MAGGIE (MENGYUAN) LI

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Passionate PhD candidate with strong communication skills and extensive research and teaching experience in spatial analysis and environmental epidemiology through a social justice framework. Special expertise in the following areas:

- *Air pollution epidemiology*
- *Environmental justice*
- *Spatial analysis*
- *Data science*
- *Epidemiologic study design*
- *Literature review*

EDUCATION

Columbia University — New York, NY
Ph.D. Environmental Health Sciences — *Expected 2024*
M.A. Environmental Health Sciences — Oct 2021

University of California, Berkeley — Berkeley, CA
B.S. Conservation and Resource Studies — May 2019
Honors, Highest Distinction in General Scholarship
B.A. Geography — May 2019
High Distinction in General Scholarship

AWARDS AND SCHOLARSHIPS

David A. Rose Scholarship in Physical Geography — May 2019
Recipient of award for a graduating senior demonstrating outstanding work in physical geography/cartography in the Department of Geography at UC Berkeley.

Regents' and Chancellor's Scholar (top 2% of incoming class) — 2015-2019
"The Regents' and Chancellor's Scholarship is the most prestigious scholarship offered by UC Berkeley to entering undergraduates, and attracts, retains, and graduates the most sought-after students in the world."

RESEARCH EXPERIENCE

Columbia University — New York, NY
PhD Researcher — Sep 2019 – Present

- Using large-scale spatial data to quantify air pollution in American Indian communities.
- Investigating air pollution exposure disparities that exists between predominantly American Indian and other communities.
- Examining the long-term effects of air pollution exposure on cardiovascular health in American Indians in the NHLBI-funded Strong Heart Study cohort.

Pennsylvania State University — State College, PA
Climate Science REU Researcher — Jun – Aug 2018

- Developed methodology and python code to calculate dust burden from monthly and daily Weather Research and Forecasting (WRF) model and NASA satellite data.
- Connected exposure data to respiratory health outcomes data in Senegal.
- Visualized data using ArcGIS by creating choropleth maps displaying exposure and asthma outcome for children ages under 5 and individuals ages over 5.

University of California, Berkeley Berkeley, CA
Undergraduate Researcher Mar – Aug 2017

- Utilized remote sensing to study environmental impacts of cannabis over time in Mendocino and Humboldt counties using ArcGIS and Google Earth Engine.
- Digitized and quantified regions of cannabis production, organizing and compiling these individual shapefiles into geodatabases.
- Contributions aided and acknowledged in a published manuscript: https://doi.org/10.1088/1748-9326/aaeade

COMPUTER SKILLS

Programming Languages: R, Python, SAS
Applications/Platforms: ArcGIS, QGIS, Google Earth Engine, RStudio, GitHub

PUBLICATIONS

Li, M., Hilpert, M., Goldsmith, J., Brooks, J.L., Shearston, J.A., Chillrude, S.N., Ali, T., Umans, J.G., Best, L.G., Yracheta, J., van Donkelaar, A., Martin, R.V., Navas-Acien, A., Kioumourtzoglou, M.-A., 2022. Air pollution in American Indian vs. Non-American Indian communities. American Journal of Public Health, https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2021.306650

Nunez, Y., Boehme, A.K., **Li, M**., Goldsmith, J., Weisskopf, M.G., Re, D.B., Navas-Acien, A., van Donkelaar, A., Martin, R.V., Kioumourtzoglou, M.-A., 2021. Parkinson's disease aggravation in association with fine particle components in New York State. Environmental Research 201, 111554. https://doi.org/10.1016/j.envres.2021.111554

Toure, N.O., Gueye, N.R.D., Mbow-Diokhane, A., Jenkins, G.S., **Li, M.**, Drame, M.S., Coker, K.A.R., Thiam, K., 2019. Observed and Modeled Seasonal Air Quality and Respiratory Health in Senegal During 2015 and 2016. GeoHealth 3, 423–442. https://doi.org/10.1029/2019GH000214

CONFERENCE AND SEMINAR PRESENTATIONS

Institute for Tribal Environmental Professionals National Tribal Forum on Air Quality, "Air Pollution in American Indian vs. Non-American Indian Communities, 2000–2018," Oral talk. Tulsa, OK. May 2022.

International Society for Environmental Epidemiology 33rd Annual Conference, Symposium on Environmental Health Inequalities in Indigenous Communities: Lessons and Opportunities. "Air Pollution in American Indian vs. Non-American Indian Communities," Oral talk. New York, NY. August 2021.

Columbia University Environmental Health Sciences Departmental Seminar Series, "Air Pollution in American Indian Communities," Oral talk. New York, NY. February 2021; April 2020.

Association of American Geographers Annual Meeting, Geospatial Health Research Poster Session, "Impacts of Saharan dust on respiratory health across Senegal," Washington, DC, April 2019.

American Meteorological Society 99th Annual Meeting, 10th Conference on

Environment and Health, "Impacts of Saharan dust on asthma outcomes across Senegal," Oral talk. Phoenix, AZ. January 2019. ***Awardee: Top Overall Student Presentation***

Uplift Climate Conference, "Effective Communication for Equitable Spaces," Lona Mesa Campground, Moab, UT, September 2017.

TEACHING

Columbia University

EHSC P8322: Environmental Determinants of Health II 2022

Teaching Fellow

This survey course aims to provide MPH students an understanding of major current research topics within the environmental health sciences. A range of topics will be covered by various faculty members in the Department of Environmental Health Sciences, as well as local professionals who are experts in their respective fields.

EHSC P8371: Public Health GIS 2021

Teaching Fellow

This course introduces GIS software and applications of spatial analysis to public health research questions, with laboratory exercises to incorporate analytic skills and techniques they have learned in other courses with the geospatial and spatial statistics methods commonly used in GIS to analyze data and produce maps and reports.

SHARP Training Program: Environmental Justice Boot Camp 2021

Workshop Guide

A two-day intensive course featuring seminars and applied analytical sessions on key concepts, exposure assessment techniques, epidemiologic methods, community engagement and health policy applications, and statistical analytic approaches for conducting effective and solution-driven environmental justice research.

EHSC P8307: Molecular Epidemiology 2020

Teaching Fellow

This course covers conceptual and methodological issues in molecular epidemiology, including the application of biomarkers to the study of disease causation, risk assessment, and prevention, study design and statistical methods in data analysis.

SHARP Training Program: GIS Workshop: Visualizing and Analyzing Health Data 2020

Workshop Guide

This two-day summer workshop provides an overview of fundamental concepts and training of hands-on techniques for health data visualization and analysis using publicly available open-source GIS programs.

UC Berkeley

ESPM 198: Foundations of Effective Communication 2017

Primary Instructor

A 2-unit UC Berkeley undergraduate course encompassing social theories and methods of effective communication across diverse audiences and disciplines.

COMMUNITY SERVICE & LEADERSHIP

Student Environmental Resource Center (SERC) Aug. 2017 – May 2019
Community Engagement Associate

- Supervised a team of students to organize campus events and compile environmental resources.
- Facilitated semesterly check-in meetings with campus student leaders.
- Spearheaded data collection and institutional knowledge retention efforts for environmental campus organizations.
- Created and managed volunteer membership program of 100+ students.

Berkeley Student Food Collective (BSFC) Aug. 2018 – May 2019
Board Chair

- Organized and led board meetings for a 501(c)(3) nonprofit, volunteer, educational, member-run grocery store.
- Represented the BSFC at all campus food system stakeholder & coalition meetings.
- Supported board members in maintaining physical storefront, fostering member cohesion, and fulfilling educational goals.

UC Berkeley Residential and Student Services Programs Aug. 2016 – May 2017
Global Environment Theme House (GETH) Theme Program Assistant

- Collaborated with College of Natural Resources faculty to design seminar curriculum.
- Organized retreats and educational activities to develop community inclusiveness.
- Mentored and interacted with residents regularly to ensure holistic wellness.

LANGUAGES

English: Native Language
Chinese: Proficient Speaking and Listening, Novice Reading and Writing