

Jackson Paul Webster
Department of Civil Engineering
California State University, Chico
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Areas of Expertise

- Geochemical processes governing water quality and contaminant transport
- Effects of wildfire on water quality and drinking water treatment
- Environmental sample collection and laboratory analysis of inorganic and organic contaminants
- Engineering design: water and wastewater treatment processes, pumping, pipelines, open channels, surface drainage, well installation

Education

University of Colorado, Boulder, CO; Ph.D., Civil Engineering, 2015

Dissertation title: *Effects of wildfire on mercury, organic matter, and sulfur in soils and sediments* (advised by Joseph N. Ryan and George R. Aiken)

University of Nevada, Reno, NV; M.S., Civil & Environmental Engineering, 2010

University of Nevada, Reno, NV; B.S., Environmental Engineering, 2008

Academic Positions

California State University, Chico, Assistant Professor, Civil Engineering, 2016 -current

University of Colorado, Boulder, Interim Associate Director, Hydrologic Sciences Program, 2016

University of Colorado, Boulder, Postdoctoral Researcher, 2015-2016

University of Colorado, Boulder, Graduate Research Assistant, 2011-2015

University of Nevada, Reno, Graduate Research Assistant, 2009-2010

Teaching Experience

Capstone Design Project, CSU Chico, Instructor, fall 2016

Hydrology and Open Channel Hydraulics, CSU Chico, Instructor, fall 2016

Environmental Sampling and Analysis, CU Boulder, co-Instructor, fall 2015 & 2014

Environmental Organic Chemistry, CU Boulder, Teaching Assistant, fall 2012

Environmental Quality and Analysis, UNR, Teaching Assistant, fall 2009

Introduction to Environmental Engineering, UNR, Teaching Assistant, fall 2007

Student Mentoring and Advising

Research Experiences for Undergraduates (NSF-REU), CU Boulder, Mentor, 2011 & 2012

Discovery Learning Apprenticeship program (DLA), CU Boulder, Mentor, 2011 & 2013

Publications

Eagles-Smith, C. A., Wiener, J. G., Eckley, C. S., Willacker, J. J., Evers, D. C., Marvin-DiPasquale, M., Obrist D., Fleck, J. A., Aiken, G. R., Lepak, J. M., Jackson, A. K., **Webster, J. P.**, Stewart, R. A., Davis, J. A., Alpers, C. N., Ackerman, J. T., 2016. Mercury in western North America: A synthesis of environmental contamination, fluxes, bioaccumulation, and risk to fish and wildlife. *Science of the Total Environment*. DOI: 10.1016/j.scitotenv.2016.05.094

Webster, J. P., Kane T., Obrist, D., Ryan, J. N., Aiken, G. R., 2016. Estimating mercury emissions resulting from wildfire in the Western United States *Science of the Total Environment*. DOI: 10.1016/j.scitotenv.2016.01.166

Obrist, D., Pearson, C., **Webster, J.**, Kane T., Lin C., Aiken, G. R., Alpers, C. N., 2016. Terrestrial mercury in the Western United States: Spatial distribution defined by land cover and plant productivity. *Science of the Total Environment*. DOI: 10.1016/j.scitotenv.2015.11.104

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. *Environmental Science & Technology* 46, 3803-3810.

Parker, J. A., **Webster, J. P.**, Kolodziej, E. P., 2012. Analysis of trenbolone acetate metabolites and melengestrol in environmental matrices using gas chromatography-tandem mass spectrometry. *Talanta* 99, 238-246.

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. *Environmental Science & Technology* 45, 8811-8818.

Pending Submission

Webster, J. P., Aiken, G. R., Ryan, J. N., Effect of fire on soil mercury in pinion-juniper woodland of Mesa Verde National Park. *In preparation for submission to Science of the Total Environment*.

Webster, J. P., Kamark, B., Nano, G., Nagy, K., Manceau, A., Aiken, G. R., Ryan, J. N., Simulated wildfire heating of forest soil increases mercury affinity and alters sulfur speciation. *In preparation for submission to Environmental Science & Technology*.

Webster, J. P., Poulin, B. A., Callagon, E., Nagy, K., Manceau, A., Aiken, G. R., Ryan, J. N. Mercury affinity for ash-laden sediment increases following simulated reservoir deposition. *In preparation for submission to Environmental Science & Technology*.

Posters and Presentations

Webster, J. P., Aiken, G. R., Ryan, J. N., Nagy, K., Manceau, A., Callagon, E., 2014. Fate and transport of mercury in a watershed-reservoir system burned in the 2012 Hewlett Gulch Fire, Fort Collins, Colorado. Oral presentation. Presented at the annual fall meeting of the American Geophysical Union, San Francisco, California, December 18, 2014.

Webster, J. P., Aiken, G. R., Ryan, J. N., Nagy, K., Manceau, A., Callagon, E., 2013. Fate and transport of mercury in a watershed-reservoir system burned in the 2012 Hewlett Gulch Fire, Fort Collins, Colorado. Oral presentation. Presented at the 125th annual meeting of the Geological Society of America, Denver, Colorado, October 28, 2013.

Webster, J. P., Ryan, J. N., Aiken, G. R., 2013. The effect of wildfires on soil-mercury distribution and mobilization at Mesa Verde National Park, Colorado, USA. Oral presentation. Presented at the 11th International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, July 30, 2013.

Webster, J. P., Ryan, J. N., Aiken, G. R., 2012. Does wildfire affect mercury mobilization, transport, and fate in aquatic environments? Oral presentation. Presented at the Four Corners Air Quality Forum Mountain Studies Institute, Durango, Colorado, May 23, 2012.

Webster, J. P., Kamark, B. L., Ottenfeldt, C. F., Ryan, J. N., Aiken, G. R., Nagy, K. L., Nano, G., Manceau, A., 2011. Changes in the binding of mercury to forest soils following natural and prescribed fire and furnace heating. Poster presentation. Presented at the American Chemical Society National Meeting, Denver Colorado, August 25, 2011.

Webster, J. P., Kover, S. C., Kolodziej, E. P., 2010. Occurrence of trenbolone acetate metabolites in simulated beef feedlot runoff. Oral Presentation. Presented at SETAC National Meeting, Portland, Oregon, November 9, 2010.

Research Grants and Awards

Dissertation Completion Fellowship Award, 2015. Award amount \$16,400. Awarded by the Department of Civil, Environmental and Architectural Engineering Department, University of Colorado Boulder.

Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI) Pathfinder Fellow, 2013. Fellowship amount: \$5,000. Awarded to investigate drying and burning of peat on sulfur speciation and mercury transport in the Florida Everglades.

George Melendez Wright Climate Change Fellow, 2011. Fellowship amount: \$20,000. Awarded to study the effects of wildfire and fire management practices on mercury transport in Mesa Verde National Park.

Nevada NFS EPSCOR Undergraduate Research Grant, 2008. Grant amount: \$5,500. Awarded to study steroid transport from feedlot surfaces.

University of Nevada General Undergraduate Research Award, 2008. Award amount \$2,500.