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Engineering & Scientific Consulting

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Professional Profile

Dr. Steinbaum has a broad interdisciplinary background in environmental engineering, microbiology, epidemiology, and global health. Her research has focused on developing field laboratory methods, identifying and reducing microbial pollution in the environment, and assessing infectious disease (waterborne diseases and tuberculosis) transmission and control through a variety of lenses. Dr. Steinbaum has experience with assessing and preventing waterborne disease and tuberculosis transmission and has worked in the US and countries in West and East Africa. She has worked with drinking water and wastewater management and treatment. She previously worked with Bay Area regulators on wastewater discharge permitting and sanitary sewer overflow management, worked on urban and rural fecal sludge management abroad, and designed and constructed rainwater harvesting systems. Dr. Steinbaum has worked with public and private stakeholders in the US and abroad, and she has experience translating technical results to a broad audience.

Dr. Steinbaum also has extensive experience collecting and analyzing data from environmental and public health projects. For these products, she has developed electronic data collection tools using multiple platforms to easily collect data in a wide variety of settings. She has also developed pre- and post-data collection QC systems for data management. As part of her experience with field data collection, she has also trained and managed large teams of field and laboratory staff for large-scale, long-term (>1 year) field data collection projects, and she has developed SOPs for collection and management of environmental and biological samples. Additionally, Dr. Steinbaum has experience designing studies, performing statistical analyses or mathematical modeling, and visualizing data.

She is currently focused on assessing exposure to chemicals in consumer goods with her work on Proposition 65 compliance, asbestos, dermal sensitization risk assessment, and consumer product safety. For this work, she tests consumer products and develops exposure models and assessments. She also examines microbial contamination risk in food and water in different settings, and she assists with field data collection for environmental health assessments.

Academic Credentials & Professional Honors

Ph.D., Civil and Environmental Engineering, Stanford University, 2017

M.S., Civil and Environmental Engineering, Stanford University, 2015

B.S., Civil Engineering, University of California, Berkeley, 2012

Prior Experience

Postdoctoral Associate, Epidemiology, University of Georgia, 2017-2019

Publications

Jade Benjamin-Chung, Yoshika S Crider, Andrew Mertens, Ayse Ercumen, Amy J Pickering, Audrie Lin, Lauren Steinbaum, Jenna Swarthout, Mahbubur Rahman, Sarker M Parvez, Rashidul Haque, Sammy M Njenga, Jimmy Kihara, Clair Null, Stephen P Luby, John M Colford, Benjamin F Arnold, Household finished flooring and soil-transmitted helminth and Giardia infections among children in rural Bangladesh and Kenya: a prospective cohort study, *The Lancet Global Health*, Volume 9, Issue 3, 2021, Pages e301-e308.

Steinbaum L, Mboya J, Mahoney R, Njenga SM, Null C, Pickering AJ. Effect of a sanitation intervention on soil-transmitted helminth prevalence and concentration in household soil: A cluster-randomized controlled trial and risk factor analysis. *PLoS Neglected Tropical Diseases* 2019; 13(2).

Pickering AJ, Njenga SM, Steinbaum L, Swarthout J, Lin A, Arnold BF, et al. Effects of single and integrated water, sanitation, handwashing, and nutrition interventions on child soil-transmitted helminth and Giardia infections: A cluster-randomized controlled trial in rural Kenya. *PLoS Medicine* 2019; 16(6).

Steinbaum L, Kwong LH, Ercumen A, Negash MS, Lovely AJ, Njenga SM, et al. Detecting and enumerating soil-transmitted helminth eggs in soil; New method development and results from field testing in Kenya and Bangladesh. *PLoS Neglected Tropical Diseases* 2017; 11(4).

Steinbaum L, Swarthout J, Mboya J, Pickering AJ. Following the worms: Detection of soil-transmitted helminth eggs on mothers' hands and household produce in rural Kenya. *American Journal of Tropical Medicine and Hygiene* 2017; 97(5).

Steinbaum L, Njenga SM, Kihara J, Boehm AB, Davis J, Null C, Pickering A. Soil-transmitted helminth eggs are present in soil at multiple locations within households in rural Kenya. *PLoS ONE* 2016; 11(6).