GUANGXIAO HU

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EDUCATION

University of Maryland, College Park, USA — August 2023
PhD in Geographical Sciences – Human Geography
Research fields: Environmental Economics, Environmental Justice, Spatial Analysis

Peking University, Beijing, China — July, 2019
MSc Environmental Sciences
Research fields: embodied greenhouse gas emission transfer between regions, sustainable urban energy development, carbon mitigation pathway

Hunan University, Hunan, China — July, 2016
BA Economics

EMPLOYMENT

July, 2023 ~ present: Postdoctoral Associate, the Center for Global Sustainability, School of Public Policy, University of Maryland

PUBLICATION

Hu, G., Feng, K., Sun, L. 2023. A multiscale analysis of the relationship between toxic chemical hazard risks and racial/ethnic, socioeconomic groups in Texas, USA. Environmental Science & Technology, 57 (5), pp.2019-2030.

Hu, G., Feng, K., Sun, L., Baiocchi, G. 2023. Tracing toxic chemical releases embodied in U.S. interstate trade and their unequal distribution. Environment International, 171, p.107681.

Hu, G., Hamovit, N., Croft K., Roberts, J. D., Niemeier, D. 2022. Assessing Inequities Underlying Racial Disparities of COVID-19 Mortality in Louisiana. Proceedings of the National Academy of Sciences of the United States of America (PNAS). 119(27): e2123533119.

Nakalembe, C., Becker-Reshef, I., Bonifacio, R., **Hu, G.**, Humber, M.L., Justice, C.J., Keniston, J., Mwangi, K., Rembold, F., Shukla, S. and Urbano, F., 2021. A review of satellite-based global agricultural monitoring systems available for Africa. Global Food Security, 29, p.100543.

Hu, G., Ma, X. and Ji, J., 2019. Scenarios and policies for sustainable urban energy development based on LEAP model–A case study of a postindustrial city: Shenzhen China. Applied Energy, 238, pp.876-886.

Hu, G., Ma, X. and Ji, J., 2017. A stochastic optimization model for carbon mitigation path under demand uncertainty of the power sector in Shenzhen, China. Sustainability, 9(11), p.1942.

Xie, R., **Hu, G**., Zhang, Y. and Liu, Y., 2017. Provincial transfers of enabled carbon emissions in China: A supply-side perspective. Energy Policy, 107, pp.688-697.

CONFERENCE

Hu, G., Feng, K., Sun, L. 2023, May. Multiscale Analysis of the Relationship between Toxic Chemical Hazard Risks and Racial/Ethnic and Socioeconomic Groups in Texas, USA. In 2023 BSOS Resilience Research Showcase.

Hu, G., Feng, K., Sun, L. 2023, March. Is pollution inequality improved or worsen over time? Spatiotemporal heterogeneity of the impact of racial disparities and socioeconomic development on toxic risk. In 2023 AAG Annual Meeting.

Hu, G. 2021, December. Pollution Inequality of Toxic Chemical Release Embodied in Final Demand by States and Income Groups in the US. In AGU Fall Meeting (GC25G-0729).

Hu, G., Feng, K. 2021, June. Pollution inequality of toxic chemical release embodied in interregional trade in US". In International Industrial Ecology Day 2021.

Ji, J., **Hu, G.,** Wu, Y. and Ma, X., 2017, March. China's fast growing CO2 emissions driven by increasing consumption in 1992-2012: A structural decomposition analysis. In IOP Conference Series: Earth and Environmental Science (Vol. 59, No. 1, p. 012051). IOP Publishing.

Hu, G., Sun, L., Ma, X. and Ji, J., 2016, December. Influencing Factors of CO_2 Emissions in China's Manufacturing——An Analysis Based on Manufacturing Structural Changes. In 2016 5th International Conference on Sustainable Energy and Environment Engineering (ICSEEE 2016) (pp. 621-627). Atlantis Press.

SOCIAL MEDIA COVERAGE

University of Maryland. "Structural racism drives higher COVID-19 death rates in Louisiana, study finds: Researchers track health vulnerabilities linked to discrimination." ScienceDaily. ScienceDaily, 27 June 2022. <www.sciencedaily.com/releases/2022/06/220627165951.htm>.

Gianna Melillo. "Structural racism associated with higher COVID-19 death rates in Louisiana". The Hill. 28 June 2022. <https://thehill.com/changing-america/well-being/longevity/3539370-structural-racism-associated-with-higher-covid-19-death-rates-in-louisiana/>.

EXPERIENCE

University of Maryland, School of Public Policy, Maryland

Research Assistant for Dr. Jiehong Lou, June '22 – Aug '22

Conducting policy, data and geospatial analysis for the Sloan Innovation Project and the China Coal and Renewable Energy Employment Projects;

Contributing to developing policy briefs, reports and research papers.

University of Maryland, Center for Global Agricultural Monitoring Research, Maryland

Research Assistant for Dr. Catherine Nakalembe, May ’20 – Aug ’20

Worked on Earth Observation for National Agricultural Monitoring Project funded by NASA Harvest, training Kenya’s cropland and non-cropland data using Google Earth and QGIS, reviewing existing application-ready national agricultural monitoring systems.

University of Maryland, Department of Geographical Sciences, Maryland

Teaching Assistant, Sep ’19 – Present

Leading discussions for GEOG140, Natural Disasters: Earthquakes, Floods, and Fire. Taking labs for GEOG663 Big Data Analytics, including R programming, clustering analysis, Regression in ArcGIS and R, text analysis, introducing Ubuntu and Hadoop, introducing Amazon AWS and etc. Taking labs for GEOG373 Introduction to Geographic Information Systems, including projection and coordinate systems, geodatabases, cartography, spatial analysis, data collection, and etc.

University of Maryland, Global STEWARDS (STEM Training at the Nexus of Energy, WAter Reuse and FooD Systems), Maryland

Fellow in The Global STEWARDS Program, Dec ’19- Present

Worked with projects funded by the National Science Foundation National Research Traineeship Program, including coursework MIEH690, MIEH699 and MIEH691, one-week “Summer Boost” workshops focused on academic development activities, two-week “Winter Amp” to Israel and West Bank Learning about FEW nexus issues and finishing a Photovoice and survey proposal on Israel’s water use, managing Global STEWARDS’s social medias.

Peking University, Shenzhen energy-saving and carbon-reduction data platform and Analysis technology engineering Laboratory, China

Research Assistant, Sep ’16 - July ’19

- **Shenzhen energy-saving and carbon-reduction data platform and Analysis technology engineering Laboratory**
  Took part in the application and operation of the laboratory; including building the data platform for Shenzhen GHG emission inventory, collecting main models used in the field of energy-saving and carbon-reduction (LEAP, MARKAL/TIMES, OseMOSYS etc.).
- Project “**Compilation of greenhouse gas inventories in Shenzhen from 2012 to 2015**” sponsored by Development and Reform Commission of Shenzhen Municipality
  Compiled greenhouse gas inventories in energy industries, including GHG emissions in coal-fired power plant, gas-fired power plant, waste-to-energy power plant, and fugitive emissions in natural gas transmission.
- Project “**Decomposition of target in achieving carbon emission peak in Shenzhen**” sponsored by China Shenzhen Emission Rights Exchange
  Proposed a LEAP-Shenzhen scenario analysis framework to calculate energy consumption and carbon emission in Shenzhen, and analyzed its carbon mitigation path in energy supply sector, manufacturing industry, transportation sector and household sector.
- Project “**Leader and pioneer: the pattern, path and challenge of low carbon development of Shenzhen**” sponsored by World Bank/Global Environment Facility

Finished the report of chapter 9 “Low carbon transportation” and chapter 15 “Prediction of future carbon emission in Shenzhen”.

Hunan University, School of Economy and Trade, China

Research Assistant, Sep ’15 - July ’16

Worked on project The impact of environmental regulation on energy-economy-environment system and path choice of regulation: Based on dynamic CGE model sponsored by the National Natural Science Foundation of China. Conducted literature review about the standard of environmental regulations classification; investigated relevant environmental regulations.

TEACHING EXPERIENCE

Summer ’21	Instructor	Natural Disasters: Earthquakes, Floods, and Fire (GEOG140)
Aug ’19-Dec ’21	Teaching Assistant	Natural Disasters: Earthquakes, Floods, and Fire (GEOG140)
Summer ’20	Teaching Assistant	Big Data Analytics (GEOG 663)
Summer ’21	Teaching Assistant	Introduction to Geographic Information Systems (GEOG 373)

HONOURS AND AWARDS

Excellence in Graduate Research Outstanding at the Department of Geographical Sciences, UMD 2023
Human Dimensions of Global Change Geographical Sciences Summer Research Fellowship at the Department of Geographical Sciences, UMD 2021
BSOS Dean’s Research Initiative 2020-2021
Dean’s Fellowship in University of Maryland 2019
National Scholarship in China (3 times, top 0.2%) 2016-2018
The honor of outstanding graduates in Hunan Province (Top 2%) 2016
The honor of outstanding student leader, Hunan University (Top 3%) 2014

SKILLS

Languages Mandarin Chinese (Native); English (Proficient)
Statistics Exploratory (Spatial) Data Analysis, Multi-regional Input-output Analysis, Hypothesis Testing, Regression, Spatial-Temporal Modeling, software used includes R, Python, SPSS, STATA, MGWR
Programming Languages: R, Python, SQL, LATEX
Miscellaneous Tech: ArcGIS, QGIS, Hadoop, LEAP, Microsoft Office Packages