

## Emily K. Lesher

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### Education

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<b>8/08-present</b>	<b>Colorado School of Mines</b>	<b>Golden, CO</b>
<b>8/06-12/08</b>	PhD candidate Masters of Science Environmental Science and Engineering Division Laboratory for Applied and Environmental Radiochemistry	
<b>9/98-12/02</b>	<b>Dartmouth College</b>	<b>Hanover, NH</b>
	B.A. Earth Sciences with High Honors G.P.A.: 3.46/4.00	

### Research

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<b>8/07-present</b>	<b>PhD Thesis Research</b>	<b>Golden, CO</b>
	Advisors: Dr. Jim Ranville and Dr. Bruce Honeyman Developing online FFF-ICP-MS method of uranium speciation determination as a tool to understand the fate and transport of uranium in the subsurface. Applying FFF-ICP-MS method to surface sorption and natural organic matter complexation experiments, and to transport experiments.	
<b>5/07-8/07</b>	<b>Sussman Research Intern</b>	<b>Rifle and Golden, CO</b>
	Advisors: Dr. Linda Figueroa and Dr. Phil Long (PNNL) Collaborated with DOE funded Rifle Integrated Field Challenge. Investigated the role of organic carbon (solid phase and dissolved) in the biologically mediated removal of uranium from groundwater. Supported by the Edna Bailey Sussman Foundation.	
<b>11/06-4/07</b>	<b>Research Assistant</b>	<b>Golden, CO</b>
	Assisted Dr. Derrick Rodriguez and Andy Miller with experiment preparations and sampling in two dimensional, groundwater flow simulation experiments.	
<b>9/01-6/02</b>	<b>Undergraduate Thesis Research</b>	<b>Hanover, NH</b>
	Advisor: Dr. Arjun Heimsath Modeled geomorphological development of marine terraces in Santa Cruz, CA by creating a digital elevation model and modeling erosion in Matlab. Supported by a Richter research grant.	
<b>9/01-11/02</b>	<b>Undergraduate Research Assistant</b>	<b>Hanover, NH</b>
	Advisor: Dr. Arjun Heimsath Prepared samples for cosmogenic radionuclide analyses.	
<b>1/99-5/99</b>	<b>Women in Science Program Research Intern</b>	<b>Hanover, NH</b>
	Advisors: Dr. Carl Renshaw and Dr. Xiahong Feng Investigated interactions between clays and surfactants using XRD and column experiments.	

## **Teaching**

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- 8/06-5/07**      **Teaching Assistant, CSM Environmental Science Division**      **Golden, CO**  
Tested and set up labs for ESGN 500L, Principles of Environmental Chemistry  
Maintained Integrated Environmental Teaching Laboratory.
- 8/03-6/06**      **Teacher, Miller School of Albemarle**      **Charlottesville, VA**  
Taught Chemistry, Honors Chemistry, A.P. Environmental Science, and Earth Science.  
Advised students, coached tennis and volleyball teams.  
Created and led Enviroteam program where students learned outdoors skills and  
    competed in local envirothon.  
Member of residential duty team, science department, and various internal committees.  
Developed science department curriculum.
- 5/03-8/03**      **Teaching Intern, Woodberry Forest School**      **Woodberry Forest, VA**  
Co-taught Field Biology summer course for high school students.  
Residential duty team member.

## **Skills**

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- Analytical:** ICP-MS, Field flow fractionation, ICP-AES, DOC fractionation and analysis, solid phase TOC, UV-Vis spectroscopy, Dynamic light scattering, X-ray diffraction, Liquid scintillation counting
- Computing:** Chemical Speciation (Visual MINTEQ, Hydraql), Transport (Chain, MPNE), ArcView, JMP, Microsoft Office, Matlab
- Relevant Coursework:**
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|---|----------------------------------|
| Principles of Environmental Chemistry       | Natural Resource Economics       |
| Environmental Pollution: Fate and Transport | Subsurface Contaminant Transport |
| Nuclear and Isotopic Geochemistry           | Geochemical Methods              |
| Hazardous Waste Site Remediation            | Microbiology                     |
| Environmental Toxicology                    | Aquatic Surface Chemistry        |

## **Other Professional and Leadership Experience**

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- 9/02-9/03**      **Dartmouth Outing Club Trips Director**      **Hanover, NH**  
Coordinated 90 five-day outdoor orientation trips for over 900 incoming first-year students over twenty days. Responsible for all safety, logistics, and communication.  
Trained 225 student and faculty trip leaders and crew members.  
Collaborated with administrators and college staff.
- 6/99-8/99**      **Assistant Manager, Crew member, Moosilauke Ravine Lodge**      **Warren, NH**  
**6/01-8/01**  
Trained and managed crew of 7-8 to provide rustic mountain accommodations to guests. Prepared meals for 100+ guests on some days, maintained and improved facilities, ordered food. (Non-managerial role in 1999).

## **Fieldwork**

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- 6/07-9/07**      Field scale bioremediation experiment      Rifle, CO
- 10/01-11/01**      Fieldwork for Senior Thesis      Santa Cruz, CA
- 8/00-11/00**      Dartmouth Earth Sciences Field Study      Western U.S., Mexico

## **Conference Presentations, Published Abstracts, Publications**

- Leshner, E, Ranville, J, Honeyman, B. Analysis of pH Dependent Uranium (VI) Sorption to Nanoparticulate Hematite by Flow Field-Flow Fractionation - Inductively Coupled Plasma Mass Spectrometry. *Under review for publication.*
- Leshner, E, Ranville, J, Honeyman, B. Hyphenation of field flow fractionation with ICP-MS to Determine Pore-Scale Uranium (VI) Speciation. Oral Presentation (presented by Ranville) at the 5<sup>th</sup> Congress Society for Environmental Toxicology and Chemistry World Congress, Sydney, Australia, August 2008.
- Leshner, E, Pace, H, Forth, J, Ranville, J. Hyphenated Techniques for Determining pH Dependent Pore-Scale Uranium (VI) Speciation. Oral Presentation at the 2008 WEF/AWWA Student Conference, Golden, CO, May 2008.
- Leshner, E, Ranville, Honeyman. Optimization of Flow-Field Flow Fractionation-Inductively Coupled Plasma Mass Spectrometry for U(VI) Characterization. Poster presentation at the 2008 Graduate Students Association Research Fair, Golden, CO, April 2008. Second place prize for best poster.
- Leshner, E, Pace, H, Forth, J, Ranville, J. Detection and Characterization of Natural and Engineered Nanoparticles in the Environment. Oral Presentation at the 2008 Society for Environmental Toxicology and Chemistry-Rocky Mountain section, Golden, CO, April 2008.
- Leshner, E, Ranville, Honeyman. Optimization of Flow-Field Flow Fractionation-Inductively Coupled Plasma Mass Spectrometry for U(VI) Characterization. Poster presentation at Environmental Remediation Sciences Program (ERSP) PI's meeting, Lansdowne, VA, April 2008.
- Ranville, Leshner, Honeyman. Hyphenated Techniques for Determining pH Dependent Pore-Scale Uranium (VI) Speciation. Oral presentation (presented by Ranville) at Environmental Remediation Sciences Program (ERSP) PI's meeting, Lansdowne, VA, April 2008.
- Leshner, E, Pace, H, Forth, J, Ranville, J. Detection and Characterization of Natural and Engineered Nanoparticles in the Environment. Oral Presentation at the 2008 American Geophysical Union's Hydrology Days, Fort Collins, CO, March 2008.
- Leshner, E, Figueroa, L, Ranville, J, Characterization of Dissolved Organic Carbon in a Biostimulated Aquifer. Oral Presentation at the 2007 Geological Society of America Denver Annual Meeting, Denver, CO, October 2007.
- Campbell, K M, Williams, K H, Leshner, E, Figueroa, L, Davis, J A, Long, P E (2007), A Comparison of Naturally-Occurring and Artificially Stimulated Uranium(VI) Bioreduction in Sediment from a Field-scale Experiment in Rifle, CO, *Eos Trans. AGU.* 88(52), Fall Meet. Suppl., Abstract B32A-05
- Leshner, Emily. Landscape Development of the Santa Cruz Marine Terraces, California: a Test of Landscape Age. Senior Honors Thesis, Department of Earth Sciences, Dartmouth College. 2002.

## **Awards**

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- 4/08 2<sup>nd</sup> place, Graduate Students Association Research Fair (poster presentation)
- 4/08 Student Presentation Award, Rocky Mountain SETAC (oral and poster presentation)
- 4/08 Recipient of ERSD Student Travel Fellowship
- 7/07 Colorado Lake and Reservoir Management Association Scholarship recipient – participated in lake monitoring program.
- 5/06 Golden Apple Award for Excellence in Teaching

## **Community Involvement**

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- 2004-present Alumni interviewer for Dartmouth College
- 1/04-5/06 ESL instruction for immigrants, Church of the Incarnation, Charlottesville, VA
- 1/03-3/03 Volunteer ski instructor for Junior Instructional Ski Program, Bromley Mountain, VT
- 9/98-12/02 Maintained 75 miles of the Appalachian Trail with Dartmouth Outing Club

## **Professional Service and Affiliations**

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- 4/08-present Society for Environmental Toxicology and Chemistry
- 10/06-10/07 Student Committee of the Environmental Science and Engineering Division (SCESE)
- 10/07-present Geological Society of America
- 1/07-present Society of Women Environmental Professionals
- 10/06-present American Water Works Association
- 9/03-present National Science Teachers Association