- 12) Cwiertny, D.M. Schlenk, D., Snyder, S.A., Kolodziej E.P. 2014. "Environmental Designer Drugs: When Transformation Does Not Eliminate Risk." *Environ. Sci. Technol.* **48**(20) 11737-11745. DOI: 10.1021/es503425w
 -Invited (EPK) feature article (cover article) for *Environ. Sci. Technol.*
 -Ranked #6, Most Read Articles of 2014; First runner up, Best Feature Article of 2014
- 13) Jones, G.D., Benchetler, P.V., Tate, K.W., Kolodziej E.P. 2014. "Surface and Subsurface Attenuation of Trenbolone Acetate Metabolites and Manure-derived Constituents in Irrigation Runoff on Agro-Ecosystems" *Environ. Sci. Processes Impacts.* **16**, 2507-2516. DOI: 10.1039/c4em00385c
- 14) Jones, G.D., Benchetler, P.V., Tate, K.W., Kolodziej E.P. 2014. "Mass Balance Approaches to Characterizing the Leaching Potential of Trenbolone Acetate Metabolites in Agro-Ecosystems." *Environ. Sci. Technol.* **48**(7) 3715-3723. DOI 10.1021/es405701f
- 15) Cavallin, J.E., Durhan, E., Evans, N., Foreman, W.T., Jensen, K.M., Kahl, M.D., Kolodziej, E.P., Kolpin, D., LaLone, C.A., Makynen, E.A., Seidl, S.M., Thomas, L.M., Villeneuve, D.L., Weberg, M.A., Wilson, V., Ankley, G.A. 2014. "Integrated Assessment of Runoff from Animal Feeding Operations: Analytical Chemistry, In Vitro Bioassays, and In Vivo Fish Exposures." *Environ. Toxicol. Chem.* **33**(8) 1849-1857. DOI 10.1002/etc.2627
- 16) Qu, S., Kolodziej, E.P., Long, S.A., Gloer, J.B., Patterson, E.V., Baltrusaitis, J., Jones, G.D., Benchetler, P.V., Cole, E.A., Kimbrough, K.C., Tarnoff, M.D., Cwiertny, D.M. 2013. "Product-to-Parent Reversion of Trenbolone: Unrecognized Risks for Endocrine Disruption." *Science*. Published online 9/26/2013 in *Science Express*, in print 10/18/2013. **342**(6156), 347-351. DOI 10.1126/science.1243192
 -Co-corresponding author and project Principal Investigator.
- 17) Kolodziej, E.P., Qu, S., Forsgren, K., Long, S.A., Gloer, J.B., Jones, G., Schlenk, D., Baltrusaitis, J., Cwiertny, D.M. 2013. "Identification and Environmental Implications of Photo-transformation Products of Trenbolone Acetate Metabolites." *Environ. Sci. Technol.* **47**(10), 5031-5041.
- 18) Qu, S., Kolodziej, E.P., Cwiertny, D.M. 2012. "Phototransformation Rates and Mechanisms for Synthetic Hormone Growth Promoters Used in Animal Agriculture." *Environ. Sci. Technol.* **46**(24), 13202-13211.
- 19) Parker, J.A., Webster, J.P., Kover, S.C., Kolodziej, E.P. 2012. "Analysis of Trenbolone Acetate Metabolites and Melengestrol Using Gas Chromatography-Tandem Mass Spectrometry." *Talanta*, **99**, 238-246.
- 20) Webster, J.P., Kover, S.C., Bryson, R.J., Harter, T., Mansell D.S., Sedlak D.L., Kolodziej, E.P. 2012. "Occurrence of Trenbolone Acetate Metabolites in Simulated Confined Animal Feeding Operation (CAFO) Runoff." *Environ. Sci. Technol.* **46**(7), 3803-3810.
- 21) Mansell, D.S., Bryson, R.J., Harter, T., Webster, J.P., Kolodziej, E.P., Sedlak, D.L. 2011. "Fate of Endogenous Steroid Hormones in Steer Feedlots Under Simulated Rainfall-Induced Runoff." *Environ. Sci. Technol.* **45**(20), 8811-8818.
- 22) Lavado, R., Loyo-Rosales, J.E., Floyd, E., Kolodziej, E.P., Snyder, S.A., Sedlak, D.L., Schlenk, D. 2009. "Site-Specific Profiles of Estrogenic Activity in California's Inland Waters." *Environ. Sci. Technol.* **43**(24), 9110-9116.
- 23) Kolodziej, E.P., and Sedlak D.L. 2007. "Rangeland Grazing as a Source of Steroid Hormones to Surface Waters." *Environ. Sci. Technol.* **41**(10), 3514-3520.
- 24) Fono, L.J., Kolodziej, E.P., Sedlak, D.L. 2006. "Attenuation of Wastewater-Derived Contaminants in a Wastewater-Dominated River." *Environ. Sci. Technol.* **40**(23), 7257-7263.
- 25) Schlenk, D., Sapozhnikova, Y., Irwin, M.A., Xie, L., Hwang, W., Reddy, S., Brownawell, B.J., Armstrong, J., Kelly, M., Montagne, D.E., Kolodziej, E.P., Sedlak, D.L., Snyder, S.A. 2005. "In Vivo Bioassay-guided Fractionation of Marine Sediment Extracts from the Southern California Bight, USA, for Estrogenic Activity." *Environ. Toxicol. Chem.*, **24**(11), 2820-2826.
- 26) Kolodziej E.P., Harter T.H., Sedlak D.L. 2004. "Dairy Wastewater, Aquaculture, and Spawning Fish as Sources of Steroid Hormones in the Aquatic Environment." *Environ. Sci. Technol.* **38**(23), 6377-6384.

- 27) Sedlak D.L., Pinkston K.L., Gray J.L. Kolodziej E.P. 2003. "Approaches for Quantifying the Attenuation of Wastewater-Derived Contaminants in the Aquatic Environment." *Chimia*. **57**(9), 567-569.
- 28) Kolodziej E.P., Gray J.L., Sedlak D.L. 2003. "Quantification of Steroid Hormones with Pheromonal Properties in Municipal Wastewater Effluent." *Environ. Toxicol. Chem.*, **22**(11), 2622-2629.

In Review or Preparation

- 29) Won, D., Salls, K.A., Gipe, A.D., Hiibel, S.R., Childress, A.E., Kolodziej E.P. "Treatment Performance of Direct Contact Membrane Distillation for Volatile, Semi-Volatile and Non-Volatile Organic Pollutants in Water." In review.
- 30) Yang, X., Zhao, N., Kolodziej E.P. "Sorption and Transport of Trenbolone and Altrenogest Photoproducts in Soil Columns." In preparation.
- 31) Kolodziej, E.P., Dickenson, E.R.V., Cook, B.B., Weirauch, V., Kimbrough, K., Wiley, P.E., Trent, J. D. "Advanced Municipal Wastewater Treatment Using an Algal Photobioreactor." In preparation.
- 32) Kenyon, P., Du, B., Kolodziej, E.P. "LC-MS/MS Analysis of Metastable Photohydration Products of Trienone and Dienone Steroidal Pharmaceuticals." In preparation.

PRESENTATIONS

- 1) Kolodziej, E.P., Du, B. Peter, K. "Suspect and Non-target Screening of Organic Contaminants in Highway Runoff." IWA DIPCON 2017. 18th Annual International conference on Diffuse Pollution and Eutrophication. Los Angeles, CA, August 14-15, 2017.
- 2) Kolodziej, E.P. "Evaluation of Organic Contaminant Impacts on Water Quality In Surface Waters of the Puget Sound Region" Invited Presentation. American Society of Civil Engineers, Water Resources Committee. Seattle, WA, June 15, 2017
- 3) Kolodziej, E.P. "Detection and Evaluation of Organic Contaminant Flows in the Puget Sound Region" UW Tacoma Faculty Research Lightning Round, Tacoma, WA. June 8, 2017
- 4) Kolodziej, E.P. "Our Chemical Fingerprints: Safer Water for Our Cities". Department of Civil and Environmental Engineering, University of Washington. Seattle, WA. June 1, 2017
- 5) Kolodziej, E.P. Du, B. Peter, K., Lofton, J. "Detection and Evaluation of Organic Contaminant Flows in the Puget Sound Region". Invited Presentation. NOAA Montlake Lab Monster Jam. Seattle, WA. May 18, 2017
- 6) Kolodziej, E.P. "Our Chemical Fingerprints: Safer Water for Our Cities". Invited Presentation. Washington Society for Professional Engineers. Seattle, WA. May 15, 2017
- 7) Kolodziej, E.P., Du, B. Peter, K., Lofton, J., McIntyre, J., Scholz, N., Baker J.E. "Suspect and Non-target Screening of Organic Contaminants in Stormwater Runoff and Exposed Fish" American Chemical Society National Meeting, San Francisco, CA, April 3, 2017.
- 8) Kolodziej, E.P. "Understanding Our Chemical Fingerprints on Water: Occurrence and Concerns for Our Contaminants". University of California, San Diego, School of Pharmacy, San Diego, CA. February 6, 2017.
- 9) Kolodziej, E.P. "Our Chemical Fingerprints: Safer Water for Our Cities". Invited Presentation. Grit City Think and Drink. The Swiss, Tacoma, WA. December 13, 2016
- 10) Kolodziej, E.P. "Understanding Water Quality: Chemicals in Water and Impacts on Ecosystems" UW Tacoma Environmental Science Seminar Series, Tacoma, WA. December 5, 2016
- 11) Kolodziej, E.P. "Our Chemical Fingerprints: Safer Water for Our Cities". Invited Presentation. UW College of Engineering 2016 Engineering Lecture Series: City Smarts: Engineering Resilient Communities. Seattle, WA. November 16, 2016
- 12) Du, Bowen, Kolodziej, E.P. Lofton, J.L. Baker, J.E. "Investigation Of Ecological Hazard Of Storm Water Runoff Using Quadrupole Time-Of-Flight Liquid Chromatography Tandem Mass

- Spectrometry.” Society of Environmental Toxicology and Chemistry National Meeting, Tampa Bay, FL, Nov. 10, 2016.
- 13) Kolodziej, E.P. “Emerging Contaminants in Our Waters: The State of the Science”. Invited Presentation. Northwest Toxics Community Coalition Annual Conference. Seattle, WA. October 22, 2016
 - 14) Kolodziej, E.P. Cwiertny, D.M., Ward, A. Jeffrey, C. Tate, K. “Water Quality Implications of Unique Transformation Processes of Synthetic Steroids Used as Agricultural Pharmaceuticals” U.S. Department of Agriculture Annual Project Directors Meeting. Washington D.C. October 13, 2016
 - 15) Du, Bowen, Kolodziej, E.P. “Target, Suspect, and Non-Target Screening of Organic Contaminants in Water and Fish Tissues.” NOAA-NMFS Montlake Lab. Seattle, WA, September 13, 2016.
 - 16) Cwiertny, D.M., Kolodziej, E.P. “Formation and Implications of Bioactive Steroid Products.” American Chemical Society National Meeting, Philadelphia, PA, August 23, 2016.
 - 17) Kolodziej, E.P., Du, B., Lofton, J., Baker, J.E. “Target, Suspect, and Non-Target Screening of Organic Contaminants in Water and Fish Tissue.” Poster. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH, June 26-July 1, 2016.
 - 18) Kolodziej, E.P. “Emerging Contaminants In Our Waters: The State of the Science.” Pacific Northwest WaterReuse Conference, Spokane, WA May 18, 2016.
 - 19) Kolodziej, E.P. “Potential Environmental Impacts of the NWIW Methanol Plant in Tacoma.” UWT Methanol Plant Information Seminar Series. UW-Tacoma, March 3, 2016.
 - 20) Kolodziej, E.P., Baker, J.B., Du, B. “Addressing the Challenge of Bioactive Contaminant Identification in Aquatic Systems Using LC/MS/QTOF.” PACIFICHEM 2015: The International Chemical Congress of Pacific Basin Societies. Honolulu HI, December 18, 2015.
 - 21) Cwiertny, D.M. Kolodziej, E.P. “Environmental Fate of Synthetic Growth Promoters in Animal Agriculture: Recent Trends and Remaining Challenges Amid Increasing Trends in Global Use.” PACIFICHEM 2015: The International Chemical Congress of Pacific Basin Societies. Honolulu HI, December 17, 2015.
 - 22) Kolodziej, E.P. “Linking Contaminant Structure to Bioactivity: Key Issues and Uncertainties for Environmental Health.” Invited presentation, Oregon Health & Science University, Institute of Environmental Health. November 20, 2015.
 - 23) Kolodziej, E.P. “Linking Contaminant Structure to Bioactivity: Key Issues and Uncertainties for Environmental Health” Invited presentation, Oregon State University, Department of Environmental and Molecular Toxicology. November 18, 2015.
 - 24) Cwiertny, D.M., Kolodziej, E.P. “Beyond Emerging Contaminants: Bioactive Transformation Products and Their Implications for Ecosystem Health” Society of Environmental Toxicology and Chemistry National Meeting, Salt Lake City, UT, Nov. 3, 2015.
 - 25) Wammer, K., Anderson, K.C., Erickson, P.R., Kliegman, S., McNeill, K., Martinovic-Weigelt, D., Cwiertny, D.M., Kolodziej, E.P. “Environmental Photochemistry of Altrenogest” Society of Environmental Toxicology and Chemistry National Meeting, Salt Lake City, UT, Nov. 4, 2015.
 - 26) Du, B., Baker, J.B., Kolodziej, E.P. “Investigation of Ecological Hazard of Stormwater Runoff using Quadrupole Time-Of-Flight Mass Spectrometry” Society of Environmental Toxicology and Chemistry National Meeting, Salt Lake City, UT, Nov. 4, 2015.
 - 27) Kolodziej, E.P. “Characterization and Environmental Implications of Pharmaceutical Transformation Products in Water” Invited presentation, “Environmental Analysis” Session, Beijing Conference and Exhibition on Instrumental Analysis, China National Convention Center, Beijing, China, October 29, 2015.
 - 28) Kolodziej, E.P. “Addressing the Challenge of Agricultural Pharmaceuticals and Bioactive Contaminants in Aquatic Systems.” Invited presentation, Pennsylvania State University, Department of Ecosystem Science and Management; Department of Agricultural and Biological Engineering. April 24, 2015.
 - 29) Baker, J., and Kolodziej, E.P. “Next Generation Design of Integrated Urban Water Systems.” National Science Foundation, Invited presentation, EFRI program, Washington D.C. March 11, 2015.

- 30) Kolodziej, E.P., Du, B. "Investigating Contaminant Fate and Environmental Risk of Synthetic Steroids Using Mass Spectrometry and Bioassays" Invited presentation, PittCon 2015, New Orleans, LA, March 9, 2015.
- 31) Kolodziej, E.P. "Trace Organic Contaminant Fate and Transport in the Aquatic Environment: Observations and Issues." Presentation to NOAA/NMFS Montlake Lab, Seattle, WA, February 27, 2015.
- 32) Kolodziej, E.P. "Trace Organic Contaminant Fate and Transport in the Aquatic Environment: Observations and Issues." Invited Presentation to USGS Water Science Center, Tacoma, WA, February 11, 2015.
- 33) Kolodziej, E.P. "Environmental Contaminants and Water Quality: What do we Need to Worry About?" Invited presentation, UW Graduate Seminar in Environmental Sciences. U. Washington, November 25, 2014.
- 34) Kolodziej, E.P., Cwiertny D.M. "The Implications of Structural Conservation During Environmental Transformations of Steroidal Pharmaceuticals" American Chemical Society National Meeting, San Francisco, CA, August 11, 2014.
- 35) Kolodziej, E.P. "Conserved Structure, Conserved Risk: Environmental Transformations of Steroidal Pharmaceuticals" Invited presentation, Gordon Research Conference, Environmental Sciences: Water. Holderness, NH, June 26, 2014.
- 36) Kolodziej, E.P. "The Implications of Structural Conservation During Environmental Transformations of Steroidal Pharmaceuticals" Invited presentation, session keynote. Canadian Society of Chemistry National Meeting, Vancouver, BC, June 5, 2014.
- 37) Song, T.; Kolodziej E.P., Hiibel, S., Childress, A.E. "Broad Spectrum Performance Characterization of Direct Contact Membrane Distillation for Drinking Water Treatment." 18th annual Water Reuse and Desalination Research Conference. Las Vegas, N.V. May 19, 2014.
- 38) Kolodziej, E.P. "Conserved Structure and Conserved Risk: Environmental Transformations of Steroidal Contaminants" Invited Presentation, ACS Regional Chapter, Reno NV. May 5, 2014
- 39) Kolodziej, E.P., Cwiertny, D.M., Qu, S. "Novel Transformations of Trenbolone Acetate Metabolites Suggest Incomplete Environmental Risk Assessment for Trenbolone." Invited presentation, American Geophysical Union National Meeting. San Francisco, CA, Dec. 11, 2013.
- 40) Brehm, C.C., Ward, A.S., Cwiertny, D.M., Kolodziej, E.P. "How does Product-To-Parent Reversion Affect the Transport and Fate of Trenbolone in Stream Networks?" Poster. Fall Undergraduate Research Festival, University of Iowa. Dec. 4, 2013.
- 41) Kolodziej, E.P., Cwiertny, D.M., Qu, S. "Novel Transformations of Trenbolone Acetate Metabolites Suggest Incomplete Environmental Risk Assessment for Trenbolone." Society of Environmental Toxicology and Chemistry National Meeting, Nashville, TN, Nov. 19, 2013.
- 42) Kolodziej, E.P., Sedlak, D.L., Harter, T., Jones, G.D., Cwiertny, D.M., Qu, S. "Animal Agriculture as a Source of Steroid Hormones: Insights and Critical Data Gaps." Poster. Society of Environmental Toxicology and Chemistry National Meeting, Nashville, TN, Nov. 19, 2013.
- 43) Jones, G.D., Tate, K.W., Kolodziej E.P. "Fate and Transport of Trenbolone Acetate Metabolites in Rangeland Runoff." Society of Environmental Toxicology and Chemistry National Meeting Nashville, TN, Nov. 18, 2013.
- 44) Kolodziej, E.P. "The Implications of Novel Transformations of Steroidal Pharmaceuticals for Endocrine Disruption and Environmental Risk Assessment." Invited presentation, Department of Civil and Environmental Engineering, Stanford University, Nov. 15, 2013.
- 45) Kolodziej, E.P. "In the Twilight of Trenbolone: The Vampire Steroid." Invited presentation, Hydrologic Sciences/Department of Civil and Environmental Engineering, University of Nevada Reno, Nov. 8, 2013.
- 46) Kolodziej, E.P. "In the Twilight of Trenbolone: The Vampire Steroid." Invited presentation, Environmental Science Graduate Program, Ohio State University, Sept. 6, 2013.
- 47) Qu, S., Kolodziej E.P., Cwiertny, D.M. "Reversible Photohydration of Dienone and Trienone Steroids." American Chemical Society (ACS) National Meeting. Indianapolis, IN, Sept. 11, 2013.

- 48) Qu, S., Kolodziej E.P., Cwiertny, D.M. "Photoproduct to Parent Reversion for Trenbolone Acetate Metabolites: An unrecognized Route to Endocrine Disruption in Agriculturally Impacted Surface Waters." C. Ellen Gonter Awards Symposium. American Chemical Society (ACS) National Meeting. Indianapolis, IN, Sept. 11, 2013.
- 49) Kolodziej, E.P., Cole, E.A., Kimbrough, K.C., Qu, S., Cwiertny, D.M. "Implications of Unique Transformation Pathways on the Environmental Fate of Synthetic Steroids used in Animal Agriculture." American Chemical Society (ACS) National Meeting. Indianapolis, IN, Sept. 9, 2013.
- 50) Kolodziej, E.P., Childress, A.E., Park, C., Hiibel, S.R., Krater, A.A., Vandadi, V., Bejarano, R., Song, T. "Contaminant Removal Using Membrane Distillation for Sustainable Drinking Water Treatment." EPA Project Directors Meeting, ICOSSE 2013, Cincinnati OH, August 13, 2012
- 51) Kolodziej, E.P., Cwiertny, D.M., Marchand, E.A., McBride, S., Cole, E.A., Qu, S. "The Role of Biotransformation, Photolysis, and Mineral Interactions on the Environmental Fate on Synthetic Growth Promoters Used in Animal Agriculture." Soil and Water Conservation Society Annual Conference, Reno, NV July 21-24, 2013.
- 52) Cole, E.A., McBride, S., Kolodziej, E.P. "Redox-Specific Biodegradation of Trenbolone Acetate Metabolites." Soil and Water Conservation Society Annual Conference, Reno, NV July 21-24, 2013.
- 53) Jones, G.D., Benchetler, P., Kolodziej, E.P. "Fate and Transport of Trenbolone Acetate Metabolites in Rangeland Runoff." Soil and Water Conservation Society Annual Conference, Reno, NV July 21-24, 2013.
- 54) Kolodziej, E.P. "Trenbolone Transport And Transformation: What Do We Know and What Do We Need To Know?" Invited presentation, Department of Civil and Environmental Engineering, University of Iowa, March 9, 2013.
- 55) Kolodziej, E.P. "Wastewater Treatment: A Role for OMEGA." Invited Presentation, Government Day, National Aeronautics and Space Administration OMEGA Project, Washington DC, September 13, 2012.
- 56) Kolodziej, E.P., Jones, G., Cole, E.A., Cwiertny, D.M. "Transport and Transformation of Androgenic Steroidal Growth Promoters Used in Animal Agriculture." Poster. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH, June 24-29, 2012.
- 57) Qu, S., Kolodziej E.P., Cwiertny, D.M. "Fate and Transport of Synthetic Growth Promoters Used in Animal Husbandry." Poster. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH, June 24-29, 2012.
- 58) Kolpin, D.W., Haack, S.K., Meyer, M.T., Alvarez, D.A., Duris, J.W., Focazio, M.J., Foreman, W.T., Gray, J.L., Schoenfuss, H.L., Kolodziej, E.P., Hubbard, L.E. "A National Assessment of Hormones in Streams Impacted by Livestock Production." 2012 AWRA Summer Specialty Conference, Denver, CO, June 25, 2012.
- 59) Kolodziej, E.P., Cwiertny, D.M., Marchand, E.A., Lee, J., Cole, E., Qu, S. "The Role of Biotransformation, Photolysis, and Mineral Interactions on the Environmental Fate of Synthetic Growth Promoters Used in Animal Agriculture." USDA 2012 Project Directors Meeting, Portland, OR, May 25, 2012.
- 60) Kolodziej, E.P., Jones, G.D., Popova, I.E., Bair, D.A., Parikh, S.J., Atwill, E.R., O'Geen, A.T., Tate, K.W. "Transport and Mitigation of Beef Cattle Veterinary Pharmaceuticals and Hormones." Poster. USDA Water and Watersheds Conference, Portland, OR, May 21-25, 2012.
- 61) Kolodziej E.P. "Sources, Transport, and Transformations of Endocrine Disrupting Steroid Hormones Derived From Animal Agriculture." Invited Presentation, Washington State University. April 9, 2012.
- 62) Forsgren, K.L., Qu, S., Kolodziej, E.P., Cwiertny, D.M.; Schlenk, D. "Trenbolone Metabolites and Degradates May Promote Ovarian Growth in Adult Medaka." Poster. SETAC National Meeting, Boston, MA, Nov. 13-17, 2011.
- 63) Kolodziej E.P. "Agricultural Sources and Transformation of Steroid Hormones in Receiving Waters." Invited Presentation, University of Missouri. Oct. 4, 2011.

- 64) Kolodziej, E.P., Cwiertny, D.M., Lee, J. "Role of Reduction-Oxidation State on the Degradation of Synthetic Growth Promoters." Invited Presentation, ACS National Meeting. Denver, CO, Aug. 28-Sept. 1, 2011.
- 65) Qu, S., Kolodziej E.P., Cwiertny, D.M. "Sorption and Mineral Promoted Transformation Pathways of Synthetic Growth Promoters in Soil Systems." ACS National Meeting. Denver, CO, Aug. 28-Sept. 1, 2011.
- 66) Cwiertny, D.M., Kolodziej, E.P., Qu, S. "Environmental Fate of Growth Promoters Used in Animal Agriculture." ACS National Meeting. Denver, CO, Aug. 28-Sept. 1, 2011.
- 67) McBride, S., Kolodziej, E.P. "Determination of Sorption Mechanisms for 17 β -Trenbolone." Poster. UROP Summer Student Research Conference. Aug. 11, 2011.
- 68) Kolodziej, E.P. Cwiertny, D.M., Marchand, E.A. "Environmental Fate of Synthetic Growth Promoters Used in Animal Agriculture." Poster. USDA 2011 Project Directors Meeting, Washington D.C., Feb 2, 2011.
- 69) Kolodziej, E.P., Tate, K.W., Jones G., Atwill, R., O'Geen, T. "Transport and Mitigation of Beef Cattle Veterinary Pharmaceuticals in Surface and Subsurface Runoff From Grazed Watersheds" Poster. USDA 2011 Project Directors Meeting, Washington D.C., Feb 2, 2011.
- 70) Qu, S., Kolodziej, E.P., Cwiertny, D.M. "Phototransformation of Synthetic Growth Promoters Used in Animal Agriculture: Implications for the Fate of Promoters and Metabolites in Surface Waters. Invited Presentation, SETAC National Meeting, Portland, OR, Nov. 9, 2010.
- 71) Kover, S.C., Kolodziej, E.P. "Occurrence of Trenbolone Acetate Metabolites in Beef CAFO Soils." Poster. Student World Water Forum, Reno, NV, Nov. 18-19, 2010.
- 72) Webster, J.P., Kover, S.C., Kolodziej, E.P. "Occurrence of Trenbolone Acetate Metabolites in Simulated Beef Feedlot Runoff." Invited Presentation, SETAC National Meeting, Portland, OR, Nov. 9, 2010.
- 73) Kolodziej E.P. "Analytical Challenges of Trace Organics Quantification." Invited Presentation, NIST Emerging Contaminants Workshop, Falls Church, VA, Sept. 9, 2010.
- 74) Kover, S.C., Kolodziej, E.P. "Occurrence of Trenbolone Acetate Metabolites in Beef CAFO Soils." Poster. August 2010, UNR EPSCOR Summer Research Conference.
- 75) Kolodziej, E.P., Parker, J., Webster, J.P. "Gas Chromatography-Tandem Mass Spectrometry Analysis of Growth Promoting Synthetic Steroid Hormones in Environmental Matrices." Invited Presentation, SETAC National Meeting, New Orleans, LA, Nov. 22, 2009.
- 76) Vaughn, R.L., Kolodziej, E.P. "Biodegradable Dissolved Organic Carbon and its Effect on the Removal of Pharmaceuticals and Personal Care Products in Wastewater Treatment Plant Effluent" Poster. August 2009, UNR EPSCOR Summer Research Conference.
- 77) Kolodziej E.P., Sedlak, D.L. "Transport and Transformation of Steroid Hormones at Beef and Dairy CAFOs" EPA STAR Progress Review Meeting, Tampa Bay, FL, November 16, 2008.
- 78) Kolodziej E.P. "Solid-Phase Extraction-Gas Chromatography-Tandem Mass Spectrometry Analysis of the Anabolic Steroid 17 β -Trenbolone." Invited Presentation. SETAC National Meeting, Tampa Bay, FL, November 17, 2008.
- 79) Kolodziej E.P. "Overview of Pharmaceuticals and Personal Care Products" Invited Presentation, CA-NV AWWA Annual Fall Conference, October 21, 2008.
- 80) Webster, J.P., Kolodziej, E.P. "Analytical Method Development for the Determination of the Synthetic Androgen 17 β -Trenbolone in Surface Water." Poster. August 2008, UNR EPSCOR Summer Research Conference.
- 81) Kolodziej, E.P., Parker, J., Webster, J.P. "Solid Phase Extraction-Gas Chromatography-Tandem Mass Spectrometry Analysis of the Anabolic Steroid 17 β -Trenbolone", Poster. Gordon Research Conference, Holderness, NH, June 24, 2008.
- 82) Kolodziej E.P. "Steroid Hormone Occurrence, Fate, and Transport in Northern California's Watersheds." Invited presentation, University of California, Riverside, April 4, 2008.

- 83) Kolodziej E.P. "Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture." Plenary Speaker, Water and The Future of Kansas Conference, Topeka, Kansas, March 25, 2008.
- 84) Kolodziej E.P. "Steroid Hormone Occurrence, Fate, and Transport in Northern California's Watersheds." Invited Presentation, University of California, Davis, March 17, 2008.
- 85) Kolodziej E.P. "The Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture." Invited presentation, American Water Resources Association Specialty Conference, Vail, CO, June 25-27, 2007.
- 86) Kolodziej E.P. "The Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture." Invited presentation, United States Geological Service Seminar, Denver, CO, June 28, 2007.
- 87) Kolodziej E.P., Sedlak, D.L. "Agricultural Sources of Steroid Hormones in Surface Waters." CALFED Science Conference, Sacramento, CA, October 23-25, 2006.
- 88) Kolodziej E.P., Sedlak, D.L. "Grazing Rangelands as Sources of Steroid Hormones." Poster. Gordon Research Conference, Environmental Sciences: Water, Holderness, NH, June 25-30, 2006.
- 89) Kolodziej E.P., Sedlak, D.L. "The Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture." Poster. Society of Environmental Toxicology and Chemistry 26th annual meeting, Baltimore, MD, November 13-17, 2005.
- 90) Kolodziej E.P., Sedlak, D.L. "Occurrence and Fate of Steroid Hormones with Pheromonal Properties in Northern California." Poster. Gordon Research Conference, Environmental Sciences: Water, Holderness, NH, June 27-July 2, 2004.
- 91) Kolodziej E.P., Sedlak, D.L. "Occurrence and Fate of Steroid Hormones in Northern California." Invited presentation, Northern California Chapter of the Society of Environmental Toxicology and Chemistry 14th annual meeting, Davis, CA, May 12, 2004.
-1st Place award for Best Student Presentation.
- 92) Kolodziej E.P., Sedlak, D.L. "Moving Beyond Estrogen: Occurrence and Fate of Androgens, Estrogens, and Progestins from Anthropogenic Sources." Invited presentation, American Institute of Chemical Engineers 2003 annual meeting, San Francisco, CA, November 16-21, 2003.

RESEARCH GROUP AND STUDENT ADVISING

Post-Doctoral Scholars: 1) Katherine Peter (CUW/UW) 12/2016-Present
2) Bowen Du (CUW/UW) 12/2014-06/2017

Ph.D. Students (UW): 1) Haoqi (Nina) Zhao 9/2016 - Present
2) Xingjian Yang 9/2015-10/2016.

Differential Transport of Photoactive, Metastable Steroids in Soil-Water Systems. One year visiting PhD student, UW VISIT program.

Ph.D. Students (UNR): 1) Gerrad Jones 1/2010 - 1/2014

Dissertation: The Environmental Fate and Transport of Trenbolone Acetate Metabolites in Agro-Ecosystems. Currently: Assistant Professor, Department of Biological and Ecological Engineering, Oregon State University. Post-Doctoral Scholar (Dr. Lenny Winkel), Swiss Federal Institute of Technology, ETH, Zurich.

M.S. Students (UW): 1) Philip Kenyon, 1/2014 – 12/2015
2) Danbi Won, 12/2015-03/2017

M.S. Students (UNR): 1) Jed Parker, 1/2008 - 5/2009.
2) Silas Callahan, 1/2008 - 8/2010.

- 3) Jackson Webster, 1/2009 - 12/2010.
- 4) Wenjun Du, 1/2010 - 8/2011.
- 5) Jaewoong Lee, 6/2010 - 12/2011.
- 6) Emily Cole, 10/2011 to 12/2013.
- 7) Philip Benedetti, 1/2013-1/2015
- 8) Philip Kenyon, 1/2014 -6/2014
- 9) Tianlin Song, 1/2013 -7/2014

Undergraduate Students Participating in Funded Research (UW)

- 1) Jordan Williams UWT SAM
- 2) Christopher Wu, UWT SAM
- 3) Peter Lim, UWT SAM
- 4) Nicole Smith, UWT SAM
- 5) Don Rollalazo, UWT SAM
- 6) Harpreet Kang, UW CEE
- 7) Samantha Randall, UW CEE
- 8) Jonathan Lofton, UWT CUW
- 9) Esther Chang, UW CEE

Undergraduate Students Participating in Funded Research (UNR):

- | | | |
|----------------------|-------------------------|---------------------------|
| 1) Jackson Webster | 2) Doug Holderman, | 3) Collin Emmerson |
| 4) Jonathan Ebert | 5) Robert (Alex) Vaughn | 6) Stephanie Kover |
| 7) Melissa DeVera | 8) Samantha McBride | 9) Claire Johnson |
| 10) Peter Benchetler | 11) Kaitlin Kimbrough | 12) Emily Ruskowitz |
| 13) Jasmine Miller | 14) Rachel Weber | 15) Tatum Demay (NSF REU) |

Graduate Student Committee Member (UNR):

- | | | |
|----------------------------|---------------------------|----------------------------|
| 1) Jazmin Aravena (Ph.D.), | 2) Nalelli Herrera (M.S.) | 3) Miranda Hutton (M.S.) |
| 4) Winn Wilson (M.S.) | 5) Alissa Backman (Ph.D.) | 6) Sanjeev Ryaprolu (M.S.) |

FUNDED RESEARCH

- 1) Treatment Media for Control of Persistent Organic Pollutants and Metals in Stormwater. SERDP Stormwater-Sediment Recontamination Statement of Need. PI Dr. Birthe Kjellerup, U. Maryland. Co-Investigators. Dr. Allen Davis (U. Maryland); Dr. Marc Mills (EPA); Dr. Mandy Michaelson (US Army COE); Dr. Edward P. Kolodziej, University of Washington (Tacoma/Seattle). Total Award \$1,340,000. Kolodziej Lab: \$187,666. 5/1/2018 - 1/31/2021.
- 2) Assessment of Hyporheic Zone Water Quality in Thornton Creek. Seattle Public Utilities. PI. Dr. Edward Kolodziej, U. of Washington (Tacoma/Seattle). \$20,000. 9/1/2017-12/31/2017.
- 3) Stormwater Chemical Characterization and Watershed Prioritization. Near Term Action (NTA). WA Department of Ecology/EPA National Estuary Program. PI Dr. Edward Kolodziej, University of Washington (Tacoma/Seattle), Center for Urban Waters. Total Award \$232,000. 4/1/2017-3/31/2019.
- 4) Identification and Treatment of Toxicants in Highway Runoff Using Green Stormwater Infrastructure and Bioassays. WA Department of Transportation, Federal Highway Administration. PI Team: Dr. Jenifer McIntyre (WSU-Puyallup Stormwater Research Center), Dr. Nathaniel Scholz (NOAA-NMFS Montlake Lab), Dr. Edward Kolodziej University of Washington (Tacoma/Seattle). Total Award \$176,000 Kolodziej Lab: \$69,099. 11/1/2016 - 9/30/2017.
- 5) Collaborative Research: Integrated In Silico and Non-Target Analytical Framework for High Throughput Prioritization of Bioactive Transformation Products. National Science Foundation. Team: Dr. David Cwiertny, University of Iowa; Dr. Edward P. Kolodziej, University of Washington

- (Tacoma/Seattle); Dr. Ruben Abagyan, University of California, San Diego; Dr. Eric Patterson, SUNY-Stonybrook. Total Award \$696,000. Kolodziej Lab: \$156,000. 9/1/2016 - 8/31/2019.
- 6) Reversible Photohydration in Diene and Triene Steroids: A Mechanism for Unexpected Persistence of Unique, Biologically Active Contaminants. National Science Foundation. PI: Dr. David Cwiertny, University of Iowa. Co-Investigators: Dr. Edward P. Kolodziej, University of Washington; Dr. P. Lee Ferguson, Duke University, Dr. Kristine H. Wammer, University of St. Thomas. Dr. Christopher Jeffrey, University of Nevada, Reno. Total Award \$394,746. Kolodziej Lab: \$118,281. 9/1/2013 - 8/31/2016.
 - 7) Water Quality Implications of Unique Transformation Processes of Synthetic Steroids Used as Agricultural Pharmaceuticals. USDA Agriculture and Food Research Initiative; Water and Watersheds Program. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Co-Investigators: Dr. David Cwiertny, U. Iowa; Dr. Adam Ward, U. Iowa; Dr. Chris Jeffrey, University of Nevada, Reno; Dr. Ken Tate, University of California, Davis. Total Award: \$500,000. UNR Award: \$262,076. 9/1/2013 – 8/31/2016.
 - 8) NSF EPSCOR: Collaborative Research: The Western Consortium For Watershed Analysis, Visualization, and Exploration (WC-WAVE). National Science Foundation. PI Dr. Gayle Dana. Co-Investigators (NV Only): Dr. Sajjad Ahmed, Dr. Fred Harris, Dr. Scott Tyler, Dr. Tom Jackman, Dr. Edward Kolodziej, Dr Sergio Dasculu, Dr. Lynn Fenstermaker, Dr. Laurel Saito, Dr. Stephen Haroon. Total NV Award: \$2,000,000. Kolodziej/Tyler Award: \$104,273. 8/1/2013 – 7/31/2016.
 - 9) Contaminant Removal Using Membrane Distillation for Sustainable Drinking Water Treatment. Environmental Protection Agency Science to Achieve Results (STAR) Program. PI: Dr. Amy Childress, University of Nevada, Reno. Co-Investigators: Dr. Edward P. Kolodziej, University of Nevada, Reno; Dr. Chanwoo Park, University of Nevada, Reno. Total Award \$499,743. Kolodziej Lab: \$166,581. 8/1/2012 - 7/31/2015.
 - 10) In Season Insecticide Control of Naval Orangeworm, Assessment of Application Coverage and Relative Environmental Stability of Insecticides: Fungal Metabolism on Nut Hulls. USDA/CA Almond Board. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Total Award \$58,959. 2/2013 - 12/2014.
 - 11) OMEGA Biofuels Wastewater Derived Organic Contaminants Assessment. National Aeronautics and Space Administration. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Total Award \$32,807. 4/2012 - 5/2012.
 - 12) Environmental Fate of Synthetic Growth Promoters Used in Animal Agriculture: Mechanistic Studies of Hormone Photolysis, Biodegradation and Sorption in Natural Systems. USDA Agriculture and Food Research Initiative; Water and Watersheds Program. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Co-Investigators: Dr. David Cwiertny, U. Iowa; Dr. Eric Marchand, University of Nevada, Reno. Total Award: \$399,945. UNR Award: \$206,990. 1/1/2010 – 12/31/2012.
 - 13) Transport and Mitigation of Beef Cattle Veterinary Pharmaceuticals and Hormones in Surface and Sub-surface Runoff from Grazed Watersheds. USDA Agriculture and Food Research Initiative; Water and Watersheds Program. PI: Dr. Ken Tate, UC Davis. Co-Investigators: Dr. Edward P. Kolodziej, University of Nevada, Reno; Dr. Robert Atwill, UC Davis; Dr. Arthur Craigmill, UC Davis; Dr. Toby O’Geen, UC Davis; Dr. Dirk Holstege, UC Davis. Total Award: \$399,809. UNR Award: \$141,041. 11/1/2009 – 10/31/2012.
 - 14) Transport and Transformation of Natural and Synthetic Steroid Hormones at Beef Cattle and Dairy Concentrated Animal Feeding Operations. Environmental Protection Agency Science to Achieve Results (STAR) Program. PI: Dr. David Sedlak, UC Berkeley. Co-Investigators: Dr. Edward P. Kolodziej, University of Nevada, Reno; Dr. Thomas Harter, UC Davis. Total Award \$698,103. UNR Award: \$210,360. 10/1/2007 – 9/30/2011.
 - 15) Assessment and Optimization of Aquifer Recharge and Recovery Systems for the Removal of Trace Organic Contaminants. City of Reno, Nevada. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Total Award: \$138,974. 10/1/2008 - 12/31/2010.

- 16) Proposal for a Literature Review and Comment on Endocrine Disruptors and the Truckee River. City of Reno, Nevada. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Total Award: \$9,372. 10/1/2007 – 9/30/2008.
- 17) Junior Faculty Research Grant: Analysis of Synthetic Steroid Hormones used as Growth Promoters in Beef Cattle. University of Nevada, Reno. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Total Award: \$14,850. 5/1/2007 – 4/30/2009.

Student Directed Research and Mentoring

- 1) Faculty Mentor: EPSCOR Summer Research Award, Undergraduate Student, Kaitlin Kimbrough. Anaerobic Biodegradation of Water Quality Contaminants. Summer 2013, Total award: \$5500.
- 2) Faculty Mentor: GURA Undergraduate Research Award, Undergraduate Student, Peter Benchetler. 2013-2014. Total Award: \$1,200.
- 3) Faculty Mentor: EPSCOR Summer Research Award, Undergraduate Student, Peter Benchetler. Riparian Buffer Strip Efficiency in Removal Of Contaminants From Agricultural Runoff. Summer 2012. Total Award: \$5,500.
- 4) Faculty Mentor: EPSCOR Summer Research Award, Undergraduate Student, Samantha McBride. Manipulation of Redox States Applied to Wastewater Treatment. Summer 2011. Total Award: \$5,500.
- 5) Faculty Mentor: GURA Undergraduate Research Award, Undergraduate Student, Stephanie Kover. 2010-2011. Total Award: \$1,200.
- 6) Faculty Mentor: EPSCOR Summer Research Award, Undergraduate Student, Stephanie Kover. Fate and Transport Studies of Synthetic Growth Hormones with Adverse Effects on Water Quality. Summer 2010. Total Award: \$5,500.
-2011 Undergraduate Student Award In Environmental Chemistry, American Chemical Society.
- 7) Faculty Mentor: EPSCOR Summer Research Award, Undergraduate Student, Robert (Alex) Vaughn. Biological Dissolved Organic Carbon and its Effect on the Removal of Pharmaceuticals and Personal Care Products in Wastewater Treatment Plant Effluent. Summer 2009. Total Award: \$5,500.
- 8) Faculty Mentor: EPSCOR/General Undergraduate Research Award, Undergraduate Student, Jackson Webster. Analysis of Endocrine Disrupting Chemicals in Surface Water. Summer and Fall 2008 Semesters. Total Award: \$5,981

SERVICE

Professional:

- Invited Session Facilitator and Contributor: “Contaminants in the Food Web” session, Southern Resident Killer Whale Symposium and Workshop. Sponsored by Environment Canada. Vancouver, BC October 10-12, 2017.
- NWRI (National Water Research Institute) Experts Panel for LOTT Clean Water Alliance, Olympia, WA. Invited. 2017-present
- Puget Sound Clean Cars Stormwater Partnership Working Group. Invited. 2017-present
- Conference Session Co-Chair/Organizer: “Integrated Tools For Improving Environmental Fate And Risk Assessment For Unregulated Contaminants And Their Mixtures” Society of Environmental Toxicology and Chemistry National Meeting, Minneapolis, MN, November 12-16, 2017
- Science Committee, The 18th IWA International Conference on Diffuse Pollution and Eutrophication. Los Angeles CA, August 13-17, 2017. Invited. 2016-2017
- Member at Large (Academic), PNW Chapter of Society for Environmental Toxicology and Chemistry (PNW-SETAC), Regionally elected leadership position. 2017-present.
- Conference Session Co-Chair/Organizer: “Endocrine Disrupting Compounds and Pharmaceuticals in the Environment” Society of Environmental Toxicology and Chemistry National Meeting, Tampa Bay, FL, November 5-10, 2016

- Associate Editor, *Environmental Science: Processes and Impacts*, August 2014-present
- Associate Editor, *Critical Reviews in Environmental Science and Technology*, 2012-2015
- Member at Large, ACS Division of Environmental Chemistry, Nationally elected leadership position. 2013-2015.
- Faculty Mentor and Senior Discussion Leader, 2012 Gordon Research Seminar, Environmental Sciences: Water. "Processes in Ecosystems" Session.
- Adjunct Faculty, UNR Graduate Program in Hydrologic Sciences, 2012-2014
- Member, AWWA Organic Contaminants Research Committee, 2011-2013
- Project Advisory Committee, Water Research Foundation Project #4334
- AAESP Student Award Committee, 2013-2015
- Conference Session Co-Chair/Organizer: "Frontiers in Water Reuse: Detection, Advanced Treatment, and Environmental Fate." ACS National Conference, Salt Lake City 2009.
- NSF Proposal Review panels: 2009, 2010, 2012, 2017
- External Reviewer: UIUC, MIT, CUNY, AOAC, EPA, USGS, USDA
- Journal Peer Review: *Environmental Science and Technology*, *Environmental Sciences: Processes and Impacts*, *Environmental Pollution*, *Environmental Toxicology and Chemistry*, *Critical Reviews in Environmental Science and Technology*, *Journal of Chromatography, A*, *Journal of Environmental Quality*, *Water Resources Research*, *Aquatic Toxicology*, *Science of the Total Environment*, *Journal of Chemical Ecology*

Institutional:

- UW-Tacoma: Panelist, NSF Day, 10/06/17
- UW-Tacoma: Tenure Committee Chair, Dr. John Finke, 2017
- UW Tacoma: Faculty Advisor, UWT student chapter of the Environmental Science Association 10/17-present
- UW-Tacoma: Search Committee - Tenure Track Faculty, Mathematics, UWT SAM, 2016-2017
- UW-Seattle: Search Committee Co-Chair - Tenure Track Faculty, Environmental Engineering, UW CEE, 2016-2017
- UW-Tacoma: Faculty Development Committee, 2017-present
- UW-Tacoma: SAM Leadership Committee, 2016-present
- UW-Tacoma/Seattle: Co-Organizer, "Critical Data Needs in Freshwater Research" Workshop, October 27, 2016. Regional water workshop, 135 attendees.
- UW-Seattle: Freshwater Initiative; Mountain to Sound Steering Committee, 2015-present
- UW-Tacoma: M.S. Degree in Environmental Science Committee Chair, 2015-present
- UW CEE, Environmental Engineering B.S. Degree Development Committee, 2015
- UNR: CEE Search Committees, Geotechnical, Environmental Engineering Faculty Positions
- UNR: COE Search Committee, Instructional Designer
- UNR: CEE Website Committee
- UNR: CEE Undergraduate Committee
- UNR: CEE Curriculum Assessment and Revision Committee
- UNR: CEE Strategic Planning Committee
- UNR: Academy for the Environment Steering Committee
- Supervisor, CEE Laboratory Technician
- UNR Internal Reviewer, EPSCOR undergraduate research proposals
- Judge, 2010, 2011, 2012 Student World Water Forum

PROFESSIONAL SOCIETY MEMBERSHIPS

- Association of Environmental Engineering Science Professors
- American Chemical Society
- Society for Environmental Toxicology and Chemistry
- Water Environment Federation

-Soil and Water Conservation Society

TEACHING PORTFOLIO

UW Tacoma: TESC 201: The Science of Sustainability
TESC 333: Environmental Chemistry

UW Seattle: CEE 498/598: Environmental Analyses

UNR: CEE 204/390: Introduction to Environmental Engineering.
CEE 417/617: Introduction to Environmental Quality and Analysis.
CEE 458/658: Fundamentals of Environmental Chemistry.
CEE 756: Environmental Chemistry. (Graduate Course)
CEE 771: Anthropogenic Contaminants in the Environment. (Graduate Course)

AWARDS AND HONORS

-Keynote Speaker, 6th International Conference on Emerging Contaminants (EmCon 2018), Oslo Norway
-Invited Speaker, 2014 Gordon Research Conference, Environmental Sciences: Water
-Exceptional Reviewers of 2014 Award, *Environmental Toxicology and Chemistry*
-Excellence in Review Award, 2012, *Environmental Science and Technology*
-College of Engineering 2011 Senior Scholar Faculty Mentor, Stephanie Kover

SELECTED MEDIA LINKS

Science: <http://www.sciencemag.org/content/341/6153/1441.full>
Nature: <http://www.nature.com/news/hormone-disruptors-rise-from-the-dead-1.13831>
U.S. News and World Report: <http://health.usnews.com/health-news/news/articles/2013/09/26/evidence-shows-steroid-used-in-livestock-can-impact-waterways>
Scientific American: <http://www.scientificamerican.com/article.cfm?id=hormone-disruptors-rise-from-the-dead-like-zombies>
Science Daily: <http://www.sciencedaily.com/releases/2013/09/130926142829.htm>
Chemistry World (Royal Society of Chemistry): <http://www.rsc.org/chemistryworld/2013/09/night-nearly-dead-steroid-trenbolone-acetate>
Chemical and Engineering News: <http://cen.acs.org/articles/91/i39/Growth-Hormones-Knack-Regenerating.html>
Yahoo Health News: <http://health.yahoo.net/articles/healthcare/vampire-steroid-may-haunt-us-rivers-and-streams>
Phys.org: <http://phys.org/news/2013-09-steroids-persist-longer-environment.html>
Huffington Post: http://www.huffingtonpost.com/andrew-gunther/industry-assurances-over-b_4039594.html
Huffington Post: http://www.huffingtonpost.com/andrew-gunther/big-ags-gifts-for-2013_b_4493687.html
The Scientist: <http://www.the-scientist.com/?articles.view/articleNo/37702/title/Steroids-Stick-Around/>
National Science Foundation, "Science360", 9/30/2013 News: <http://news.science360.gov/files/>
ACS "Molecule of the Week" 12/30/2013: <http://www.acs.org/content/acs/en/molecule-of-the-week/archive/trenbolone.html>

Twitter links:

<https://twitter.com/Healthline/status/383459992193343488>
<http://inagist.com/all/383486732064129024/>
<http://t.co/zIfuj8Qm1>

Facebook, IFLS, 9/26/2013: (~6000 likes, 300 comments)

<https://www.facebook.com/IFeakingLoveScience#!/photo.php?fbid=673860729301608&set=a.456449604376056.98921.367116489976035&type=1&theater>

Radio: BBC “Inside Science” on 10/03/2013: <http://www.bbc.co.uk/programmes/b03bs0z6>

Podcast: *Environmental Science & Technology*, Oct 21, 2014.

<http://pubs.acs.org/page/esthag/multimedia/index.html>