Franziska C. Landes

Oregon Department of Environmental Quality
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EDUCATION

Columbia University, New York, NY August 2019
- Ph.D. in Earth and Environmental Science; Dissertation: "Engaging communities to reduce toxic exposures with a field kit for mapping soil lead in Peru and New York." GPA: 3.9/4.0, M. Phil. Oct 2017 & M.A. May 2015

Jacobs University Bremen, Bremen, Germany June 2011
- B.Sc. in Earth and Space Sciences, specializing in Resources and Environment. GPA: 3.7/4.0

RESEARCH & WORK EXPERIENCE

Oregon Department of Environmental Quality, Portland, OR 10/2019-present
Project Manager and Data Analyst in the Cleanup Program
- Conducted statistical analysis of environmental data to support all aspects of the cleanup process, from remedial investigation to long-term monitoring. Technical lead for developing a groundwater vulnerability model as an innovative approach to prioritize site assessments across Oregon.
- Managed sites through the cleanup process from initial site characterization to removal and cleanup. Coordinated with local stakeholders, community groups, and consultants to build consensus and inform about cleanup program decisions.
- Environmental Justice Working Group planning committee founding member to support agency-wide coordination on promoting environmental equity through communication, engagement, education, and technical support.

Department of Earth and Environmental Sciences, Columbia University**,** New York (NYC), NY 09/2013 – 08/2019
Graduate Research Assistant in environmental geochemistry
- Processed and analyzed environmental data using R and Microsoft Excel to publish data and scientific manuscripts
- Planned and managed field project investigating environmental hazards, including leading teams of 5+ researchers and interviewers collecting environmental samples and pre-post household surveys during 5+ months of fieldwork in Peru as well as 2+ years locally in NYC; applied for grants, and prepared project budgets and timelines
- Developed, tested, and deployed a field procedure to determine levels of hazardous lead (Pb) in soil. Applied tools such as the EPA's Integrated Exposure Uptake Biokinetic Model for Lead to estimate population-based exposure
- Organized and facilitated community meetings for ~30 people in Peru (in Spanish) and in NYC on lead (Pb) and health
- Analyzed samples in the field by portable X-ray fluorescence (XRF) and in the laboratory by ICP mass spectrometry

Oklahoma Department of Environmental Quality, Oklahoma City, OK 12/2011-08/2013
Environmental Programs Specialist in the Brownfields Program of the Land Protection Division
- Managed potentially contaminated sites throughout the state. Collected environmental samples from soil, surface water, and groundwater. Conducted and reviewed site assessments, sampling plans, and remediation plans.
- Coordinated with local stakeholders, consultants, and organized local workshops & regional conferences to educate about regulations, state program requirements, and resources for brownfield assessment, and remediation

TEACHING, OUTREACH & COMMUNITY EDUCATION HIGHLIGHTS

Instructor of Record, Env. Geochemistry & Health in NYC, Columbia U., New York, NY 08/2018 - 12/2018
- Designed and taught this upper-level undergraduate course with activities including outdoor sample collection, data analysis of criteria air pollutants, and assignments conducting risk assessments and calculating reference doses.
- Taught undergraduate lab sections of ~30 students in 2015 (geology and climate science) and 2019 (earth science)

Multiple Undergraduate courses, Barnard College & Columbia University, New York, NY 08/2016 – 08/2019
- Developed new lab activities, incorporating the field procedure to test soil for lead (Pb), including soil sampling and kit analysis, into introductory undergraduate Environmental Science and Chemistry courses and lab sections.

Mentored Undergraduate Students, Columbia University, New York, NY 02/2017 – 08/2019
- Mentored and organized 2-4 undergraduate research assistants to conduct soil surveys - collection and analysis - in New York City (2017-2019). Mentored undergraduate student conducting senior thesis work (2017-2018).
- Applied for and received funding for an Earth Institute Undergraduate Research Assistant in Spring 2017 and 2018.

Graduate Teaching Assistant, Dept. Earth and Environ. Sciences, Columbia University, New York 09/2014 – 05/2019
- Co-facilitated the lab section for ~30 students and taught the intro lecture, prepared interactive lab assignments, graded, and held office hours, for the courses: Earth Origins (Spring 2019); Earth Systems: Solid Earth (Fall 2015); Earth Systems: Climate (Spring 2015). Facilitated student discussion boards for Earth-Human Interactions (Fall 2014).

BLICATIONS & SELECTED PRESENTATIONS

- Landes, F., et al. (2019) Does involving parents in soil sampling identify causes of child exposure to lead? A case-study of community engagement in mining-impacted towns in Peru. (accepted in GeoHealth)
- Landes, F., et al. (2019) A Field Procedure to Screen Soil for Hazardous Lead. *Analytical Chemistry*. doi:10.1021/acs.analchem.9b00681
- Smidt G. A., Landes F., et al. (2011) Cadmium and uranium in German and Brazilian phosphorous fertilisers. *The New Uranium Mining Boom: Challenges & lessons learned*, Springer Berlin, Heidelberg, p.167-175

PRESENTATIONS AND INVITED TALKS

- Wu D, Rao M. Landes F., CruzCuevas X., Sobota DJ, Donald C. (2020, December). Spatial patterns of cumulative environmental pollution burden experienced by different demographic groups in Oregon, USA. AGU Fall Meeting.
- Landes, F. et al. (2019, December). Collaborating with Community Members to Identify Soil Lead (Pb) Contamination. Talk presented for the 2019 Science for Solutions Award at AGU's Annual Meeting in San Francisco, California
- Landes, F. et al. (2019, December). Current and future directions of identifying hotspots of lead contamination by collaborating with community members to use a field procedure to screen soil. Talk at AGU's Fall Meeting.
- Landes, F. et al. (2019, January). Collaborating with Community Members to Identify Soil Lead (Pb) Contamination. Talk presented Soil Science Society of America's Annual Meeting in San Diego, California.
- Landes, F. et al. (2018, December). Identifying Lead Contamination at the Source of Exposure: Collaborating with Community Members to Protect Public Health. Poster presented at the AGU's Annual Meeting in Washington, D.C.
- Landes, F. et al. (2017, December). Community outreach to identify highly contaminated backyards in New York City. Poster presented at the NIEHS Superfund Research Program (SRP) Annual Meeting in Philadelphia, Pennsylvania.
- Landes, F. et al. (2017, August). Developing and Deploying a Field kit for Lead in Soils in NYC and Peru. Talk presented at the Goldschmidt Annual Meeting in Paris, France.
- Landes, F. et al. (2017, April). Identifying high-risk levels of lead in soils: a novel field test kit for bioaccessible lead in soils. Poster presented at the Inaugural Planetary Health/GeoHealth Annual Meeting in Boston, Massachusetts.
- Landes, F. et al. (2016, December). Developing a field test kit for bioaccessible lead in soil. Talk presented at the 1st Annual Urban Soils Symposium in New York City, New York.

OUTREACH ACTIVITIES, LEADERSHIP, & SERVICE

- **Early Career Development Committee** GeoHealth Section of American Geophysical Society (AGU) 2019-2021
  Early Career Scientist Co-Chair. Developing direction and key resources of new committee.
- **Academic Minute** 2018
  Landes, F. Academic Minute: Lead in Soil. (September 4, 2018) https://academicminute.org/2018/09/franziska-landes-columbia-university-lead-in-soil.
- **Earth2Class K-12 Teacher Education workshop**, Lamont-Doherty Earth Observatory January 2018
  van Geen, A. and Landes, F. Opportunities for citizen science in reducing exposure to environmental hazards: Lead in soil and arsenic in well-water.
- **Teaching Programming & Facilitation**, Center for Teaching & Learning, Columbia 08/2015-08/2018
  Three fellowships (year-long) to develop and facilitate teaching workshops for graduate students.
- **Earth Institute Student Advisory Council,** Columbia University 08/2014-08/2015
  President. Organized workshops and events to promote collaboration between environmental student groups.

ADDITIONAL SKILLS AND ACHIEVEMENTS

Skills: Languages (fluent): Spanish, German, English Computer: R, Matlab, LaTeX, Microsoft Office

Awards

- Science for Solutions, American Geophysical Union (2019)
- Student Presentation Award (2019), Urban and Anthropogenic Soils Division, Soil Science Society Annual Meeting
- Outstanding Student Presentation Award (2018), GeoHealth Section, American Geophysical Union Annual Meeting
- Teaching Scholars Fellow (2018-2019), Columbia University
- Earth Institute Travel Grant (2017), Columbia University, for research fieldwork in Peru
- U.S. Student Fulbright Research Award (2017) - Declined due to lack of research funds
- Chevron Student Initiative Fund (2015), Dept. Earth & Env. Sci, Columbia University, for fieldwork in Peru
- Dean's Fellow (2013-2018), Columbia University

Further Professional Development

- EPA Training (2012) on (a) Groundwater Investigations (b) QA/QC (c) Risk Assess. And ASTM's Env.Site Assess.