

# November Lunch Presentation: Effects of Oil and Gas Development on Water Quality

## Who:

Joe Ryan, Professor in the Department of Civil, Environmental, and Architectural Engineering at the University of Colorado Boulder in Boulder, Colorado.

# **Background:**

Joe Ryan has been teaching and conducting research at the University of Colorado Boulder since 1993 as part of the Environmental Engineering Program. Joe holds a B.S. degree in geological engineering from Princeton University and M.S. and Ph.D. degrees in environmental engineering from the Massachusetts Institute of Technology. His research and outreach focuses on the fate and transport of contaminants in natural waters. Current research efforts include investigations of the role of organic matter and colloids in the speciation and transport of contaminants and the effects of oil and gas development on water quality. He and his co-authors have published seventy-plus articles on these topics. Joe is the faculty director of the National Science Foundation-funded AirWaterGas Sustainability Research Network, a multi-institution team of twenty-seven researchers addressing the effects of oil and gas development on air and water resources in the Rocky Mountain region.

#### **Presentation:**

For this presentation, Joe will describe research conducted on the effects of oil and gas development on water quality along Colorado's Front Range in the Denver-Julesburg Basin. Using publicly-available data from the Colorado Oil and Gas Conservation Commission and FracFocus, the national database of ingredients of hydraulic fracturing fluids, Joe and his colleagues (1) examined the occurrence and sources of methane and benzene, toluene, ethylbenzene, and xylenes (BTEX) in groundwater used as drinking water and (2) evaluated fracturing fluid ingredients based not just on toxicity, but also on mobility and persistence, to identify compounds that should be the focus on groundwater monitoring and "greening" of fracturing fluids.

**PLACE**: GHD

718 3rd Street, Eureka

**DATE**: Thursday, November 8, 2018

*TIME:* 12:00 to 1:00 PM

**COST:** \$15.00

**RSVP:** Please RSVP by Tuesday, November 6, 2018

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## **UPCOMING EVENTS**