

EDWARD P. KOLODZIEJ

Department of Civil and Environmental Engineering
University of Nevada, Reno
Reno, NV 89557
koloj@unr.edu
Phone: (775) 682-5553 Fax: (775) 784-1390

EDUCATION

University of California, Berkeley. Ph.D., Environmental Engineering, Dec. 2004. Dissertation topic: *The Occurrence and Environmental Fate of Steroid Hormones with Endocrine and Pheromonal Activity in Fish.*

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

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

RESEARCH EXPERIENCE

University of Nevada, Reno, Reno, NV. January 2007 – Present. Assistant Professor, Department of Civil and Environmental Engineering. Research interests include occurrence, fate and transport of contaminants in natural and engineered systems, optimization of water reuse and recycling systems, degradation of endocrine disruptors and other emerging contaminants in water and wastewater treatment systems, analytical method development for emerging contaminants, fate of contaminants during groundwater recharge, and disruption of chemical ecology by anthropogenic contaminants.

University of California, Berkeley, Berkeley, CA. January 2005 – December 2006. Post-Doctoral Scholar/Project Manager. Research focused on the occurrence and 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 a suite of steroid hormones that are implicated in endocrine disruption or disruption of pheromone signaling in fish. 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 Environmental Protection Agency’s Science to Achieve Results (STAR) program. Research focused upon the formation and control of trihalomethane disinfection by-products in the drinking water supply for New York City.

FUNDED RESEARCH

(1) Environmental Fate of Synthetic Growth Promoters Used in Animal Agriculture: Mechanistic Studies of Hormone Photolysis, Biodegradation and Sorption in Natural Systems. U.S. Department of Agriculture, Agriculture and Food Research Initiative. Water and Watersheds Program. PI: Dr. Edward P. Kolodziej, University of Nevada, Reno. Co-Investigators: Dr. David Cwiertny, UC Riverside; Dr. Eric Marchand, University of Nevada, Reno. Total Award: \$399,945. UNR Award: \$206,990. 1/1/2010 – 12/31/2012.

(2) Transport and Mitigation of Beef Cattle Veterinary Pharmaceuticals and Hormones in Surface and Sub-surface Runoff from Grazed Watersheds. U.S. Department of Agriculture, 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.

(3) 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 – 9/30/2010.

(4) Assessment and Optimization of Aquifer Recharge and Recovery Systems for the Removal of Trace Organic Contaminants. City of Reno, Nevada. PI: Dr. Edward Kolodziej, University of Nevada, Reno. Total Award: \$138,974. 10/1/2008 - 9/30/2010.

(5) Proposal for a Literature Review and Comment on Endocrine Disruptors and the Truckee River. City of Reno, Nevada. PI: Dr. Edward Kolodziej, University of Nevada, Reno. Total Award: \$9,372. 10/1/2007 – 9/30/2008.

(6) Junior Faculty Research Grant: Analysis of Synthetic Steroid Hormones used as Growth Promoters in Beef Cattle. University of Nevada, Reno. PI: Dr. Edward Kolodziej, University of Nevada, Reno. Total Award: \$14,850. 5/1/2007 – 4/30/2009.

(7) 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.

(8) 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: \$5,000.

PUBLICATIONS

Lavado, R., Loyo-Rosales, J.E., Floyd, E., Kolodziej, E.P., Snyder, S.A., Sedlak, D.L., Schlenk, D. "Site-Specific Profiles of Estrogenic Activity in California's Inland Waters." Submitted 2009.

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.

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.

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., and Snyder, S. 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.

Kolodziej E.P., Harter T.H., and 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.

Sedlak D.L., Pinkston K.L., Gray J.L. and Kolodziej E.P. 2003. "Approaches for Quantifying the Attenuation of Wastewater-Derived Contaminants in the Aquatic Environment." *Chimia.* **57**(9), 567-569.

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

PRESENTATIONS (Partial List)

"Progress Review: EPA STAR Transport and Transformation of Steroid Hormones at Beef and Dairy CAFOs" EPA Progress Review Meeting, Tampa Bay, FL, November 16, 2008.

"Overview of Pharmaceuticals and Personal Care Products" Invited Presentation, CA-NV AWWA Annual Fall Conference, October 21, 2008.

"Steroid Hormone Occurrence, Fate, and Transport in Northern California's Watersheds." Departmental Seminar, Department of Chemical and Environmental Engineering, University of California, Riverside, April 4, 2008.

"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.

"Steroid Hormone Occurrence, Fate, and Transport in Northern California's Watersheds." Departmental Seminar, Department of Civil and Environmental Engineering, University of California, Davis, March 17, 2008.

"The Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture." Oral Presentation at the American Water Resources Association Specialty Conference, Vail, CO, June 25-27, 2007.

"Agricultural Sources of Steroid Hormones in Surface Waters." Oral Presentation at the CALFED Science Conference, Sacramento, CA, October 23-25, 2006.

"Grazing Rangelands as Sources of Steroid Hormones." Poster presentation at the Gordon Research Conference, Environmental Sciences: Water, Holderness, NH, June 25-30, 2006.

“The Occurrence and Fate of Steroidal Hormones in Surface Waters Impacted by Cattle Grazing and Animal Agriculture.” Poster presentation at the Society of Environmental Toxicology and Chemistry 26th annual meeting, Baltimore, MD, November 13-17, 2005.

“Occurrence and Fate of Steroid Hormones with Pheromonal Properties in Northern California.” Poster presentation at the Gordon Research Conference, Environmental Sciences: Water, Holderness, NH, June 27-July 2, 2004.

“Occurrence and Fate of Steroid Hormones in Northern California.” Invited oral presentation at the 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.

“Moving Beyond Estrogen: Occurrence and Fate of Androgens, Estrogens, and Progestins from Anthropogenic Sources.” Invited oral presentation at the American Institute of Chemical Engineers 2003 annual meeting, San Francisco, CA, November 16-21, 2003.