
EDUCATION

Colorado School of Mines (08/08 – 12/13)
Geochemistry PhD, GPA 3.89

PhD Thesis:

“Geochemistry and Mineralogy of the Three Crow Roll-front Uranium Deposit Alteration Halo, Nebraska, USA”

Identifying the processes occurring within a uranium roll-front and the resulting geochemical and mineralogical gradients relevant for exploration, sponsored by Cameco Corp.

University of Wisconsin Oshkosh (08/04 – 05/08)

Bachelor of Science, Analytical Chemistry Major, Mathematics Minor, GPA 3.97 (Summa Cum Laude)

Honors Thesis:

“Developing Dye Sensitized Solar Cells Incorporating ZnS Nanoparticles”

Determining suitability of various zinc nanoparticle materials for use in novel solar cell applications

EMPLOYMENT

Lecturer, South Dakota State University (8/14 – present)

Teaching in several areas of chemistry at South Dakota State University and Lake Area Technical Institute:

- Prepare lecture materials including notes, examples, quizzes, homework, and exams
- Prepare laboratory materials and guide students through practical laboratory exercises
- Collaboration with other instructors of General Inorganic and General Organic and Biochemistry courses in evaluating course materials and peer observation
- Involvement in departmental meetings, governance, and committees

Reader, Measured Progress through Kelly Services (11/13, 4/14 – 8/14)

Scored standardized test questions for middle and high school

- Scored middle school mathematics and science and high school English and science
- Brief experience managing scoring team

Research Assistant, Geology and Geological Engineering, Colorado School of Mines (06/09 – 08/13)

PhD thesis research with Dr. Thomas Monecke and Dr. Richard Wendlandt covered several areas:

- Characterization of geologic materials using optical and cathodoluminescence microscopy, Qemscan, SEM, LA-ICP-MS, TEM and XRD
- Interpretation of data and generation of geochemical and mineralogical gradients relevant to exploration for roll-front uranium deposits
- Written and oral communication with sponsor company and professional societies

Graduate Teaching Assistant, Chemistry and Geochemistry, Colorado School of Mines (08/08 – 05/09)

Taught general chemistry laboratory

- Guided 75 students per semester through practical laboratory exercises
- Prepared short lectures on laboratory topics, graded labs, and provided one-on-one help outside of scheduled laboratory time

Research Assistant, Department of Chemistry, University of Wisconsin Oshkosh (06/08 – 08/08)

Research under the supervision of Dr. Brant Kedrowski covered these areas:

- Solvent extraction of FAMES from archeological samples
- Analysis of extracted FAMES using GC-MS to determine concentration and types

Research Intern, Earth and Planetary Sciences, American Museum of Natural History (06/07 – 08/07)

Research under the supervision of Dr. George Harlow covered these areas:

- Selected, prepared, and analyzed samples using electron microprobe analysis and single crystal XRD for use as references in the Spitzer telescope project
- Examined grain mount samples under SEM for particle size distribution

Teaching Assistant, Department of Chemistry, University of Wisconsin Oshkosh (09/06 – 12/07)

Assisted Dr. Jonathan Gutow with discussion for general chemistry classes covered these areas:

Administered quizzes, assisted students with chemistry exercises, and facilitated classroom discussion

Laboratory Intern, Research and Development, Upsher-Smith Laboratories, Inc. (06/06 – 08/06)

Ran dissolution tests, assisted other testing, and prepared reagent solutions for laboratory use

Laboratory Intern, Quality Control, Upsher-Smith Laboratories, Inc. (05/05 – 08/05)

Ran cation identification tests and maintained laboratory cleanliness

RESEARCH

Ph.D. Research, Colorado School of Mines

- Developed sample preparation method for Qemscan analysis of very small sample sizes
- Gained lab skills relevant to detailed mineralogical analysis including mineral separations, grain picking, optical and reflected light microscopy, cathodoluminescence microscopy, SEM, LA-ICP-MS, TEM, and XRD
- Modeled radiation damage of quartz in water saturated sediments
- Sponsors: Cameco Corp., Society of Economic Geologists

Undergraduate Honors Thesis Research, University of Wisconsin Oshkosh

- Developed dye-sensitized solar cells using various ZnS nanoparticle materials
- Synthesized organometallic dye molecules using rhenium
- Constructed testing apparatus for evaluating solar cell efficiency

Research Experience for Undergraduates Research, American Museum of Natural History

- Determined the viability of samples as references for the Spitzer telescope project
- Determined chemical composition of various end-member types of minerals such as olivine
- Gained experience with electron microprobe analysis and single crystal XRD

Research Assistant to Dr. Brant Kedrowski, University of Wisconsin Oshkosh

- Gained experience in solvent extraction of fatty acids from archeological samples, conversion of fatty acids to fatty acid methyl esters (FAMES), and GC-MS analysis of FAMES

PAPERS AND PRESENTATIONS

Journal publication in preparation

Leibold, J., Monecke, T., Kelly, N., Koenig, A., Accessory Mineralogy of the Sandstone Hosting the Three Crow Roll-Front Deposit, Nebraska: Constraints on Processes of Uranium Enrichment.

American Mineralogist – submitted, in review

Leibold, J., Monecke, T., Gorman, B., Götze, J., Radiation Damage in quartz from the Three Crow roll-front uranium deposit, Nebraska.

11/2012 GSA Annual Meeting – Oral

Leibold, J., Monecke, T., Using Cathodoluminescence, CL Spectroscopy and Raman Spectroscopy to Determine the Effect of Radiation Damage on Quartz Grains in a Roll-Front Uranium Deposit.

5/2012 IAEA Technical Meeting on the Origin of Sandstone Uranium Deposits – Oral, pres. by A. Hanly

Leibold, J., Monecke, T., Jiricka, D., Hanly, A., Radiation Damage of Quartz Grains Contained in the Host Sandstones of the Three Crow Roll-front Uranium Deposit, Nebraska.

10/2011 GSA Annual Meeting – Oral

Leibold, J., Monecke, T., Kelly, N., Sulfide Morphology and Distribution at the Three Crow Roll-Front Uranium Deposit, Nebraska.

09/2011 U2011 Uranium Symposium – Oral

Leibold, J., Monecke, T., Kelly, N., Mineralogy of the Alteration Halo Associated with the Three Crow Roll-Front Uranium Deposit, Nebraska.

09/2010 SEG 2010 Conference – Oral

Leibold, J., Monecke T., Kelly, N., Geochemical and Mineralogical Vectors to Mineralization at the Three Crow Roll-Front Uranium Deposit, Nebraska.

SKILLS

Analytical: LA-ICP-MS, GC-MS, IPC-AES, SEM, TEM, FTIR, UV/VIS and Raman spectroscopy, solid and liquid TOC/IC, XRD, familiar with HP-LC and dissolution testing

Educational: laboratory preparation and instruction, lecture preparation, assessment preparation and evaluation

Computer: Microsoft Office software, limited familiarity with geochemical modeling software such as Geochemists Workbench

AWARDS

Hugh E. McKinstry Fund Grant, Society of Economic Geologists (2009)

Outstanding Senior Chemistry Award, University of Wisconsin Oshkosh and North East Wisconsin Local Section of the American Chemical Society (2008)

Undergraduate Research Symposium Award for Excellence, University of Wisconsin Oshkosh (2008)

POLYED Undergraduate Award for Achievement in Organic Chemistry, University of Wisconsin of Oshkosh (2006)

University of Wisconsin Oshkosh Dean's List (2004 – 2008)

AFFILIATIONS

American Chemical Society (ACS) member

Geological Society of America (GSA) member

National Association of Geoscience Teachers (NAGT) member