

EDWARD P. KOLODZIEJ

Curriculum Vitae

Interdisciplinary Arts and Sciences (UW Tacoma)
Department of Civil and Environmental Engineering (UW Seattle)
Center for Urban Waters (Tacoma, WA)
University of Washington
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Tacoma, WA 98402

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EDUCATION

University of California, Berkeley. Berkeley, CA
Ph.D., Environmental Engineering Dec. 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. Berkeley, CA
M.S., with honors in Environmental Engineering May 1999

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

EMPLOYMENT

University of Washington. Tacoma/Seattle, WA
Allan and Inger Osberg Professor 2024-present
Joint Appointment across Tacoma (67%) and Seattle (33%) campuses Sept. 2014 – Present
Professor (2022+)/Associate Prof. (2014-2022), Interdisciplinary Arts and Sciences (UW Tacoma)
Professor (2022+)/Associate Prof. (2014-2022), Dept. of Civil and Environmental Eng. (UW Seattle)
Principal Investigator, Center for Urban Waters

Research expertise includes the occurrence, fate and transport of organic contaminants in natural and engineered systems, characterization of storm water and non-point source pollution, impacts of tire rubber pollution on the environment, toxicity identification and evaluation, source apportionment, water reuse, optimization of engineered treatment systems, mitigation of contaminants in urban and agricultural runoff, transformations and retained bioactivity of emerging contaminants, high resolution mass spectrometry, environmental analytical chemistry, and protection of ecosystem health.

University of Nevada, Reno, Reno, NV
Assistant/Associate Professor, Dept. of Civil and Environmental Eng. Jan. 2007 – Aug. 2014

Research expertise includes the occurrence, fate and transport of contaminants in natural and engineered systems, optimization of engineered water reuse and groundwater recharge systems, mitigation of contaminants in agricultural runoff, transformations of endocrine disruptors and other emerging contaminants, analytical method development, innovative technologies for water treatment.

University of California, Berkeley, Berkeley, CA
Post-Doctoral Scholar; CALFED Project Manager Jan. 2005 – Dec. 2006

Research focused on the fate and occurrence of endocrine disrupting compounds and characterizing non-point source pollution at regional scales and in agricultural watersheds.

AWARDS AND HONORS

U.S. National Champion, [2023 Frontier Planet Prize](#)
2022 Seattle Aquarium Conservation Research Award (awarded to Dr. Zhenyu Tian and all Co-authors of Tian et al. 2021, *Science*)
Excellence in Review Award, 2021, *Environmental Science and Technology Letters*
California Stormwater Quality Association-2021 Outstanding Research Award (EPK and JKM)
Distinguished Research Award (2020), University of Washington-Tacoma
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*
UNR College of Engineering 2011 Senior Scholar Faculty Mentor, Stephanie Kover

PUBLICATIONS

ORCID ID# 0000-0002-7968-4198, *H-index 30, i-10 45, ~4334 citations (10/2024) from Google Scholar*
Kolodziej Group: ¹Undergraduate students; ²Graduate students; ³Post-doctoral scholars

- 1) Kralles, Z.T., Deheriker, P.K., Werner, C.A., ²Hu, X.M., Kolodziej, E.P., Dai, N. 2024. “Halogenation of Anilines: Formation of Haloacetonitriles and Large-Molecule Disinfection Byproducts”. *Environ. Sci. Technol.* **57**(14) 5621-5632. In Press. DOI: 10.1021/acs.est.4c05434
Citations: 0 Contributions: study design and interpretation
- 2) Peter, K.T., Gilbreath, A., Gonzalez, M.G., ³Tian, Z., Wong, A., Yee, D., Miller, E.L., Avellaneda, P., Chen, D., Patterson, A., Fitzgerald, N., Higgins, C.P., Kolodziej E.P., Sutton, R. “Storms Mobilize Organophosphate Esters, Bisphenols, PFAS, and Vehicle-Derived Contaminants to San Francisco Bay Watersheds.” *Environ. Sci. Proc. Impacts*. In press. DOI: 10.1039/d4em00117f
Citations: 0 Contributions: study design, data analysis, writing
- 3) Mayer, P.M., et al. 2024. “Where the Rubber Meets the Road: Emerging Environmental Impacts of Tire Wear Particles and Their Chemical Cocktails.” *Sci. Tot. Environ.* **927**, 171153. DOI:10.1016/j.scitotenv.2024.171153
Citations: 9 Contributions: writing
- 4) Halama, J.J., McKane, R.B., Barnhart, B, L., Pettus, P.P., Brookes, A.F., Adams, A.K., Gockel, C.K., Djang, K.S., Phan, V., Chokshi, S.M., Graham, J.J., ³Tian, Z., Peter, K.T., Kolodziej, E.P. 2024. “Watershed Analysis of Urban Stormwater Contaminant 6PPD-Quinone Hotspots and Stream Concentrations Using a Process Based Ecohydrological Model.” *Frontiers in Environ. Sci.* **12**, 1364673. DOI:10.3389/fenvs.2024.1364673
Citations: 1 Contributions: study design, writing
- 5) ²Hu, X., Mar, D., Suzuki, N., Zhang, B., Peter, K.T., Beck, D.A.C., Kolodziej, E.P. 2023. “Mass-Suite: A Novel Open-source Python Package for High Resolution Mass Spectrometry Data Analysis.” *J. ChemoInformatics.* **15**:87. DOI:10.1186/s13321-023-00741-9
Citations: 2 Contributions: Corresponding author, project lead, funding, writing
- 6) Duchet, C., ²Hou, F., Sinclair, C.A., ³Tian, Z., Kraft, A., Kolar, V., Kolodziej, E.P., McIntyre, J.K., Stark, J. 2023. “Neonictinoid Mixture Alters Trophic Interactions in a Freshwater Aquatic Invertebrate Community.” *Sci. Tot. Environ.* **897**, 165419. DOI:10.1016/j.scitotenv.2023.165419
Citations: 7 Contributions: study design, writing
- 7) ²Hu, X., ²Zhao, H., ³Tian, Z., Peter K.T., Dodd, M.D., Kolodziej, E.P. 2023. “Chemical Characteristics, Leaching, and Stability of the Ubiquitous Tire Rubber Toxicant 6PPD-Quinone” *Environ. Sci. Proc. Impacts.* **25**(5), 901-911. DOI:10.1039/D3EM00047H
Citations: 31 Contributions: Corresponding author, project lead, funding, study design, writing

8) Mehinto, A.C., Du, B., Wenger, E., ³Tian, Z., Kolodziej, E.P., Apeti, D., Maruya, K.A. 2023. “Bioanalytical and Non-Target Mass Spectrometric Screening for Contaminants of Emerging Concern in Southern California Bight Sediments.” *Chemosphere*. **331**, 138789. DOI:10.1016/j.chemosphere.2023.138789\

Citations: 1 Contributions: editing, study design

9) ²Zhao, H., ²Hu, X., ³Tian, Z., Gonzalez, M., Rideout C.A., Peter K.T., Dodd, M.D., Kolodziej, E.P. 2023. “Transformation Products of Tire Rubber Antioxidant 6PPD in Heterogeneous Gas-Phase Ozonation: Identification and Environmental Occurrence.” *Environ. Sci. Technol.* **57**(14) 5621-5632. DOI: 10.1021/acs.est.2c08690

Citations: 44 Contributions: Co-corresponding author, project co-lead, funding, study design, writing

10) ²Zhao, H., ²Hu, X., Gonzalez, M., Rideout, C.A., Hobby, G.C., Fisher, M.F., McCormick, C.J., Dodd, M.D., Kim, K.E., ³Tian, Z., Kolodziej, E.P. 2023. “Screening p-Phenylenediamine Antioxidants, Their Transformation Products, and Industrial Chemical Additives in Crumb Rubber and Elastomeric Consumer Products.” *Environ. Sci. Technol.* **57**(7) 2779-2791. DOI: 10.1021/acs.est.2c07014

Citations: 51 Contributions: Corresponding author, project lead, funding, study design, writing

11) ²Tang, T, Kolodziej, E.P. 2022. “Sorption and Desorption of Urban Stormwater-Derived Organic Contaminants in Soils.” *ACS ES&T Water*. **12**(2) 2623-2633. DOI:10.1021/acsestwater.2c00380

Citations: 5 Contributions: Corresponding author, project lead, funding, study design, writing

12) ²Hu, X., ³Zhao, H., ³Tian, Z., Peter K.T., Dodd, M.D., Kolodziej, E.P. 2022. “Transformation Product Formation Upon Heterogeneous Ozonation of the Tire Rubber Antioxidant 6PPD (*N*-(1,3-dimethylbutyl)-*N'*-phenyl-*p*-phenylenediamine).” *Environ. Sci. Technol. Letters*. **9**(5) 413-419. DOI: 10.1021/acs.estlett.2c00187.

Citations: 71 Contributions: Corresponding author, project lead, funding, study design, writing

13) Peter, K.T., Lundeen, J.I., Wu, C., Feist, B., ³Tian, Z., Cameron, J., Scholz, N.L.. Kolodziej, E.P. 2022. “Measuring The Chemical Profile of Biological Decline in Stormwater-Impacted Watersheds.” *Environ. Sci. Technol.* **56**(5) 3159-3169. DOI: 10.1021/acs.est.1c08274.

Citations: 22 Contributions: Project leadership team, funding, study design, editing

14) Peter, K.T., Kolodziej E.P., Kucklik, J. 2022. “Assessing Reliability of Non-Target High Resolution Mass Spectrometry Fingerprints for Quantitative Source Apportionment in Complex Matrices.” *Anal. Chem.* **94** (6) 2723-2731. DOI: 10.1021/acs.analchem.1c03202.

Citations: 8 Contributions: Study design, ideas, editing

15) ³Tian, Z., Gonzalez, M., Rideout, C., ²Zhao, H., ²Hu, X., Wetzel, J., Mudrock, E., James, C.A., McIntyre, J.K., Kolodziej, E.P. 2021. “6PPD-Quinone: Revised Toxicity Assessment and Quantification Method Development with a Commercial Standard.” *Environ. Sci. Technol. Letters*. **9** (2) 140-146. DOI: 10.1021/acs.estlett.1c00910.

-Selected as one of seven “Best Papers of 2022” by *ES&T Letters* (10/10/2023)

Citations: 189 Contributions: Corresponding author, project lead, funding, study design, writing

16) ²Zhou, H., ³Tian, Z., Kim, K.E., ²Wang, R., ¹Lam, K., Kolodziej, E.P. 2021. “Biotransformation of Current-Use Progestins Dienogest and Drospirenone in Laboratory Scale Activated Sludge Systems Forms High-Yield Products with Altered Endocrine Activity.” *Environ. Sci. Technol.* **55**(20) 13869-13880. DOI: 10.1021/acs.est.1c03805.

Citations: 10 Contributions: Corresponding author, project lead, funding, study design, writing

17) McIntyre, J.K., Prat, J., Cameron, J., Wetzel, J., Mudrock, E., ³Peter, K.T., ³Tian, Z., MacKenzie, C., Lundin, J., Stark, J.D., King, K., Davis, J.W., Kolodziej, E.P., Scholz, N.L. 2021. “Treading Water: Tire Wear Particle Leachate Recreates and Urban Runoff Mortality Syndrome in Coho But Not Chum Salmon.” *Environ. Sci. Technol.* **55**(17) 11767-11774 DOI: 10.1021/acs.est.1c03569

Citations: 106 Contributions: Study design, editing

18) Kumar, N., ²Zhao, H., Awoyemi, A., Kolodziej, E.P., Crago, J. 2021. “Toxicity Testing of Effluent Dominated Stream using Predictive Molecular Level Toxicity Signatures Based on High Resolution Mass Spectrometry: A Case Study of the Lubbock Canyon Lake System”. *Environ. Sci. Technol.* **55**(5) 3070-3080. DOI: 10.1021/acs.est.0c05546

Citations: 7 Contributions: Study design, data analysis, writing

19) ³Tian, Z., ²Zhao, H.Q., ³Peter, K.T., ¹Gonzalez, M., Wetzal, J., ¹Wu, C., ²Hu, X., Prat, J., Mudrock, E., ¹Hettinger, R., ¹Cortina, A.E., Biswas, R.G., Kock, F.V.C., Soong, R., Jenne, A., ³Du, B., ²Hou, F., He, H., ³Lundeen, R., Gilbreath, A., Sutton, R., Scholz, N.L. Davis, J.W., Dodd, M.C., Simpson, A., McIntyre, J.K., Kolodziej, E.P. 2021. "Ubiquitous Tire Rubber-Derived Chemical Induces Acute Mortality in Coho Salmon." *Science*. Published online 12/3/20, in print 1/8/21. **371** (6525) 185-189. DOI 10.1126/science.abd6951

-“First Release” online 12/3/2020, global media coverage, Altmetric attention score 1606

Citations: 870 Contributions: Corresponding author, project lead, funding, study design, data analysis, writing

20) Du, B., ³Tian, Z., ³Peter, K.T., Kolodziej, E.P., Wong, C. 2020. "Developing Unique Non-Target High Resolution Mass Spectrometry Signatures to Track Contaminant Sources in Urban Waters." *Environ. Sci. Technol. Letters* **7**(12) 923-930. DOI: 10.1021/acs.estlett.0c00749

Citations: 36 Contributions: Study design, ideas, writing

21) Pflug, N.C., Kral, A.K., Hankard, M.K., Breuckman, K.C., Kolodziej, E.P., Gloer, J.B., Wammer, K.H., Cwiertny, D.M. 2020. "Overlooked Environmental Fate Pathways for Trienone Steroids: Reversible Photo-Nucleophilic Addition and Thermal Binding of Photohydrates to Dissolved Organic Matter." *Environ. Sci. Technol.* **54**(19) 12181-12190. DOI: 10.1021/acs.est.0c03821

Citations: 3 Contributions: Study design, funding, ideas, editing

22) ³Peter, K.T., ²Hou, F., ³Tian Z., ¹Wu C., Goehring, M., Liu, F., Kolodziej E.P. 2020. "More Than a First Flush: Urban Creek Storm Hydrographs Reveal Broad Contaminant Pollutographs" *Environ. Sci. Technol.* **54**(10) 6152-6165. DOI: 10.1021/acs.est.0c00872

Citations: 112 Contributions: Study design, project PI, ideas, funding, data analysis, writing

23) ³Tian, Z., ³Peter, K.T., Gipe, A.D., ²Zhou, H., ²Hou, F., ¹Wark, D.A., Kolodziej, E.P., James, C.A. 2020. "Suspect and Non-target Screening for Contaminants of Emerging Concern in an Urban Estuary." *Environ. Sci. Technol.* **54**(2) 889-901. DOI: 10.1021/acs.est.9b06126

Citations: 159 Contributions: Study design, funding, writing

24) ³Peter, K.T., ³Tian, Z., ¹Wu, C., Kolodziej, E.P. 2019. "Application of Non-Target High Resolution Mass Spectrometry Data to Quantitative Source Apportionment." *Environ. Sci. Technol.* **53**(21) 12257-12268. DOI: 10.1021/acs.est.9b04481

Citations: 29 Contributions: Study design, project PI, ideas, data analysis, writing

25) ²Hou, F., ³Tian, Z., ³Peter, K.T., ¹Wu, C., ¹Alegria, E., Gipe, A.D., ²Zhao, H., Liu, F., Kolodziej E.P. 2019. "Quantification of Organic Contaminants in Urban Stormwater by Isotope Dilution and Liquid Chromatography-Tandem Mass Spectrometry." *Anal. Bioanal. Chem.* **411**(29) 7791-7806. DOI: 10.1007/s00216-019-02177-3

Citations: 50 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing

26) ²Yang, X., ²Zhao, H., Cwiertny D.M., Kolodziej E.P. 2019. "Sorption and Transport of Trenbolone and Altrenogest Photoproducts in Soil-Water Systems." *Environ. Sci. Processes Impacts.* **21**(10) 1650-1663. DOI: 10.1039/C9EM00305C

-Front cover article, October 2019, *Environ. Sci. Processes Impacts*.

Citations: 9 Contributions: Corresponding author, project PI, funding, study design, analysis, writing

27) Pflug, N., Patterson, E., Martinovic-Weigelt, D., Kolodziej, E.P., Gloer, J., McNeill, K., Cwiertny, D.M., Wammer, K. 2019. "Intramolecular [2+2] Photocycloaddition of Altrenogest: Confirmation of Product Structure, Theoretical Mechanistic Insight, and Bioactivity Assessment." *J. Org. Chem.* **84**(17) 11366-11371. DOI: 10.1021/acs.joc.9b02070

Citations: 9 Contributions: Funding, study design, ideas, data analysis, editing

28) Bains, A., Perez-Garcia, O., Lear, G., Greenwood, D., Swift, S., Middleditch, M., Kolodziej E.P., Singhal, N. 2019. "Induction of Microbial Oxidative Stress as a New Strategy to Enhance the Enzymatic Degradation of Organic Micropollutants in Synthetic Wastewater." *Environ. Sci. Technol.* **53**(16), 9553-9563. DOI: 10.1021/acs.est.9b02219

- Citations: 31 Contributions: Ideas, study design, data analysis, editing*
- 29) ²Kenyon, P., ²Zhao, H., ²Yang, X., ¹Wu, C., Cwiertny, D.M., Kolodziej, E.P. 2019. “Detection and Quantification of Metastable Photoproducts of Trenbolone and Altrenogest Using Liquid Chromatography-Tandem Mass Spectrometry.” *J. Chrom. A.* 1603, 150-159. DOI: 10.1016/j.chroma.2019.06.030
- Citations: 9 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing*
- 30) ³Peter, K.T., Herzog, S., ³Tian, Z., ¹Wu, C., McCray, J.E., Lynch, K., Kolodziej, E.P. 2019. “Evaluating Emerging Organic Contaminant Removal in an Engineered Hyporheic Zone using High Resolution Mass Spectrometry.” *Water Research.* **150** (3), 140-152. DOI: 10.1016/j.watres.2018.11.050
- Citations: 52 Contributions: Project PI, funding, ideas, study design, data analysis, writing*
- 31) ³Peter, K.T., ³Tian, Z., ¹Wu, C., ¹Lin, P., ¹White, S., ³Du, B., McIntyre, J.K., Scholz, N.L., Kolodziej E.P. 2018. “Using High-Resolution Mass Spectrometry to Identify Organic Contaminants Linked to Urban Stormwater Mortality Syndrome in Coho Salmon.” *Environ. Sci. Technol.*, **52**(18) 10317-10327. DOI: 10.1021/acs.est.8b03287
- Citations: 229 Contributions: Project PI, funding, ideas, study design, data analysis, writing*
- 32) Salls, K.A., ²Won, D., Kolodziej, E.P., Childress, A.E., Hiibel, S.R. 2018. “Transport of Metals and Semi-Volatile Contaminants In Direct Contact Membrane Distillation.” *Desalination.* **427**, 35-41, DOI: 10.1016/j.desal.2017.11.001
- Citations: 26 Contributions: Funding, study design, data analysis, editing*
- 33) 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.” *Environ. Sci. Processes Impacts.* **19**, 1414-1426, DOI: 10.1039/c7em00346c
- Citations: 21 Contributions: Ideas, funding, study design, writing*
- 34) ³Du, B., ¹Lofton, J.M., ³Peter, K.T., Gipe, A.D., James, C.A., McIntyre, J.K., Scholz, N.L., Baker, J.E., Kolodziej, E.P. 2017. “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.” *Environ. Sci. Processes Impacts.* **19**, 1185-1196. DOI 10.1039/C7EM00243B
- Citations: 131 Contributions: Co-corresponding author, project PI, ideas, funding, study design, data analysis, writing*
- 35) Kolodziej E.P., Choi, K., Marfil-Vega, R., Brooks, B.W. 2017. “The Necessity of Bioanalytical Tools for Advancing Water and Sediment Quality Assessment.” *Environ. Sci. Processes Impacts.* **19**, 1113-1116. DOI: 10.1039/C7EM90032E (-Editorial content, not peer-reviewed)
- Citations: 0 Contributions: Writing*
- 36) Pflug, N.C., Kupsco, A., Kolodziej, E.P., Schlenk, D., Teesch, L.M., Gloer, J.B., Cwiertny, D.M. 2017. “Formation of Bioactive Transformation Products During Glucocorticoid Chlorination.” *Environmental Science: Water Research and Technology.* **3**, 450-461. DOI 10.1039/C7EW00033B
- Citations: 21 Contributions: Funding, ideas, study design, writing*
- 37) 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
- Citations: 32 Contributions: Project PI, funding, ideas, study design, writing*
- 38) Baltrusaitis, 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
- Citations: 20 Contributions: Funding, ideas, study design, data analysis, writing*

- 39) 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
Citations: 16 Contributions: Funding, ideas, study design, writing
- 40) ²Cole, E.A. ¹McBride, S., ¹Kimbrough 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
Citations: 12 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing
- 41) 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
Citations: 21 Contributions: Project PI, funding, ideas, study design, writing
- 42) ²Jones, G.D., ¹Benchetler, 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
Citations: 18 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing
- 43) 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
Citations: 106 Contributions: Co-corresponding author, project lead, writing
- 44) ²Jones, G.D., ¹Benchetler, 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
Citations: 13 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing
- 45) ²Jones, G.D., ¹Benchetler, 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
Citations: 24 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing
- 46) 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
Citations: 54 Contributions: Data analysis, writing
- 47) Qu, S., Kolodziej, E.P., Long, S.A., Gloer, J.B., Patterson, E.V., Baltrusaitis, J., ²Jones, G.D., ¹Benchetler, P.V., ²Cole, E.A., ¹Kimbrough, 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
Citations: 106 Contributions: Co-corresponding author, project PI, funding, ideas, study design, data analysis, writing
- 48) Kolodziej, E.P., Qu, S., Forsgren, K., Long, S.A., Gloer, J.B., ²Jones, G.D., 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.

Citations: 66 Contributions: Corresponding author, project PI, funding, study design, data collection, data analysis, writing

49) 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.

Citations: 71 Contributions: Project PI, funding, study design, data analysis, writing

50) ²Parker, J.A., ²Webster, J.P., ¹Kover, S.C., Kolodziej, E.P. 2012. "Analysis of Trenbolone Acetate Metabolites and Melengestrol Using Gas Chromatography-Tandem Mass Spectrometry." *Talanta*, **99**, 238-246.

Citations: 44 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing

51) ²Webster, J.P., ¹Kover, 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.

Citations: 53 Contributions: Corresponding author, project PI, funding, study design, data analysis, writing

52) Mansell, D.S., Bryson, R.J., Harter, T., ¹Webster, 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.

Citations: 96 Contributions: Funding, study design, writing

53) 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.

Citations: 55 Contributions: Study Design, data collection, data analysis, writing

54) Kolodziej, E.P., Sedlak D.L. 2007. "Rangeland Grazing as a Source of Steroid Hormones to Surface Waters." *Environ. Sci. Technol.* **41**(10), 3514-3520.

Citations: 159 Contributions: Study design, data collection, data analysis, writing

55) 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.

Citations: 242 Contributions: Data collection, data analysis, writing

56) 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.

Citations: 115 Contributions: Data collection, data analysis, writing

57) 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.

Citations: 394 Contributions: Study design, data collection, data analysis, writing

58) 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.

Citations: 13 Contributions: Data analysis

59) Kolodziej E.P., Gray J.L., Sedlak D.L. 2003. "Quantification of Steroid Hormones with Phomonal Properties in Municipal Wastewater Effluent." *Environ. Toxicol. Chem.*, **22**(11), 2622-2629.

Citations: 231 Contributions: Ideas, study design, data collection, data analysis, writing

In Review or Preparation

60) Wang, R., Dodd, M.C., Kolodziej, E.P. "Kinetics and Mechanisms of Chlorination of 1,3-Diphenylguanidine from Density Functional Theory and Experimental Data." In preparation.

- 61) Tian, Z., Peter, K.T., Wu, C., Du, B., Leonard, B., McIntyre, J.K., Kolodziej, E.P. “Performance Evaluation Of Compost-Amended Biofiltration Swales For Roadway Runoff Treatment: Part II”. In preparation.
- 62) Zhou, H., Tian, Z., Matiasek, S., Webster, J.P., Kolodziej, E.P. “Occurrence of Contaminants of Emerging Concern in Stormwater Runoff from the Paradise, California Catastrophic Wildfire.” In preparation.

Technical Reports

- 1) Hildebrandt, A., Hu, X., Germeau, H., Gonzalez, M., Yih, F., Rideout, C., Kolodziej E.P. “Evaluation of 6PPD-Quinone Sorption to Treatment Media and Engineered Soil Mixtures.” 02/03/24. Washington Department of Ecology.
- 2) Hu, X., Peter, K.T., Rideout, C., Gonzalez, M., Germeau, H., Hildebrandt, A., Kolodziej E.P. “Solvent Extraction & Aqueous Leaching of Tire Tread Particles: Understanding Tire Compositions by Quantifying PPD antioxidants and Transformation Products Using Non-Targeted Analysis.” 02/05/24. Washington Department of Ecology.
- 3) Peter, K.T., Hu, X., Rideout, C., Gonzalez, M., Germeau, H., Hildebrandt, A., Kolodziej E.P. “6PPD-Quinone Leaching in Rubber-Water Systems with Varied Conditions.” 02/05/24. Washington Department of Ecology.
- 4) Kolodziej E.P., Jack, R., Klug, J., Collins, D., Hatch, J. 2023. “Use of Recycled Municipal Wastewater for Agricultural Irrigation in the Sammamish River Valley.” 01/31/24. King County and Washington Water Trust.
- 5) Tian, Z., Peter, K.T., Wu, C., Du, B., Leonard, B., McIntyre, J.K., Kolodziej, E.P. “Performance Evaluation Of Compost-Amended Biofiltration Swales For Highway Runoff Treatment In Field And Laboratory.” 08/09/2019. Washington Department of Transportation, Federal Highway Administration.
- 6) Peter, K.T., Herzog, S., Tian, Z., McCray, J., Kolodziej, E.P. “Flow Path Delineation and Water Quality Assessment in the Thornton Creek Engineered Hyporheic Zone.” 03/09/2018. Seattle Public Utilities.
- 7) Du, W., Kolodziej E.P. “Literature Review and Comment on Groundwater Aquifer Recharge and Recovery Systems. 06/21/2011. City of Reno, NV.
- 8) Callahan, S., Kolodziej E.P. “Assessment and Optimization of Aquifer Recharge and Recovery Systems for the Removal of Trace Organic Contaminants.” 04/16/2010. City of Reno, NV.

OTHER SCHOLARLY ACTIVITY

Select Invited Lectures and Seminars

(many presentations below also include students, group, and collaborators as co-authors)

1. **Kolodziej, E.P.**, et al. “Occurrence, Fate and Characteristics of 6PPD-Quinone and related Compounds” Invited presentation, Washington Department of Ecology, Olympia, WA, April 30, 2024.
2. **Kolodziej, E.P.**, et al. “6PPD-Quinone: Introduction and Background.” Invited presentation, conference keynote, “Protecting Salmon from Tire Wear Toxins-6PPD-Quinone Workshop”, Nanaimo, BC, April 28-29, 2024.
3. **Kolodziej, E.P.**, et al. “Car Tires, Coho Salmon, and Water Quality” Invited talk, *Nature Matters* community event, Astoria, OR, April 25, 2024.
4. **Kolodziej, E.P.**, et al. “Car Tires, Coho Salmon, and Water Quality” Invited presentation and panelist, “A Celebration of Longfellow Creek” community event, Seattle, WA, Nov. 8, 2023.
5. **Kolodziej, E.P.**, et al. “6PPD-Quinone: Background and Chemical Characteristics.” Invited presentation, 2023 International Symposium on Alternatives Assessment, Tacoma, WA, Oct. 26, 2023.

6. **Kolodziej, E.P.**, et al. “Roadway Runoff, Car Tires, and Coho Salmon.” Invited presentation, session keynote, Canadian Society of Chemistry Annual Conference, Vancouver, BC, June 6, 2023.
7. **Kolodziej, E.P.** “6PPD-Quinone: Context and Background.” Invited presentation, 6PPD Innovation Forum for Northwest Indian Fisheries Commission (Virtual format), March 14, 2023.
8. **Kolodziej, E.P.**, et al. “Toxic Tires and Trout.” Invited presentation, Trout Unlimited (Virtual Format), Feb. 2, 2023.
9. **Kolodziej, E.P.**, et al. “Car Tires and Coho Salmon and Miller Creek.” Invited presentation, Miller-Walker Community Salmon Investigation, Burien WA, Jan. 17, 2023; Jan 25, 2024.
10. **Kolodziej, E.P.** “6PPD-Quinone: Context and Background.” Invited presentation, 6PPD Innovation Forum, Highline College, Des Moines, WA, Dec. 14, 2022.
11. **Kolodziej, E.P.**, et al. “Impacts of Roadway Runoff and Tire Rubber on Coho Salmon.” Invited presentation, (Virtual format), Oregon State University. April 20, 2022.
12. **Kolodziej, E.P.**, et al. “Car Tires, Coho Salmon, and Water.” Invited presentation, Hawaii Pacific University. April 13, 2022.
13. **Kolodziej, E.P.**, et al. “Impacts of Roadway Runoff and Tire Rubber on Coho Salmon.” Invited presentation, Northwest Indian Fisheries Council. (Virtual format), August 19, 2021
14. **Kolodziej, E.P.**, et al. “Evaluation of Water Quality Impacts on Coho Salmon.” Invited presentation, California Department of Toxic Substances Control-Tire Rubber Workshop. (Virtual format), July 29, 2021
15. **Kolodziej, E.P.**, et al. “Identification and Implications of 6PPD-Quinone in Roadway Runoff.” Invited presentation, Department of Fisheries and Oceans-British Columbia. (Virtual format), June 22, 2021
16. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Northwestern U., Department of Civil and Environmental Engineering. (Virtual format), May 21, 2021
17. **Kolodziej, E.P.**, et al. “Identification and Implications of 6PPD-Quinone in Roadway Runoff.” Invited presentation, Environmental Protection Agency, National Audience. (Virtual format), May 20, 2021
18. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, British Columbia Ministry of the Environment “BioCall” Seminar. (Virtual format), April 22, 2021
19. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, U. of Wisconsin-Madison, Department of Civil and Environmental Engineering. (Virtual format), April 9, 2021
20. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Environment Canada-Complex Mixtures Workgroup. (Virtual format), March 18, 2021
21. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Washington State University, Department of Civil and Environmental Engineering Graduate Seminar. (Virtual format), March 8, 2021
22. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Pacific Northwest Fish Health Protection Committee. (Virtual format), February 24, 2021
23. **McIntyre, JK and Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Pacific Salmon Foundation. (Virtual format), February 17, 2021
24. **McIntyre, JK and Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Toxics In Puget Sound Conference. (Virtual format), February 5, 2021

25. **McIntyre, JK and Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, California Division of Toxic Substances Control. (Virtual format), January 27, 2021
26. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, U. of Washington-Tacoma, Distinguished Research Award Celebration, January 22, 2021
27. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, U. of Washington, Department of Civil and Environmental Engineering Graduate Seminar. (Virtual format), January 7, 2021
28. **McIntyre J.K. and Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, Nisqually River Council. (Virtual format), December 18, 2020
29. **Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, EAWAG Water Seminar series, Dubendorf, Switzerland. (Virtual format), December 10, 2020
30. **McIntyre, J.K. and Kolodziej, E.P.**, et al. “Roadway Runoff as a Source of Toxic Trace Transformation Products to Surface Waters.” Invited presentation, U.S. Tire Manufacturers Association and related regulatory agencies. (Virtual format), December 3, 2020
31. **Kolodziej, E.P.**, et al. “Characterizing the Environmental Chemistry of Roads, Salmon, and Water With High Resolution Mass Spectrometry.” Invited Presentation-EPA Region 10 Tribal Non-point Training. (Virtual format), October 26, 2020
32. **Kolodziej, E.P.**, et al. “Organic Contaminants in Roadway Runoff and Receiving Waters.” Invited presentation, American Association of State Highway Transportation Officials (AASHTO) Natural Resources Subcommittee. (Virtual format). May 13, 2020.
33. **Kolodziej, E.P.**, Katherine Peter, Zhenyu Tian, Nina Zhao, Christopher Wu, Melissa Gonzalez, Allan Cortina, Jen McIntyre. “Characterizing the Environmental Chemistry of Roads, Salmon, and Water with High Resolution Mass Spectrometry.” Invited presentation, Duke University Integrated Toxicology and Environmental Health Seminar series. Durham, NC, February 20, 2020
34. **Kolodziej, E.P.**, Katherine Peter, Zhenyu Tian, Nina Zhao, Christopher Wu, Melissa Gonzalez, Allan Cortina, Jen McIntyre. “Environmental Chemistry of Roads, Salmon, and Water” Invited presentation, *Superheros of Science*, RAIN incubator. Tacoma, WA, February 10, 2020.
35. **Kolodziej, E.P.**, et al. “Stormwater and Salmonid Health.” Invited presentation, Northwest Indian Fisheries Commission Water Quality Board. Olympia, WA, November 19, 2019.
36. **Kolodziej, E.P. and Jen McIntyre.** “Characterizing Urban Stormwater Impacts on Water Quality and Coho Salmon.” Invited presentation and industry outreach, stormwater research forum sponsored by WA Department of Ecology, Tacoma, WA, October 16, 2019.
37. **Kolodziej, E.P.**, Katherine Peter, Zhenyu Tian, Christopher Wu, Allan Cortina, Melissa Gonzalez, Jen McIntyre, Nat Scholz. “Impacts of Vehicles and Roads on Urban Water Quality.” Invited presentation, ESPI Editors Symposium, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology. Cambridge, MA, June 24, 2019.
38. **Kolodziej, E.P.** “Chemistry in Stormwater.” Invited presentation, *2nd Annual Green-Duwamish Sustainability Talks* to Auburn High School Students. Auburn Performing Arts Center, Auburn WA, May 24, 2019.
39. **Kolodziej, E.P.**, et al. “Characterizing Urban Stormwater Impacts on Water Quality to Understand Ecosystem Health.” Invited presentation, WA Department of Ecology, Lacey WA, April 17, 2019.
40. **McIntyre J.K., and Kolodziej, E.P.** “Urban Stormwater Aquatic Toxicology and Chemistry” Invited presentation, Clean Cars Task Force and WA Department of Ecology, Tacoma WA, April 16, 2019.
41. **Kolodziej, E.P.**, et al. “Characterizing Urban Stormwater Impacts on Water Quality to Understand Ecosystem Health.” Invited presentation, Department of Chemical Oceanography, University of Washington. Seattle WA, March 15, 2019.

42. **Kolodziej, E.P.**, et al. “Characterizing Urban Stormwater Impacts on Water Quality to Understand Ecosystem Health.” Invited presentation, NIEHS Superfund Research Program 2018 Annual Meeting. Sacramento CA, November 29, 2018.
43. **Kolodziej, E.P.**, et al. “Using High-Resolution Mass Spectrometry to Characterize Urban Stormwater and Impacts on Water Quality.” Invited presentation, M. Gordan Wolman Seminar, Johns Hopkins University. November 13, 2018.
44. **Kolodziej, E.P.**, et al. “Using High-Resolution Mass Spectrometry to Characterize Urban Stormwater and Impacts on Water Quality.” Invited presentation, University of Delaware. November 12, 2018.
45. **Kolodziej, E.P.**, et al. “Using High-Resolution Mass Spectrometry to Characterize Urban Stormwater and Impacts on Water Quality.” Invited presentation, Dr. Jianying Hu Research group, Peking University. October 24, 2018.
46. **Kolodziej, E.P.**, et al. “Using High-Resolution Mass Spectrometry to Characterize Urban Stormwater and Impacts on Water Quality.” Invited Departmental seminar with funded travel, College of Urban and Environmental Sciences, Peking University. Beijing, China, October 23, 2018.
47. **Kolodziej, E.P.**, et al. “Using High-Resolution Mass Spectrometry to Characterize Urban Stormwater and Impacts on Water Quality.” Invited presentation, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences. Beijing, China, October 22, 2018.
48. **Kolodziej, E.P.** et al. “Occurrence and Sources of Organic Contaminants in Urban Stormwater and Receiving Waters.” Invited presentation, Northwest Indian Fisheries Commission Salmon Stormwater Summit, The Point Casino, Suquamish Tribe, Kingston WA. September 20, 2018.
49. **Kolodziej, E.P.** et al. “Stormwater Derived Chemicals and Ecosystem Health.” Keynote Speaker, 6th International Conference on Emerging Contaminants (EmCon 2018), Oslo Norway. June 25, 2018.
50. **Kolodziej, E.P.** et al. “Underexplored Bioactive Contaminants in Urban Stormwaters.” Invited presentation, Department of Civil and Environmental Engineering, University of California, Berkeley. April 13, 2018.
51. **Kolodziej, E.P.** “Chemistry and the Environment: Why Puget Sound Needs Clean Water.” Invited Keynote Address, ACS Career Day, PNW Regional Chapter, Center for Urban Waters, Jan. 31, 2018.
52. **Kolodziej, E.P.** et al. “Analysis of Urban Water Quality With High Resolution Mass Spectrometry.” Invited presentation, Southern California Coastal Water Research Project, Santa Ana, CA. Nov. 3, 2017.
53. **Kolodziej, E.P.** “Our Chemical Fingerprints: Safer Water for Our Cities”. Invited Presentation, Department of Civil and Environmental Engineering, University of Washington. Seattle, WA. June 1, 2017
54. **Kolodziej, E.P.** et al. “Detection and Evaluation of Organic Contaminant Flows in the Puget Sound Region”. Invited Presentation. NOAA Montlake Lab Monster Jam. Seattle, WA. May 18, 2017
55. **Kolodziej, E.P.** “Understanding Our Chemical Fingerprints on Water: Occurrence and Concerns for Our Contaminants”. Invited presentation, University of California, San Diego, School of Pharmacy, San Diego, CA. February 6, 2017.
56. **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 *-Televised presentation.*
57. **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
58. **Kolodziej, E.P.** et al. “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.
59. **Kolodziej, E.P.** et al. “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.

60. **Kolodziej, E.P.** et al. “Characterization and Environmental Implications of Pharmaceutical Transformation Products in Water” Invited presentation with funded travel, “Environmental Analysis” Session, Beijing Conference and Exhibition on Instrumental Analysis, China National Convention Center, Beijing, China, October 29, 2015.
61. **Kolodziej, E.P.** et al. “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.
62. **Kolodziej, E.P.** et al. “Conserved Structure, Conserved Risk: Environmental Transformations of Steroidal Pharmaceuticals” Invited presentation, Gordon Research Conference, Environmental Sciences: Water. Holderness, NH, June 26, 2014.
63. **Kolodziej, E.P.** et al. “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.
64. **Kolodziej, E.P.** et al. “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.
65. **Kolodziej, E.P.** et al. “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.
66. **Kolodziej, E.P.** et al. “In the Twilight of Trenbolone: The Vampire Steroid.” Invited presentation, Environmental Science Graduate Program, Ohio State University, Sept. 6, 2013.
67. **Kolodziej, E.P.** et al. “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.
68. **Kolodziej E.P.** “Sources, Transport, and Transformations of Endocrine Disrupting Steroid Hormones Derived From Animal Agriculture.” Invited Presentation, Washington State University. April 9, 2012.
69. **Kolodziej E.P.** “Agricultural Sources and Transformation of Steroid Hormones in Receiving Waters.” Invited Presentation, University of Missouri. Oct. 4, 2011.
70. **Kolodziej E.P.** “Analytical Challenges of Trace Organics Quantification.” Invited Presentation, NIST Emerging Contaminants Workshop, Falls Church, VA, Sept. 9, 2010.
71. **Kolodziej E.P.** et al. “Steroid Hormone Occurrence, Fate, and Transport in Northern California’s Watersheds.” Invited presentation, University of California, Riverside, April 4, 2008.
72. **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.
73. **Kolodziej E.P.** “Steroid Hormone Occurrence, Fate, and Transport in Northern California’s Watersheds.” Invited Presentation, University of California, Davis, March 17, 2008.

GRADUATE STUDENTS AND RESEARCH GROUP

Chaired Doctoral Degrees

- | | |
|---|--|
| 1. Ximin Hu (Chair, U. of Washington CEE) | 9/2019 – 08/2023 |
| <i>Dissertation: Applications of Non-Target Screening via High Resolution Mass Spectrometry for Environmental Assessment.</i> | Successfully Defended June 2023 |
| Post-Doctoral Scholar (Dr. Ed Kolodziej), | 10/2023-present |
| 2. Haoqi (Nina) Zhao (Chair, U. of Washington CEE) | 9/2016 – 09/2021 |
| <i>Dissertation: Identification and Fate of Bioactive Transformation Products of Pharmaceuticals and Industrial Antioxidants.</i> | Successfully Defended September 24, 2021 |

- Post-Doctoral Scholar (Dr. Ed Kolodziej), 09-12/2021
 Post-Doctoral Scholar (Dr. Peter Dorrenstein), U. California, San Diego. 01/01/2022+
3. Gerrad Jones (Chair, U. of Nevada-Reno) 01/2010 - 01/2014
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.

Current Doctoral Students-Chair/Co-Chair

4. Alanna Hildebrandt (Co-chair, U. of Washington CEE) 9/2021 – Present
Dissertation: TBD Currently in progress
5. Kiersten Maxwell (Chair, U. of Washington CEE) 9/2023 – Present
Dissertation: TBD Currently in progress
6. Emily Everton (Chair, U. of Washington CEE) 6/2024 – Present
Dissertation: TBD Currently in progress
7. Kaylee Martin (Chair, U. of Washington CEE) 9/2024 – Present
Dissertation: TBD Currently in progress

Chaired Masters Degrees-Research Based, Funded Thesis Projects

1. Marlee Brown (Chair, U. of Washington CEE); Thesis 09/2023 - present
2. Danbi Won (Chair, U. of Washington CEE); Thesis 12/2015 - 03/2017
3. Philip Kenyon (Chair, U. of Washington CEE); Thesis 1/2014 – 12/2015
4. Tianlin Song (Chair, U. of Nevada-Reno CEE); Thesis 1/2013 - 7/2014
5. Philip Benedetti (Chair, U. of Nevada-Reno CEE); Thesis 1/2013 - 1/2015
6. Emily Cole (Chair, U. of Nevada-Reno CEE); Thesis 10/2011 - 12/2013
7. Jaewoong Lee (Chair, U. of Nevada-Reno CEE); Thesis 6/2010 - 12/2011
8. Wenjun Du (Chair, U. of Nevada-Reno CEE); Thesis 1/2010 - 8/2011
9. Jackson Webster (Chair, U. of Nevada-Reno CEE); Thesis 1/2009 - 12/2010
10. Silas Callahan (Chair, U. of Nevada-Reno CEE); Thesis 1/2008 - 8/2010
11. Jed Parker (Chair, U. of Nevada-Reno CEE); Thesis 1/2008 - 5/2009

Other Significant Student Supervision or Professional Mentorship

Post-Doctoral Scholars:

1. Jeffrey Perala-Dewey (CUW/UW) 10/2024 – present
2. Ximin Hu (CUW/UW) 10/2023 – 01/2024
 -Post-Doctoral Scholar
3. Nina Zhao (CUW/UW) 10/2021 – 12/2021
 -Post-Doctoral Scholar, U. of California, San Diego
4. Zhenyu Tian (CUW/UW) 02/2018 – 08/2021
 -Tenure-track Faculty, Dept. of Chemistry, Northeastern U.
5. Rachel Lundeen (CUW/UW) 07/2019 - 02/2020
 -Research Scientist, Fred Hutchinson Cancer Institute
6. Katherine Peter (CUW/UW) 12/2016 - 04/2019
 -Research Scientist, National Institute of Standards and Technology
7. Bowen Du (CUW/UW) 12/2014 - 06/2017
 -Scientist, Southern California Coastal Water Research Project

Visiting Ph.D. Students (U. of Washington CEE):

1. Rui Wang, Two year visiting PhD student, UW VISIT program 10/2018 – 10/2020
2. Ting Tang, Two year visiting PhD student, UW VISIT program 10/2018 – 10/2020
3. Fan Hou, 16 month visiting PhD student, UW VISIT program 9/2017 - 1/2019

4. Xingjian Yang, Two year visiting PhD student, UW VISIT program 9/2015 - 10/2016

Undergraduate Students Participating in Funded Research Projects (UWT/CUW/UW)

- | | |
|--------------------------------|------------------------------|
| 1. Lindsey Overstreet, UWT SAM | 12. Keefe Brockman, UWT SAM |
| 2. Vincent Salazar, UWT SAM | 13. David Wark, UWT SAM |
| 3. Lydia Bader, UWT SAM | 14. Kenji Lam, UW CEE |
| 4. Kaya Smith, UWT SAM | 15. Sarah White, UWT SAM |
| 5. Marlee Brown, UWT SAM | 16. Christopher Wu, UWT SAM |
| 6. Hailey Germeau, UWT SAM | 17. Peter Lim, UWT SAM |
| 7. Heaven Denham, UWT SAM | 18. Harpreet Kang, UW CEE |
| 8. Craig Rideout, UWT SAM | 19. Samantha Randall, UW CEE |
| 9. Rachel Hettinger, UWT SAM | 20. Jonathan Lofton, UWT CUW |
| 10. Melissa Gonzalez, UWT SAM | 21. Esther Chang, UW CEE |
| 11. Allan Cortina, UWT SAM | |

Mentor: Undergraduate Student Capstone Research Projects (UWT/UW)

- | | |
|---|----------------------------|
| 1. Rachel Hettinger, UWT SAM | 5. Jordan Williams UWT SAM |
| 2. David Wark, UWT SAM | 6. Nicole Smith, UWT SAM |
| 3. Ernesto Alegria, UWT SAM | 7. Don Rollalazo, UWT SAM |
| 4. Susanne Gov, UW Seattle Program for
the Environment | |

Graduate Student Committee Member (U. Of Washington CEE)

- | | |
|--------------------------------|-------------------------|
| 1. Fanny Okaikue-Woodi (Ph.D.) | 3. Tess Young (Ph.D.) |
| 2. Sin-Yi Liou (Ph.D.) | 4. Nicole Redden (M.S.) |

Graduate Student Committee Member (External)

1. Joseph Monaghan (Ph.D.) 2024. External Committee Member, U. Victoria, Chemistry. Victoria, British Columbia, Canada
2. Kristen Croft (Ph.D.) 2023. External Committee Member, U. Maryland, CEE. College Park, MD
3. Sabine Anliker (Ph.D.) 2021. External Committee Member, EAWAG, Dudenorf, Switzerland

SERVICE

Professional

- 6PPD Action Plan Advisory Committee. 12/2023-present
- Keynote and Attendee: Collaborative Innovation Forum: 6PPD in Tires. December 14, 2022. Burien, WA, ~50 attendees.
- Host and Lead Organizer: EMCON 2021: 7th International Conference on Emerging Contaminants. September 13-14, 2021. Virtual Conference. ~160 attendees.
- Technical Advisor, King County Water Reuse; Occurrence of Contaminants of Emerging Concern in Sammamish Valley Recycled Water and the Hollywood Demonstration Garden. 2020-present
- 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. 2017-2021
- Editorial Advisory Board, *Environmental Science: Processes and Impacts*, October 2020-present
- Associate Editor, *Environmental Science: Processes and Impacts*, August 2014-October 2020
- Conference Session Co-Chair: "Elucidating Chemical Transformations in Environmental Fate Research". Society for Environmental Toxicology and Chemistry National Conference, Portland, OR, Nov. 2021

- Conference Session Co-Chair: “Stormwater Characterization and Management Using a Watershed Approach”. Salish Sea Ecosystem Conference, Seattle WA, April 4-6, 2018.
- Invited Session Facilitator and Technical Content Contributor: “Contaminants in the Food Web” session, Southern Resident Killer Whale Symposium and Workshop. Sponsored by Environment Canada. Vancouver, BC October 10-12, 2017.
- 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. 2017-2019.
- 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, *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

MEDIA, OUTREACH AND COMMUNICATION

Selected Media, links current at time of publication (partial list)

News Media:

2021 Science, Tire Rubber Toxicant (Tian et al.)

Science: <https://www.sciencemag.org/news/2020/12/common-tire-chemical-implicated-mysterious-deaths-risk-salmon>

New York Times: <https://www.nytimes.com/2020/12/03/climate/salmon-kill-washington.html>

Seattle Times: <https://www.seattletimes.com/seattle-news/environment/tire-dust-is-killing-salmon/>

LA Times: <https://www.latimes.com/california/story/2020-12-03/coho-salmon-tire-chemical>

CNN: <https://www.cnn.com/2020/12/03/us/microplastics-tire-rubber-chemicals-killing-coho-salmon-scn/index.html>

The Guardian: <https://www.theguardian.com/environment/2020/dec/03/coho-salmon-pollution-car-tires-die-off>

San Francisco Chronicle: <https://www.sfchronicle.com/environment/article/New-research-explains-why-salmon-are-dying-in-the-15773283.php>

San Francisco Estuary Institute: <https://www.sfei.org/news/toxic-tire-contaminant-found-bay-area-stormwater>

Popular Science: <https://www.popsci.com/story/environment/coho-salmon-toxic-chemical-car-tires/>

KUOW: <https://www.kuow.org/stories/scientists-pinpoint-chemical-that-s-been-killing-coho-salmon-it-comes-from-car-tires>

Chemistry World: <https://www.chemistryworld.com/news/tyre-compound-driving-mystery-salmon-deaths-identified-after-years-of-chemical-detective-work/4012851.article>

Canadian Geographic: <https://www.canadiangeographic.ca/article/killer-tire-chemical-threatening-canadian-salmon>

Chemical and Engineering News (Feb 2022): <https://cen.acs.org/environment/water/Urban-stormwater-presents-pollution-challenge/100/i6>

Estuary News (Feb. 2022): <https://archive.estuarynews.org/west-coast-salmonids-all-tired-out/>
The Guardian (July 2022): <https://www.theguardian.com/environment/2022/jul/25/tyre-dust-the-stealth-pollutant-becoming-a-huge-threat-to-ocean-life>
KING5 (Nov. 2022): <https://www.king5.com/article/tech/science/environment/common-tire-chemical-mass-coho-salmon-deaths/281-4845a985-b47e-4dbd-8498-c467f12ddb68>
Congressional/EPA Outreach (Oct. 2022): <https://www.tacoma.uw.edu/news/center-urban-waters-work-highlighted-us-epa-announces-36m-puget-sound-funding>
Chemical & Engineering News (May 2023): <https://cen.acs.org/environment/sustainable-tire-market/101/i17>
Seattle Times (Nov. 2023): <https://www.seattletimes.com/seattle-news/environment/fishing-groups-sue-tire-makers-over-toxic-chemical-that-kills-salmon/>
Chemical & Engineering News (Nov. 2023): <https://cen.acs.org/environment/pollution/EPA-grants-tribal-petition-urging-regulations-for-toxic-chemical-found-in-tires/101/web/2023/11>
West Seattle Blog (Nov. 2023): <https://westseattleblog.com/2023/11/saving-and-loving-longfellow-creek-and-its-salmon/>
Slate (Nov. 2023): <https://slate.com/technology/2023/11/car-tires-6ppd-pollution-epa.html>
National Observer (Aug 2024): <https://www.nationalobserver.com/2024/08/13/news/tire-chemicals-killing-coho-salmon-UBC>

Frontiers Planet Prize – U.S. National Champion

Puget Sound Institute (April 2023): <https://www.pugetsoundinstitute.org/2023/04/ed-kolodziej-among-finalists-for-frontiers-planet-prize/>

2020 Contaminants in Urban Estuaries (Tian et al.)

UW News (January 2020): <http://www.washington.edu/news/2020/01/22/puget-sound-technique-casts-net-for-concerning-chemicals>
Forbes.com: <https://www.forbes.com/sites/allenelizabeth/2020/01/27/sixty-four-new-chemicals-discovered-in-washingtons-puget-sound/#10a27ef15d93>
KING5 news: <https://www.king5.com/article/news/local/whats-in-puget-sound/281-c122de89-af35-41a6-a47a-42f7345b6389>

2018 Coho Mortality Signature (Peter et al.)

KOUW radio: <https://www.kuow.org/stories/coho>

2017 Engineered Hyporheic Zone Treatment (Peter et al.)

Scientific American (March 2022 Feature Story): <https://www.scientificamerican.com/article/to-revive-a-river-restore-its-hidden-gut1/>

2013 Science, Trenbolone Reversible Photohydration Mechanism (Qu et al.)

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/nigh-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>

Radio, Audio, and Television Media:

Ocean Protect Podcast (05/30/22): <https://play.acast.com/s/ocean-protect/tyres-coho-salmon-kills-with-dred-kolodziej>

ABC News-Bay Area (05/25/22): <https://abc7news.com/car-tire-pollution-6ppd-chemicals-plastic/11890606/>

KUOW Toxic Tires (05/11/22): <https://www.kuow.org/stories/all-cars-and-trucks-are-polluters-when-it-comes-to-their-tires>

Minnesota Public Radio (02/10/22): <https://www.mprnews.org/story/2022/02/10/scientists-look-for-toxic-tire-chemical-in-minnesota-waters>

Oregon Public Radio "Think Out Loud" (12/7/20): <https://www.opb.org/article/2020/12/07/scientists-have-discovered-a-chemical-from-tires-is-killing-coho-salmon-in-the-puget-sound/>

Zero Waste Countdown Podcast: <https://zerowastecountdown.podbean.com/e/122-urban-salmon/>

BBC "Inside Science" on 10/03/13: <http://www.bbc.co.uk/programmes/b03bs0z6>

Documentary Films:

Engineering With Nature: An Ode to Wood, Water and Stone. Leaping Frog Films.

World Premier June 8, 2019 at the Seattle International Film Festival (SIFF). Seattle, WA.

<http://www.leapingfrogfilms.com/thorton.html>