

Caroline Pierce

University of Minnesota, Twin Cities
Soil, Water, and Climate Department
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EDUCATION

University of Minnesota, Twin Cities
Department of Soil, Water, and Climate
Land and Atmospheric Science (LAAS) Ph.D. program
Advisors: Brandy Toner and Ed Nater
Expected Completion 2023

University of Portland
Bachelor of Science, Chemistry; Minor: Environmental Science
American Chemical Society Certified
Magna Cum Laude
2010

GRADUATE RESEARCH EXPERIENCE

University of Minnesota - Soil Science Department
Graduate Student Researcher: Effects of Climate Change on Mercury in Boreal Peatlands
Supervisor: Brandy Toner and Ed Nater
2017-present

UNDERGRADUATE RESEARCH EXPERIENCE

University of Portland - Chemistry Department
Research Assistant - Inorganic Crystallization
Supervisor: Eugenijus Urnezis
2010

Research Assistant - Exploratory Improvements to the Purification of Taxol
Supervisor: Angela Hoffman
2009

RESEARCH INTERESTS

I am interested in identifying contaminants; determining source, transformation, and fate of contaminants; and collaborating with other disciplines to remediate environmental issues. Additionally, I'm interested in studying geochemical cycles, the effect of climate change on geochemical cycles, and the resulting effect on ecosystem health. More specifically, I'm interested in how climate change affects mercury in boreal or subarctic peatlands and the resulting effect on mercury concentrations in lakes/fish.

PROFESSIONAL PRESENTATIONS

Spruce and Peatland Responses Under Changing Environments (SPRUCE)
Annual All-Hands Meeting – Presented poster on research completed in first year of graduate school
“Temperature Effects on Mercury Flux from Peatlands”
May 2018

TEACHING EXPERIENCE

University of Minnesota – Saint Paul, MN

Teaching Assistant for Issues in the Environment – As part of a TA team, graded all assignments, essays, and midterms Spring 2019

Teaching Assistant for Wetlands – Graded all assignments and midterms, facilitated logistics of classroom (assigning groups, responding to student absences, recording attendance, etc.) Spring 2019

Teaching Assistant for Basic Soil Science – Graded all assignments and midterms, provided guidance during lab sessions, assisted a blind student by translating a highly visual class into verbal descriptions Fall 2018

Genentech Inc. - Hillsboro, OR

Trainer for Quality Assurance Release of Freeze/Thaw Tanks in the Quality Assurance Department: Audience size: 1-3 people per session 2015- 2017

Trainer for microbiological assays in the Quality Control Department. Audience size: 1-20 people per session 2011- 2014

University of Portland – Portland, OR

Teaching Assistant for “Chemistry and Art” - Set up the lab/classroom, assisted students during class, designed demonstrations/projects to be performed in the classroom with the professor. Class size: 20 students 2009- 2010

Organic Chemistry Workshop Leader – Tutored organic chemistry students as a small group leader, administered/graded weekly quizzes: Class size: 10 students 2008 - 2009

TEACHING INTERESTS

General Chemistry; Wetlands; Environmental Science; Basic Soil Science

PROFESSIONAL EXPERIENCE

Genentech Inc. – Hillsboro, OR

Quality Assurance Specialist I - August 2014 – July 2017

Provided quality oversight to aseptic manufacturing operations and maintenance operations at a commercial biologic drug manufacturing facility; investigated cause, impact, and corrective action for discrepant events at local/global sites; improved shipping process of tanks to reduce discrepant events; served as Team Lead during regulatory inspections, presented quarterly to a Network Team on improvement of discrepant events and remediation; responsible for training peers, assigning/distributing work to peers.

Sr. Quality Control Analyst - July 2012 – August 2014
Performed testing and review of biological and chemical testing of samples; executed/reviewed environmental monitoring of pharmaceutical classified areas; ensured inventory levels of microbiological media supplies; revised/created procedures; led team meetings and coordinated activities at cross-functional meetings; traveled to supplier's facility to perform inspections in support of new product launches; Project Manager of the Control Print Improvement Project: developed methods to track datasheets to ensure integrity of the data and prevent opportunities for fraud.

Quality Control Analyst II - May 2010 – July 2012
Performed testing of biological and chemical testing for samples; executed environmental monitoring of pharmaceutical classified areas; performed particulate matter analysis; prepared reagents, maintained equipment

Quality Control Co-Op - January 2010 - May 2010
Performed growth promotion and lot release of incoming media, prepared reagents, maintained equipment.

HONORS

University of Minnesota, Graduate School - Research Fellowship	2017
University of Portland - William and Lavina Wilson Award for outstanding academic merit	2009
96th percentile nationally on the American Chemical Society (ACS) standardized organic chemistry exam	2008
91st percentile nationally on the ACS standardized analytical chemistry exam	2008
University of Portland - Freshman Chemistry Student of the Year	2007

SKILLS

Computer: R; Labware; SAP; TrackWise; Visio

Chemical Lab techniques: Total Mercury and Methylmercury analysis; distillation; digestion; spectroscopic analysis (IR, UV/Vis, proton NMR)

Microbiological Lab Techniques: bioburden determination using membrane filtration; endotoxin determination using Limulus ameobocyte lysate; sterility testing; biological indicator testing; cryopreservation of environmental isolates; creation of turbidity references

Canadian Light Source Synchrotron: SXRMB beamline (XANES)

Experienced with isolator systems using nitrogen environments and sterile environments to perform various assays

COMMUNITY INVOLVEMENT

University of Minnesota, LAAS Graduate Student Body – Saint Paul, MN
Vice President/Treasurer - September 2018-present

Wildlife Rehabilitation Center – Roseville, MN February 2018 – present
Animal Care Crew – volunteer weekly feeding animals and cleaning enclosures

Twin Cities Rotaract – Minneapolis, MN September 2017 – June 2018
Member – participate in monthly volunteer activities

REFERENCES

Available upon request

Last updated 01/24/19