Kimberly K. Garrett
PhD, MPH

Curriculum vitae

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(she/they)

Education

December 2021	**Doctor of Philosophy in Environmental and Occupational Health** University of Pittsburgh, Pittsburgh, PA Advisor: Dr. Jim Peterson Dissertation: *Potential Antidotes to Phosphine Poisoning*
May 2017	**Master of Public Health in Environmental and Occupational Health with Certificate in Environmental Health Risk Assessment** University of Pittsburgh, Pittsburgh, PA Thesis: *The Effect of Climate Change on the Risk of Anthrax Infection in the Kobuk Valley, Alaska*
January 2015	**Bachelor of Science in Environmental Science** Allegheny College, Meadville, PA Minor in Women's Studies Senior Thesis: *A Quest for Estrogen: Searching for 17α-Ethinylestradiol in the French Creek Watershed*

Professional & Research Experience

March 2022 - Current	**Social Science Environmental Health Research Institute** PFAS Project Lab, Northeastern University, Boston, MA July 2023 – NIH T32 Postdoctoral Research Fellow March 2022 – Postdoctoral Research Associate Supervisor: Dr. Phil Brown Works at the intersection of social and environmental science to assess and address PFAS contamination, studying multi-scalar governance, community activism, and environmental justice, and modeling exposures. Contributes to NSF and NIEHS funded projects including PFAS-REACH in collaboration with the Silent Spring Institute
October 2016 – September 2021	**Department of Environmental and Occupational Health** University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA Graduate Student Researcher Supervisor: Dr. Jim Peterson

Identified transition-metal based candidate antidotes to mitochondrial inhibitors including phosphine, cyanide, and azide, designed inhalational exposure protocols for mice and insect models, and assessed the impacts of phosphine on hemoglobin

Methods: UV/VIS electronic absorption, stopped-flow, FTIR and, EPR spectroscopy, high-resolution respirometry, anaerobic environments

Completed summer research rotation studying the impacts of trivalent arsenic on myoblast formation and assessed an insect model for As(III) toxicity screening.

November 2016 – April 2017

Allegheny County Health Department
Department of Epidemiology and Biostatistics, Pittsburgh, PA
Intern

Conducted county-wide Lyme disease surveillance, classified case reports, and maintained PA-NEDSS records.

August 2016 – March 2017

Department of Decision Science
Carnegie Mellon University, Pittsburgh, PA
Research Assistant
Prevention Options for Women Evaluation Research (POWER) Project

Designed and analyzed behavioral health surveys studying attitudes, behaviors, and knowledge of HIV prevention in young people in Kenya and South Africa.

January – August 2015

Meadville Community Wellness Initiative
Allegheny College, Meadville, PA
Research Assistant

Designed and disseminated behavioral and environmental health surveys for seventh and fifth grade students, assessed community food, transportation, and recreation access based on results

May – September 2014

Shenango River Watchers
Sharon, PA
Intern

Managed administrative office of conservation nonprofit, designed communication materials and organized fundraising events

Publications

Published

Garrett, K. K., Brown, P., Varshavsky, J., & Cordner, A. (2022). Improving Governance of "Forever Chemicals" in the US and Beyond. *OneEarth* 5 (10), 1075-1079. https://doi.org/10.1016/j.oneear.2022.10.003

Published	Salvatore, D., Mok, K., **Garrett, K. K.,** Poudrier, G., Brown, P., Birnbaum, L., Goldenman, G., Miller, M., Patton, S., Poehlein, M., Varshavsky, J., & Cordner, A. (2022). Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources. *Environmental Science & Technology Letters.* https://doi.org/10.1021/acs.estlett.2c00502
Published	**Garrett, K. K.,** Frawley, K. L., Totoni, S. C., Bae, Y., Peterson, J., & Pearce, L. L. (2019). The Antidotal Action of Some Gold (I) Complexes Toward Phosphine Toxicity. *Chemical Research in Toxicology* 32 (6), 1310-1316. https://doi.org/10.1021/acs.chemrestox.9b00095
Published	Praekunatham, H., **Garrett, K. K.,** Bae, Y., Cronican, A. A., Frawley, K. L., Peterson, J., & Pearce, L. L. (2019). A Cobalt Schiff-Base Complex as a Putative Therapeutic for Azide Poisoning. *Chemical Research in Toxicology 33*(2), 333-342. https://doi.org/10.1021/acs.chemrestox.9b00229

Teaching Experience

Guest Lecture	**From Donora to East Palestine: Understanding Toxicology through the Steel Valley** June 2023 *Northeastern University,* Society & the Environment April 2023 *Johns Hopkins University,* Applications of Biology in Public Health
January – May 2023	**Department of Health Sciences** Bouve College of Health Sciences, Northeastern University, Boston, MA Part-time Lecturer Spring 2023: PHTH5214 Environmental Health

Awards

2023 - 2025	T32 Postdoctoral Fellowship from National Institute of Environmental Health Sciences

Presentations & Panels

June 2023 Panelist	Forever Chemicals and the Climate Crisis *Mothers Out Front Massachusetts* Arlington, MA
May 2023 Talk	From Donora to East Palestine: Lessons in Toxicology from the Steel Valley *Bowman Hill Wildflower Preserve Lecture Series* Virtual

May 2023 Talk	Environmental Justice and Inequality in PFAS Testing and Exposure *USDA Virtual PFAS Summit: the state of PFAS science in relation to agriculture and natural resource challenges* Virtual
November 2022 Talk	"Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources" *Collaborative on Health and the Environment PFAS Webinar Series* Virtual
June 2022 Poster	"Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources" *Third National PFAS Meeting: Highly Fluorinated Compounds – Environmental Justice and Scientific Discovery* Wilmington, NC
October 2020 Talk	"Tear Gas is a Chemical Weapon: The Toxicology of State Violence" *Pitt Graduate Student Organizing Committee Science and Society Lecture Series* University of Pittsburgh, Pittsburgh, PA
May 2019 Poster	"The Antidotal Action of Some Gold(I) Compounds against Phosphine Toxicity" *Annual Allegheny-Erie Society of Toxicology Meeting* Pittsburgh, PA
June 2017 Poster	"Cobalt Schiff-base Macrocycles as Antidotes to Azide Poisoning" *NIH Countermeasures Against Chemical Threats* Boston, MA
January 2015 Talk	"Assessing 7th Graders' Knowledge, Behavior, and Attitudes toward Physical Activity, Nutrition, and Local Foods" *Penn State University Undergraduate Research Conference* Erie, PA Awarded Second Place in Session
October 2014 Poster	"Perceptions of Risk of *in Utero* Exposure to Bisphenol A" *Prenatal Programming and Toxicity IV* Boston, MA
March 2014 Talk	"Epigenetics: Policing the Pregnant in Fear of the Future" *Democracy Realized? The Legacy of the Civil Rights Movement* Meadville, PA

Selected Media

Podcast	Adler-Bolton, B., Cartus, A., and Garrett, K. (2023). Slow Death, Industrial Pollution, and East Palestine w/ Kim Garrett. *Death Panel.*
Podcast	Ward, A. and Garrett, K. (2023). Environmental Toxicology (Poisons + Train Derailment) with Kimberly K. Garrett. *Ologies.*
News	Janae, D. (2019). "Meet Pittsburgh's pigeon whisperer: Kim Garrett". *Pittsburgh City Paper.*

Additional Research Projects (Unpublished & In Progress)

Under Review 2023	**A Potential Antidote for Both Azide and Cyanide** University of Pittsburgh Department of Environmental and Occupational Health Antidote screening and mechanistic investigation of a Co (II/III) compound found to ameliorate both azide and cyanide toxicity in mouse and insect models.
Pending Publication 2021	**Silver (I) and Cobalt (II) Compounds as Phosphine Antidotes: Results from Mouse and Insect Models** University of Pittsburgh Department of Environmental and Occupational Health Multifaceted investigation of phosphine's impacts on cytochrome *c* oxidase, hemoglobin, and radical oxygen species production, and screening of transition-metal based candidate antidotes.
Thesis 2017	**The Effect of Climate Change on Risk of Anthrax Infection in the Kobuk Valley, Alaska** University of Pittsburgh Department of Environmental and Occupational Health Master's thesis, environmental risk assessment of anthrax outbreaks mediated by permafrost melt and potential impacts on indigenous communities and subsistence farmers
Unpublished 2016	**Environmental Risk Factors and Lyme Disease in Pennsylvania: A Geospatial Approach** University of Pittsburgh Department of Behavioral and Community Health Sciences GIS-based risk assessment and identification of environmental influences on PA Lyme disease incidence including vector population management.
Thesis 2014	**A Quest for Estrogen: Searching for 17α-Ethinylestradiol in the French Creek Watershed** Allegheny College Senior undergraduate thesis, interdisciplinary research incorporating environmental science, toxicology, and gender studies. Surface water sampling for synthetic estrogens based on anticipated risk.

Service & Extracurriculars

April 2022	Three Rivers Outdoor Company Pittsburgh, PA Birdwatching guide
October 2019 – March 2020	The National Aviary Pittsburgh, PA Volunteer Docent
June 2018 – December 2021	University of Pittsburgh Graduate Student Organizing Committee Pittsburgh, PA Student Organizer

Skills Inventory

Toxicology Research	Dose-response assessment Inhalational exposure modeling Environmental risk assessment
Spectroscopy	Electronic absorption (UV/VIS) Stopped flow Electronic paramagnetic resonance (EPR) Infrared (FTIR)
Assays	ELISA HRP/Amplex Red Total coliform assessments
Animal Models	Greater wax moth, *Galleria mellonella* African clawed frog, *Xenopus laevis* Mouse, *Mus musculus*
Cell Culture	C2C12 myoblasts
Other Laboratory	High-resolution respirometry (Orobros) Mitochondrial protein isolation Chemical synthesis Anaerobic atmospheres (glovebox, Schlenk line) Hazardous material handling, bloodborne pathogen and chemical safety

Field Research	Sampling design and collection (quadrating, surface water sampling, soil coring) Macroinvertebrate assessment
Computer Skills	Mapping & Spatial Analysis: QGIS, GeoDa, ArcGIS Data anlaysis: STATA, Graph Pad Prism, Kaliedagraph, Excel Qualitative analysis: DeDoose, Constellate Website management: Wordpress Microsoft Office and Google suite Basic Python
Qualitative Methods	Survey design and analysis Interview coding