

KELSEY L. REEVES

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1. EDUCATION

- University of Colorado at Boulder**, Boulder, CO 2016 - Currently
Ph.D. in Engineering, Environmental Engineering, GPA: 3.97/4.00
Expected Comprehensive Exam Date: September, 2018
- University of Connecticut**, Storrs, CT 2012 - 2016
Bachelor of Science in Engineering, Environmental Engineering,
Summa Cum Laude, GPA: 3.94/4.00
- Green Program - Renewable Energy and Sustainability Practices in Iceland** June 2014
3 ECTS from the School of Science and Engineering at Reykjavik University, Reykjavik, Iceland
- California State University Office of Water Programs Courses** June, 2011 - October, 2013
Operations of Wastewater Treatment Plants 1 and 2 and Utility Management
- Ella T. Grasso Southeastern Technical High School**, Groton, CT June 2012
Salutatorian of Class, Certification in Plumbing and Heating

2. PUBLICATIONS

Chrysochoou M. and Reeves K. 2016. "Reduction of Hexavalent Chromium by Green Tea Polyphenols and Green Tea nano-zero valent iron (GT-nZVI)" *Bulletin of Environmental Contamination and Toxicology*. doi:10.1007/s00128-016-1901-9

3. RESEARCH EXPERIENCE

Statistical Modeling of Water Quality Thresholds and Exceedance Evaluations for Drinking Water Treatment Facilities

August 2016 - Currently, CU Boulder *Advisers: Dr. Balaji Rajagopalan, Dr. R. Scott Summers*

- Model surface water total organic carbon and turbidity concentrations using climate and land surface predictors to inform drinking water treatment plant decisions makers of future disinfection byproduct formation potential and variability in turbidity.
- Develop thresholds and threshold exceedance models for influent water quality to analyze effects of variable climate and land surface disturbances on treated drinking water.

Manufacturing of Ceramic Disks with Silver Nanoparticles for Drinking Water Treatment

May 2016 - August 2016, UCONN *Adviser: Dr. Jonathan Mellor*

- Designed procedures to make ceramic disks painted with silver nanoparticles and procedures to quantify silver dissolution and release from the disks.

Community Based Study of Sources and Transport of Fecal Bacteria in Rural Ethiopia under Different Climate and Weather Events and Resulting Diarrhea Prevalence

January 2016 - May 2016, UCONN *Adviser: Dr. Jonathan Mellor*

- Developed baseline studies to assess the water, sanitation, hygiene, and health condition of four communities that relied exclusively on one of four types of drinking water (i.e. unprotected spring, dug well, protected spring, and river water) to inform models assessing changes in water quality, water access, and diarrhea rates.
- Traveled to Ethiopia to establish the baseline study with partners at Bahir Dar University, Ethiopia and to teach Ethiopian partners how to assess microbial characteristics of the four drinking water sites using Compartment Bag Tests.

Study on Efficacy of Ceramic Filters from Ethiopia for Drinking Water Treatment

May 2015 - May 2016, UCONN *Adviser: Dr. Jonathan Mellor*

- Conducted challenge testing on filters from an Ethiopian factory to study the effectiveness of the filters to mitigate the spread of water borne diseases.

- Traveled to Ethiopia to document the manufacturing process employed by the factory.

Hexavalent Chromium Remediation Using Green Tea

August 2014 - May 2016, UCONN

Adviser: Dr. Maria Chrysochoou

- Investigated the reduction of hexavalent chromium using polyphenols in green tea to establish a less expensive and environmentally friendly in-situ remediation approach.
- Analyzed the reaction responses to pH and isolated specific polyphenol types to determine possible constituents affecting the reaction.

4. ENGINEERING EXPERIENCE

Engineers Without Borders (EWB) - Small Scale Irrigation Project Officer 2014 - 2016

- Designed an irrigation system to utilize surface water storage to expand the duration of agricultural growth for a rural village in Ethiopia.
- Delegated tasks, ensured all documents were prepared for their respective deadlines, facilitated communication among the project team, professional mentors, and program affiliates.
- Traveled to the project site to conduct a preliminary assessment in May, 2015.
- Travel team leader for data collection at the project site in January, 2015.

EWB Dominican Republic Project Initiative - Travel Team Member 2015

- Traveled to the Dominican Republic to assess drinking water quality in a rural community, and to assist the community with applying for a program with UCONN Engineers Without Borders.

Tighe & Bond, Inc - Intern Engineer 2013

- Conducted an Inflow and Infiltration Study for the Town of Thomaston, CT, including dye tests, house inspections, and data analysis to reduce additional flow to the wastewater treatment plant.
- Constructed a license revocation request packages for CT DEEP regarding generator Notice of Violations at the City of Groton Wastewater Treatment Plant and Groton Utilities Water Division.

City of Groton Wastewater Treatment Plant - Internship 2011- 2012

- Built a Compact Bio-filtration Unit to mitigate pungent odors leaking from passage ways throughout the wastewater treatment plant.
- Constructed an air conditioning system that uses plant effluent to reduce the cooling and heating expenses for the treatment plant.
- Performed preventative and emergency maintenance for the plant and pump station.
- Toured multiple wastewater treatment plants to study other treatment processes.

5. TEACHING EXPERIENCE

Lens on Climate Change, Science Mentor Summer 2018

- As part of a program by the Cooperative Institute for Research in Environmental Sciences (CIRES), assisted students with identifying, researching, and explaining how climate change affects their hometown via producing a film.

Multiple Time Guest Lecturer, CU Fall 2016 & Spring 2017

Class: Undergraduate Engineering Hydrology

Teaching Assistant for Undergraduate Engineering Courses, CU

- *Engineering Hydrology* Spring 2017
Course Instructor: Prof. Joseph Kasprzyk
- *Engineering Hydrology* Fall 2016
Course Instructor: Prof. Ben Livneh
- *Professional Issues in Engineering* Fall 2016
Course Instructor: Prof. Angela Bielefeldt

Teaching Assistant Duties

- Host office hours, grade homework, assist with in-class learning exercises, and help prepare examinations, homework assignments, and lectures.

Graduate Teaching Program Workshops, CU 2016 & 2017

- How to Teach Everyone: The Kolb LSI
- Teaching-as-Research: How to Study Student Learning in Your Classroom
- Discrimination and Harassment Mandatory Training
- The CU Honor Code and Ethics in Teaching
- Do You Have the Personality for Teaching?
- Making Room for Reality in STEM Recitations, Labs, and Classes
- The Fool-proof Way to Build Students' Critical Thinking Skills: Warm-ups and Closures
- Using Bloom's Taxonomy to Create S.M.A.R.T. Learning Objectives
- Conflict and Tension De-Escalation in the Classroom
- Teaching Contentious Topics
- Apply to Jobs at Teaching Colleges
- Mountains to Molehills: Improving the Student Experience in Large Lectures
- Teaching Large STEM Classes
- Diversity and Inclusion in College Classrooms

Tutor, UCONN Pre-Engineering Program 2012

6. PROFESSIONAL DEVELOPMENT

Awards and Honors

- NSF Graduate Research Fellowship Recipient 2018
- CIRES Graduate Student Research Award Recipient 2018
- Outstanding Senior Women Academic Achievement Award, *UCONN Women's Center* 2016
- Second Place Senior Thesis Award, *UCONN* 2016
- Babbidge Scholar recipient, *UCONN* 2015
- Women of Innovation Finalist, *Connecticut Technology Council* 2012
- Green Technology Fair Third Place Winner, *National Science Foundation - UCONN School of Engineering GK-12 Program* 2012
- New England Scholar, *UCONN* 2013 & 2014
- Dean's List, *UCONN* 2012, 2013, 2014, 2015, 2016

Speeches

- UCONN Engineering Awards Ceremony 2015
- Grand Opening for the E. T. Grasso Southeastern Technical High School E-house 2013

Presentations

- "Small Scale Irrigation Project at Abba Samuel River Watershed" 2016
New England Water Environment Association (NEWEA) Annual Conference
Copresenter with Fiona O'Donnell in the Water for People Session.
- "Small Scale Irrigation Project at Abba Samuel River Watershed" 2016
Presentation on behalf of UCONN Engineers Without Borders to the City of Groton, CT Municipal Council
- "Build Your Own Portable Bio-filtration Unit" 2012
NEWEA Annual Conference
- "Nitrogen 101: Transforming a 1955 Facility to Meet 2014 Nitrogen Removal Goals" 2012
NEWEA Spring Conference
- "Build Your Own Portable Bio-filtration Unit" 2012
Atlantic State Rural Water Wastewater Association Annual Conference

Posters

- “Development of Thresholds and Exceedance Probabilities for Influent Water Quality to Meet Drinking Water Regulations” 2017
American Geophysical Union Fall 2017 Meeting & CIRES Rendezvous 2018

Leadership Development

- *Colorado Water, Sanitation, and Hygiene Symposium* Programming Team Chair 2017 & 2018
 - Led efforts to develop and distribute calls for abstracts and specials sessions.
 - Organized teams to review all abstracts, distribute funding to selected applicants, and develop the program schedule.
 - Supervised communication to all presenters.
 - Worked with logistics, finance, and marketing teams to ensure program success.
- Attendance to Leadership Skills Workshops hosted by CIRES 2018
- Conducted a campaign to educate a local community on non-degradable wipes and materials that were causing excessive wastewater backups and clogged pumps at the city wastewater treatment plant 2014
- Attended the UCONN Bridge Engineering Diversity Program 2012
- Volunteered for:
 - National Oceanic Sciences Bowl Finals Competition 2018
 - CU Boulder Water Resources dinner with prospective graduate students to discuss my experiences at CU and answer questions from the potential students 2017
 - UCONN Civil/Environmental Engineering Open House 2015
 - UCONN Multiply Your Options Conference for young women interested in STEM Careers 2012
 - To guest speak at a technical high school discussing student opportunities to pursue college and STEM fields 2012
- Past Active Member of UCONN organizations: National Science Foundation First in Family Energy (FIFE) Program, Husky Ambassadors - Avery Point, Eco-Huskies - Avery Point, Alpha Lambda Delta National Honor Society, and the National Society of Collegiate Scholars

Special Recognition

- Potter, C. “Fulfilling her Pipe Dreams.” *The Day* [New London, CT], 15 Dec. 2011. <http://www.theday.com/article/20111215/NWS01/312159574/0/search>
- Straszheim, D. “Sewer plant internship inspired UConn student.” *The Day* [New London, CT], 17 July 2014. <http://www.theday.com/article/20140717/NWS01/307179925/0/search>

Organizations

- American Geophysical Union
- American Public Works Association
- CIRES
- CU Water Resources Group
- Engineers Without Borders
- NEWEA
- New England Water Works Association
- Society of Women Engineers
- Tau Beta Pi National Engineering Honor Society
- Water Environment Federation
- Water for People Member, NEWEA Chapter

Foreign Language Skills

- Spanish (Beginner)

License

- Wastewater Treatment Plant Operator Class 1 License, *Connecticut* 2013

Programming Skills

- MATLAB, R, ArcGIS, HEC-HMS, Excel