

My undergraduate studies in Society and Environment (UC Berkeley in 2013) provided me with a comprehensive understanding of the environmental factors impacting human health and I have been able to use this knowledge with several internships concerned with environmental advocacy. When I found myself staring into the eyes of families devastated by pollution created illnesses, my academic work became real, and I began to wonder what else I could do to prevent other communities from suffering similar fates. This on-the-ground experience with communities has now become the motivational basis for my career and professional trajectory. I would like to deepen my knowledge and expertise, pursuing an MPH in Environmental Health Sciences at UCLA, with the goal to find ways to improve methods of exposure and risk assessment.

In Spring 2012, I began work as an intern with Greenaction, a grassroots organization campaigning for health and environmental justice in low-income, working class, rural, and indigenous communities. My work focused on Bayview Hunters Point, a community that is subject to high levels of pollution originating from naturally occurring asbestos rock, a former Naval Shipyard declared a Superfund site, a former power plant, and other industrial facilities. The groundwater, soil, and air at Hunters Point is contaminated with VOCs, PCBs, petroleum hydrocarbons, radionuclides, solvents, heavy metals, pesticides, and other toxic substances (Region 9: Superfund). While working with Greenaction, I researched the land-use history, investigated the health impact of toxins present at the site, conducted community outreach efforts, analyzed data from a community health survey reaching six percent of Hunters Point residents, and created a map estimating air pollution density, as well as one showing the geographical density of self-reported cancer, asthma, recurrent nosebleeds, and skin anomalies. My contributions to Greenaction's efforts helped raise awareness in the community and put pressure on the Bay Area Air Quality Management District and state Department of Toxic Substances Control to enhance enforcement and regulatory activities.

Shortly after this internship, I enrolled in one of the most important classes I took as an undergraduate at UC Berkeley: Environmental Health and Development taught by Professor Rachel Morello-Frosch. In this class, I learned about dose-response curves for various toxic agents, environmental justice concerns, risk assessment techniques and their limitations, biological pathways of exposure, major sources of pollution, epidemiologic studies, and the synergistic interactions between exposures and vulnerabilities.

In July of 2014, I joined another effort to advocate for environmental and human health through an internship with the Ecological Options Network (EON), a nonprofit organization that is based out of my hometown of Bolinas, California. EON's mission is to create a nuclear free California and we also provide information about the health risk posed by ionizing and non-ionizing radiation and pesticides. While interning with EON, I have read and summarized health

studies for pamphlets, helped plan events that raise awareness about environmental risks to human health, and conducted other community outreach efforts. It is this internship that has motivated me to learn more about how exposure and risk assessments are performed so that I can work on developing more accurate techniques in the future.

I have a basic understanding of environmental risk transition and want to gain a deeper knowledge of specific environmental agents that lead to increases in modern, non-communicable diseases that are becoming an increasing concern as countries become more developed and fertility rates decline while mortality rates rise. I understand that not everybody has the same level of vulnerability to the same dose of chemical agents and it is important to account for age, sex, weight, past life circumstances, and people's range of past and current exposures when conducting risk assessment analyses. I am passionate about identifying the chemical agents leading to modern environmental risk, estimating the levels of exposure modern society endures, assessing the risk posed by these toxic chemicals, and developing methods to prevent and control this risk.

I want to pursue my MPH in Environmental Health Sciences at UCLA because the program best suits my interests. Studying the determinants influencing the distribution of ill health in human populations will allow me to determine which chemicals are contributing to ill health and influence environmental health regulations so that they prevent future ill health. I want to learn how to interpret toxicological data, exposure assessment strategies and technologies, quantitative techniques used to evaluate the health risk posed by human exposure to toxic chemicals, and how policy decisions managing environmental health risks are created. I am particularly interested in Professor Curtis Eckhert's class on the Health Effects of Environmental Contaminants. I would like to study the major components of risk assessments, toxicokinetics, toxicodynamics, and the regulations that control the risk of environmental agents harming human health. I believe that Professor Eckhert's experience assessing the ill health caused by environmental contaminants will assist my goal of influencing the way in which future environmental health regulations account and control for environmental hazards and risk. Ultimately, I am interested in putting my newly acquired public health and environmental assessment tools and expertise into practice through my completion of a public health internship giving me 400-hours of field training working for a government agency, government department, or a non-profit entity.

After completing my MPH in Environmental Health Sciences, I would like to return to advocacy work with an organization such as Greenaction, EON, the California Environmental Justice Alliance, or the Natural Resource Defense Council. Ultimately, I would like to earn a PhD, eventually becoming a professor with a research agenda focused on environmental risk management. As the US enters into a new age of modernization and development there will be

an increasing demand for faculty specializing in exposure and risk assessment. There will also be a need for faculty to collaborate with the EPA at the state and federal level, the Center for Disease Control and Prevention, the California Department of Toxic Substances, and the National Academy of Science. I want to have a solid footing in both the real world politics of environmental health management and academic research and I am confident that earning my MPH in Environmental Health Sciences at UCLA is the first step towards a career focused on improving the reliability of exposure and risk assessment techniques and reducing associated mortality and loss of quality of life.