KATHERINE J. R. LEWIS

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EDUCATION

Whitman College — Walla Walla, WA
B.A. Chemistry — May 2008
GPA: 3.923 — *Summa Cum Laude*

University of Colorado at Boulder — Boulder, CO
M.S. Chemical & Biological Engineering — May 2012
PhD Chemical & Biological Engineering — *Anticipated 2015*
Advisor: Professor Kristi Anseth

Graduate Courses Completed: (Cum. GPA: 3.84)
Seminar in Chemical Engineering (CHEN 5090); Research Methods/Ethics (CHEN 5333); Inter Chem Eng Thermodynamics (CHEN 5370); Analytical Methods (CHEN 5740); Biochemical Separations (CHEN 5820); Applied Statistics in R & D (CHEN 5128); Polymer Physics (CHEN 5838); Reaction Engineering (CHEN 5390); Transport Phenomena (CHEN 5210)

EXPERIENCE

Thermo Fisher Scientific — Lafayette, CO
Research Associate II — *Nov 2009-July 2010*
- Automated synthesis, HPLC purification, UPLC, UV/Vis and LC/MS analysis of custom DNA aptamers

Temporary Production Associate — *May 2009-Nov 2009*
- Set-up and maintenance of RNA synthesizer machines; various housekeeping duties; occasional mass spec analysis

Whitman College Chemistry Department — Walla Walla, WA
Laboratory Assistant — *Fall 2007*
Chemistry Tutor — *Fall 2007 and Spring 2008*

Pacific Northwest National Laboratory — Richland, WA
Chemical and Biological Processes Development group — Mentor: Tim Bays
Technical Intern — *Summer 2007*
- Synthesized mesoporous silica, varying pore size; functionalized silica surface; synthesized magnetic silica

Pacific Northwest National Laboratory — Richland, WA
Advanced Radioanalytical Chemistry group — Mentors: Matt Douglas, Paula Bachelor
Technical Intern — *Summer 2005 and Summer 2006*
- Varied resin type and bed volume to optimize recovery of Pu from a Pu/Co solution
- Performed separation of actinide elements from a tracer solution and from an unknown

PUBLICATIONS

- KJR Lewis, MW Tibbitt, Y Zhao, K Branchfield, X Sun, V Balasubramaniam, and KS Anseth, *In vitro* model alveoli from photodegradable microsphere templates, *Biomaterials Science,* 2015, **3**, 821-832.
- KJR Lewis, KS Anseth, Hydrogel scaffolds to study cell biology in four dimensions, *MRS Bulletin*, 2013, **38**, 260-268.
- AM Kloxin‡, KJR Lewis‡, CA DeForest, G Seedorf, MW Tibbitt, V Balasubramaniam, and KS Anseth, Responsive culture platform to examine the influence of microenvironmental geometry on cell function in 3D, *Integrative Biology*, 2012, **4**, 1540–1549. ‡ *These authors made equal contributions.*

RESEARCH PRESENTATIONS

- "In Vitro Model Alveoli From Photodegradable Templates And Primary Lung Epithelial Cells" Poster; Society for Biomaterials Annual Meeting; Denver, CO; April 2014
- "Photodegradable microsphere templates for creating model alveoli in PEG hydrogels" Presentation; Australasian Polymer Symposium; Darwin, Australia; July 2013
- "Photodegradable Microspheres as Templates for Model Alveoli Formation" Presentation; Society for Biomaterials Annual Meeting; Boston, MA; April 2013
- "Formation of Model Alveoli In A Tunable Synthetic Scaffold" Poster; Polymer Networks Conference; Jackson Hole, WY; August 2012
- "Lung Epithelial Cell Response to 3D Patterned Environment" Presentation; Student Annual Research Symposium; CU Chemical & Biological Engineering Department; Boulder, CO; October 2011
- "How to Make Sand: Synthesis and Modifications of Mesoporous Silica" Presentation; Whitman Undergraduate Conference; Walla Walla, WA; April 2008
- "How to Make Sand: Synthesis and Modifications of Mesoporous Silica" Poster; The Murdock Foundation Conference on Undergraduate Research; Salem, OR; November 2007

- "The Wet Side of Nuclear Analysis: Improving Column Chromatography Methods for Actinide Separations" Poster; The Murdock Foundation Conference on Undergraduate Research; Portland, OR; October 2006

SKILLS

Laboratory: organic and inorganic synthesis techniques; experience with HPLC, MALDI-MS, NMR, solid-phase peptide synthesis; cell culture techniques; immunostaining; confocal microscopy; rheometry; PDMS microfluidic device assembly

Computer: Microsoft Office (Word, Excel, PowerPoint), MATLAB, Mathematica, ImageJ, Adobe Illustrator

Language: French, competent in both written and oral

HONORS

Whitaker International Program Summer Grant, Australia, 2013
NSF Graduate Research Fellowship Program Honorable Mention, 2012
Dean's Outstanding Merit Fellowship, CU-Boulder, 2010
Boulder County Volunteer of the Week, July 2009
Member of Phi Beta Kappa Honors Society, initiated May 2008
Merit awards from Whitman College Chemistry Department, 2006, 2007, 2008
Scottish Rite Merit Scholarship
Robert C. Byrd Scholarship
William O. Douglas Scholarship
National Merit Scholarship

ACTIVITIES

Tutoring Program Leader, material prep and organizing AP Calculus tutoring, Skyline HS, Longmont, CO, August 2012-August 2014
Volunteer Tutor, AP Chemistry and Calculus test prep one evening per week, Skyline HS, Longmont, CO, Sept. 2011-April 2012
Volunteer Teacher's Assistant, helping K-4th graders at The Family Learning Center, Boulder, CO, Sept. 2008-April 2009
French Minor, language and literature
Study Abroad, one semester in Nantes, France, spring 2007