Nikhil **Kaza**

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Education

University of Illinois — *Urbana Champaign*
PH.D. IN REGIONAL PLANNING — *2008*

University of Illinois — *Urbana Champaign*
M.S. IN APPLIED MATHEMATICS — *2007*

University of Illinois — *Urbana Champaign*
M.U. P. IN URBAN PLANNING — *2004*

Indian Institute of Technology — *Kharagpur, India*
B.ARCH (HONS.) IN ARCHITECTURE — *2001*

Experience

Department of City & Regional Planning — *University of North Carolina at Chapel Hill*
PROFESSOR — *Jul 2021 - Present*

Center for Urban & Regional Studies — *University of North Carolina at Chapel Hill*
DIRECTOR — *Jul 2021 -Jul 2024*

Environment, Ecology & Energy Program — *University of North Carolina at Chapel Hill*
ADJUNCT ASSOCIATE PROFESSOR — *Jul 2016 - Jul 2024*

School of Architecture, Civil & Environmental Engineering — *Ecole Polytechnique Fédérale de Lausane*
HOST PROFESSOR — *Jan 2019 - May 2019*

Department of City & Regional Planning — *University of North Carolina at Chapel Hill*
ASSOCIATE PROFESSOR — *Jul 2015 - Jul 2021*

Department of City & Regional Planning — *University of North Carolina at Chapel Hill*
ASSOCIATE CHAIR — *Jul 2015 - Jul 2017*

Department of City & Regional Planning — *University of North Carolina at Chapel Hill*
ASSISTANT PROFESSOR — *Jul 2009 - Jul 2015*

Curriculum of Ecology & Environment — *University of North Carolina at Chapel Hill*
ADJUNCT ASSISTANT PROFESSOR — *Jan 2012 - Jul 2016*

EDAW Inc. — *Washington, DC*
SUSTAINABILITY SYSTEMS MODELER — *Jan 2008 - Dec 2008*

National Center for Smart Growth Research & Education — *University of Maryland at College Park*
POST DOCTORAL FELLOW — *Nov 2007 - Jun 2009*

Awards and Honors

UNC Chapel Hill
DISTINGUISHED TEACHING AWARD FOR POST-BACCALAUREATE INSTRUCTION (SHORTLIST) — *2023*

Department of City and Regional Planning, UNC Chapel Hill
EXCELLENCE IN DOCTORAL EDUCATION — *2018*

Institute for the Arts and Humanities, UNC Chapel Hill

Schwab Academic Excellece Award *2017*

Institute for the Environment, UNC Chapel Hill

Progress Energy Fellowship *2012*

Department of Urban and Regional Planning, University of Illinois at Urbana Champaign

Department Excellence Award *2008*

Ministry of Human Resources, Government of India

National Merit Scholar *1993*

Grants

2023–2024	"Finding Unconventional Housing in Risky Places" *School of Data Science and Society*	$49,991
2023–2024	"Multi-Scale Imitation and Robust Recognition of Obfuscated Routes" *Intelligence Advanced Research Projects Agency*	$116,399
2020–2021	"Transportation Electrification" *University Transportation Center*	$130,151
2020–2020	"Monitoring Economic Recovery in North Carolina" *North Carolina Policy Collaboratory*	$287,028
2019–2020	"Evaluating the Buyouts in North Carolina" *North Carolina Policy Collaboratory*	$424,878
2018–2019	"Creating an Interdisciplinary Network to Investigate Drivers of Biodiversity" *University of North Carolina Inter Institutional Planning Grant*	$22,000
2017–2019	"Relationships Between Removal of Infrastructure Subsdies and Coastal Development" *National Science Foundation*	$348,507
2017–2018	"Smart Management of Water Resources and Infrastructure with the Internet of Things" *University of North Carolina Inter Institutional Planning Grant*	$75,000
2016–2017	"Property Rights and Land Tenure in Slums in Bangalore" *Omidiyar Network*	$81,047
2014–2017	"Quantifying risks from changing U.S. PM2.5 distributions due to climate variability and warming with large multi-model ensembles and high-resolution downscaling" *US Environmental Protection Agency STAR grant*	$839,939
2014–2015	"Research on Urban Form: A typology of carbon emissions by neighborhood type in Ningbo, China" *World Bank*	$187,671
2013–2013	"Junior Faculty Development Grant" *University of North Carolina*	$7,500
2012–2014	"The Mortgage Performance of Energy Efficient Homes" *Institute for Market Transformation*	$46,200
2012–2013	"Incubator Study on Industrial Land Use" *What Works Collaborative*	$75,000
2011–2013	"oint Region Marianas Energy Investment Program Development Extension" *NAVFAC Marianas, US Navy*	$179,375
2011–2012	"Accessibility in a Gendered Economy" *Carolina Transportation Program*	$5,000
2010–2012	"oint Region Marianas Energy Investment Program Development Extension" *NAVFAC Marianas, US Navy*	$173,412
2010–2011	"Decision Support Systems for Eastern North Carolina" *Southeast Regional Partnership for Planning and Sustainability*	$62,971
2010–2011	"Linking Econometric Modesl and Chesapeake Bay Models, Updating Nutrient Load Models, and Coordinating Support of Maryland State Development Plans" *Environmental Protection Agency*	$164,999

2008–2011	"Towards a Transportation Modeling System for Maryland" *University Transportation Center*	$332,301

I have acquired (in most cases jointly) $3.6 million in research grants.

Publications

Refereed Journal Papers

According to Google Scholar, the **43** articles (co-)authored by me have been cited **2,092** times.

Branham, J., Salvesen, D., **Kaza, N.**, & K. BenDor, T. (2024). A wrench in the machine: How subsidy removal alters the politics of coastal development. *Journal of the American Planning Association*, *90*(1), 18–29. https://doi.org/10.1080/01944363.2022.2119156

Hino, M., BenDor, T. K., Branham, J., **Kaza, N.**, Sebastian, A., & Sweeney, S. (2024). Growing safely or building risk? *Journal of the American Planning Association*, *90*(1), 1–11. https://doi.org/10.1080/01944363.2022.2141821

Kaza, N. (2024). Multiclass compactness index for urban areas. *The Professional Geographer*, 1–11. https://doi.org/10.1080/00330124.2024.2328689

DiCarlo, M., Berglund, E. Z., **Kaza, N.**, Grieshop, A., Shealy, L., & Behr, A. (2023). Customer complaint management and smart technology adoption by community water systems. *Utilities Policy*, *80*, 101465. https://doi.org/10.1016/j.jup.2022.101465

Li, C., Song, Y., **Kaza, N.**, & Burghardt, R. (2023). Explaining spatial variations in residential energy usage intensity in chicago: The role of urban form and geomorphometry. *Journal of Planning Education and Research*, *43*(2), 317–331. https://doi.org/https://doi.org/10.1016/j.enbuild.2017.10.007

Branham, J., **Kaza, N.**, BenDor, T., Salvesen, D., & Onda, K. (2022). Removing federal subsidies from high-hazard coastal areas slows development. *Frontiers in Ecology & Environment*, *20*(9), 500–506.

Kaza, N. (2022). Landscape shape adjusted compactness index for urban areas. *Geoforum*, *87*(1399-1409). https://doi.org/10.1007/s10708-020-10262-9

Wang, J., **Kaza, N.**, McDonald, N. C., & Khanal, K. (2022). Socio-economic disparities in activity-travel behavior adaptation during the COVID-19 pandemic in North Carolina. *Transport Policy*, *125*, 70–78. https://doi.org/10.1016/j.tranpol.2022.05.012

Branham, J., Onda, K., **Kaza, N.**, BenDor, T. K., & Salvesen, D. (2021). How does the removal of federal subsidies affect investment in coastal protection infrastructure? *Landuse Policy*, *102*, 105245.

Kaza, N., & Nesse, K. (2021). Characterizing the regional structure in united states: A county-based analysis of labor market centrality. *International Journal of Regional Science Review*, *44*(5), 487–614. https://doi.org/https://doi.org/10.1177/0160017620946082

He, M., Glasser, J., Pritchard, N., Bhamidi, S., & **Kaza, N.** (2020). Demarcating regions using community detection in commuting networks. *PLOS One*, *15*(4), e0230941.

Kaza, N. (2020). Urban form and transportation energy consumption. *Energy Policy*, *136*, 111049. https://doi.org/https://doi.org/10.1016/j.enpol.2019.111049

Onda, K., Branham, J., BenDor, T. K., **Kaza, N.**, & Salvesen, D. (2020). Does removal of federal subsidies discourage development? An evaluation of the US coastal barrier resources act. *PLOS One*, *15*(6), e0233888. https://doi.org/https://doi.org/10.1371/journal.pone.0233888

Peng, K., & **Kaza, N.** (2020). Association between neighborhood food access, household income, and purchase of snacks and beverages in the united states. *International Journal of Environmental Research and Public Health*, *17*, 7517.

Pesantez, J. E., Berglund, E. Z., & **Kaza, N.** (2020). Smart meters data for modeling and forecasting water demand at the user-level. *Environmental Modelling and Software*, *125*, 104633. https://doi.org/https://doi.org/10.1016/j.envsoft.2020.104633

Kaza, N. (2019). Vain foresight: Against the idea of implementation in planning. *Planning Theory*, *18*(4), 410–428.

Onda, K., Sinha, P., Stevens, F., Gaughan, A. E., & **Kaza, N.** (2019). Missing millions: Undercounting urbanisation in india. *Population & Environment*, *41*(2), 126–150. https://doi.org/10.1007/s11111-019-00329-2

Peng, K., & **Kaza, N.** (2019). Built environment and the purchase of fruits and vegetables in united states households. *Public Health Nutrition*, *22*(13), 2436–2447. https://doi.org/10.1017/S1368980019000910

Li, C., Song, Y., & **Kaza, N.** (2018). Urban form and household electricity consumption: A multilevel study. *Energy and Buildings*, *158*(1), 181–193. https://doi.org/10.1016/j.enbuild.2017.10.007

Qiu, S., & **Kaza, N.** (2017). Evaluating the impacts of the clean cities program. *Science of The Total Environment*, *579*, 254–262. https://doi.org/10.1016/j.scitotenv.2016.11.119

Hartley, D. A., **Kaza, N.**, & Lester, T. W. (2016). Are america's inner cities competitive? Evidence from the 2000s. *Economic Development Quarterly*, *30*(2). http://dx.doi.org/10.1177/0891242416638932

Kaza, N., Riley, S., Quercia, R. G., & Tian, C. (2016). Location efficiency & mortgage risks for low-income households. *Housing Policy Debate*, *26*(4-5), 750–765. http://dx.doi.org/10.1080/10511482.2016.1159972

Kaza, N. (2015). Time dependent accessibility. *Journal of Urban Management*, *4*(1), 24–39. http://dx.doi.org/10.1016/j.jum.2015.06.001

McCarty, J., & **Kaza, N.** (2015). Urban form and air quality. *Landscape and Urban Planning*, *139*, 168–179. http://dx.doi.org/10.1016/j.landurbplan.2015.03.008

Zapata, M., & **Kaza, N.** (2015). Radical uncertainty: Scenario planning for futures. *Environment and Planning B: Planning and Design*, *42*(4), 754–770. http://www.envplan.com/epb/fulltext/bforth/b39059.pdf

Kaza, N. (2014). Persons, polities and planning. *Planning Theory*, *13*(2), 136–151. http://dx.doi.org/10.1177/1473095213490687

Kaza, N., & Patane, M. (2014). The land use energy connection. *Journal of Planning Literature*, *29*(4), 355–369. http://dx.doi.org/10.1177/0885412214542049

Kaza, N., Tian, C., & Quercia, R. G. (2014). Home energy efficiency and mortgage risks. *Cityscape*, *16*(1), 279–298. http://www.huduser.org/portal/periodicals/cityscpe/vol16num1/ch16.pdf

Brookshire, D., & **Kaza, N.** (2013). Planning for seven generations: Energy planning of american indian tribes. *Energy Policy*, *62*, 1506–1514. http://dx.doi.org/10.1016/j.enpol.2013.07.021

Kaza, N. (2013). The changing urban landscape of continental united states. *Landscape and Urban Planning*, *110*, 74–86. http://dx.doi.org/10.1016/j.landurbplan.2012.10.015

Kaza, N., & BenDor, T. K. (2013). Land value impacts of aquatic ecosystem restoration. *Journal of Environmental Management*, *127*, 289–299. http://dx.doi.org./10.1016/j.jenvman.2013.04.047

Kaza, N., Lester, T. W., & Rodriguez, D. (2013). The spatio-temporal clustering of green buildings in the US. *Urban Studies*, *50*(16), 3262–3282. http://dx.doi.org/10.1177/0042098013484540

Lester, T. W., **Kaza, N.**, & Kirk, S. (2013). Making room for manufacturing: Understanding industrial land conversion in cities. *Journal of American Planning Association*, *79*(4), 295–313. http://dx.doi.org/10.1080/01944363.2014.915369

BenDor, T. K., & **Kaza, N.** (2012). A theory of spatial systems archetypes. *System Dynamics Review*, *28*(2), 109–130. http://dx.doi.org/10.1002/sdr.1470

Kaza, N., & Hopkins, L. D. (2012). Intentions, urban plans and information systems. *International Journal of Geographic Information Science*, *26*(3), 557–576. http://dx.doi.org/10.1080/13658816.2011.603337

Chakraborty, A., **Kaza, N.**, Knaap, G. J., & Deal, B. (2011). Robust plans and contingent plans: Scenario planning for an uncertain world. *Journal of the American Planning Association*, *77*(3), 1–17. http://dx.doi.org/10.1080/01944363.2011.582394

Kaza, N., Knaap, I., Knaap, G. J., & Lewis, R. (2011). Peak oil, urban form and public health: Exploring

the connections. *American Journal of Public Health*, *101*(9), 1598–1606. http://dx.doi.org/10.2105/AJPH.2011.300192

Kaza, N., Towe, C., & Ye, X. (2011). A hybrid land conversion model incorporating multiple end uses. *Agricultural and Resource Economics Review*, *40*(3), 341–359. https://doi.org/10.1017/S1068280500002823

Kaza, N. (2010). Understanding the spectrum of residential energy consumption: A quantile regression approach. *Energy Policy*, *38*(11), 6574–6585. http://dx.doi.org/10.1016/j.enpol.2010.06.028

Kaza, N., Finn, D., & Hopkins, L. D. (2009). Updating plans: A historiography of decisions over time. *Journal of Information Technology in Construction*, *15*, 159–168. http://www.itcon.org./data/works/att/2010_13.content.03108.pdf

Kaza, N., & Hopkins, L. D. (2009). In what circumstances should plans be public? *Journal of Planning Education and Research*, *28*(4), 491–502. http://dx.doi.org/10.1177/0739456X08330978

Kaza, N. (2006). Tyranny of the median: A reflection on the participatory urban processes. *Planning Theory*, *5*(3), 255–270. http://dx.doi.org/10.1177/1473095206068630

Hopkins, L. D., **Kaza, N.**, & Pallathucheril, V. G. (2005). Representing urban development plans and regulations as data: A planning data model. *Environment & Planning B : Planning and Design*, *32*(4), 597–615. http://envplan.com/epb/fulltext/b32/b31178.pdf

Book Reviews

Kaza, N. (2015). Review of Planning Support Systems for cities and regions, by Richard Brail. *Journal of American Planning Association*, *76*(1), 123.

Kaza, N. (2015). Review of The Exposed City: Mapping the Urban Invisibles, by Nadia Amaroso. *Journal of Regional Science*, *52*(2), 392–394.

Kaza, N. (2012). Review of Land Policy: Planning and the Spatial Consequences of Property, by Benjamin Davy. *Planning Theory*, *14*(2), 212–224.

Manuscripts

Manuscripts in progress/submitted/accepted: **6**

Branham, J., **Kaza, N.**, & BenDor, T. (n.d.). Do development disincentives influence land conservation activity? In *Frontiers of Ecology & Environment*.

Cardwell, J., & **Kaza, N.** (n.d.). Extension, densification, dispersion and stagnation: Patterns in urban spatial development in metropolitan united states 2001-2021. In *Applied Spatial Analysis & Policy*.

Donald, B., Brail, S., Lowe, N., DeLoyde, C., Heatwole, K., Hernandez, F., Hill-Tout, K., **Kaza, N.**, Khanal, K., Planey, D., & Wang, J. (n.d.). The Dashboard is not dead: Dashboards as effective tools in skills building, sense-making and community collaboration. In *Journal of American Planning Association*.

Kaza, N., Brookshire, D., Toledo, K., Perrit, M., & Murphy, S. (n.d.). Whose plan is it anyway? Energy planning by american indian tribes in the united states. In *Journal of Planning Education and Research*.

Khanal, K., **Kaza, N.**, Hino, M., & Sebastian, A. (n.d.). *Manufactured housing in north carolina: A computer vision approach*.

Khanal, K., Lowe, N., & **Kaza, N.** (n.d.). Retraining for energy transition: A workforce development approach using occupational similarity and unsupervised clustering. In *Economic Development Quarterly*.

Book Chapters

Total number of chapters in collected volumes: **4**

Becker, J., & **Kaza, N.** (2022). Tale of two sprawls: Energy planning and challenges for smart growth 2.0. In A. Chakraborty, R. Lewis, & G. J. Knaap (Eds.), *Handbook on smart urban growth* (pp. 291–302). Edward Elgar.

Kaza, N., & Knaap, G. J. (2011). Principles of planning for economists. In N. Brooks, G. J. Knaap, & K. P. Donaghy (Eds.), *Oxford handbook of urban economics and planning* (pp. 29–50). Oxford University Press. http://dx.doi.org/10.1093/oxfordhb/9780195380620.013.0003

Kaza, N., & Hopkins, L. D. (2007). Ontology for land development decisions and plans. In J. Teller, J. Lee, & C. Roussey (Eds.), *Ontologies for urban development* (pp. 47–59). Springer-Verlag. http://dx.doi.org/10.1007/978-3-540-71976-2_5

Hopkins, L. D., **Kaza, N.**, & Pallathucheril, V. G. (2005). A data model to incorporate plans and regulations in urban simulation models. In D. G. Maguire, M. Batty, & M. Goodchild (Eds.), *GIS, spatial analysis and modeling* (pp. 173–202). ESRI Press.

Presentations

Invited Talks

2023	Tongji University, Hunan University, Hong Kong University of Science and Technology	*Lectures on Geospatial Analysis in R for Urban Health*
2021	University of Reading	*Vain Foresight*
2021	Maryland Department of Planning	*Tale of Two Sprawls*
2019	ETH Zurich	*Urban Form and Transportation Energy Consumption*

Conference Presentations (Selected)

Khanal, K., Lowe, N., & **Kaza, N.** (2023). Targeting occupations to retrain for clean energy workforce development and implications for labor market dynamics. *ACSP Conference - Chicago, IL*.

Khanal, K., **Kaza, N.**, & Kittner, N. (2022). Evaluating generalisation of deep learning computer vision models for satellite data and global development. *SatSummit*.

Branham, J., **Kaza, N.**, BenDor, T. K., & Onda, K. (2021). Does subsidy removal reduce coastal development? Measuring the effect of US coastal barrier resources act. *ACSP Conference*.

Hino, M., BenDor, T. K., **Kaza, N.**, Sebastian, A., Branham, J., & Sweeney, S. (2021). One step forward, two steps back: Managing floodplain development in north carolina. *ACSP Conference*.

Hino, M., BenDor, T. K., **Kaza, N.**, Sebastian, A., Branham, J., & Sweeney, S. (2021). One step forward, two steps back: Managing floodplain development in north carolina (invited). *American Geophysical Union (AGU) Fall Meeting - New Orleans, LA*.

He, M., Glasser, J., Pritchard, N., Bhamidi, S., & **Kaza, N.** (2019). Community detection in strongly self-looping weighted networks. *Statistical Inference on Network Models - Burlington, VA*.

Kaza, N. (2019). Urban form and transportation energy consumption. *ACSP Conference - Columbia, SC*.

Onda, K., Branham, J., BenDor, T., **Kaza, N.**, & Salvesen, D. (2019). Does removing federal infrastructure subsidies discourage development. *Third International Conference on Natural Resource Management and Public Policy - Wuhan*.

Peng, K., & **Kaza, N.** (2019). Effects of street connectivity and duration of exposure on visits to fast food restaurants: A GPS based case study of atlanta region. *ACSP Conference - Columbia, SC*.

Gadiraju, K. K., Vatsavai, R. R., **Kaza, N.**, Wibbels, E., & Krishna, A. (2018). Machine learning approaches for slum detection using very high resolution satellite images. *2018 IEEE International Conference on Data Mining Workshops (ICDMW)*, 1397–1404. https://doi.org/10.1109/ICDMW.2018.00198

Kaza, N., Sinha, P., Stevens, F., & Gaughan, A. E. (2018). The missing millions: Undercounting urbanisation in india. *World Congress of Regional Science Association International*.

Li, C., Song, Y., & **Kaza, N.** (2016). Residential energy consumption: A structural analysis of chicago. *ACSP Conference - Portland, OR*.

Kaza, N. (2014). Whose plan is it anyway? Energy planning by american indian tribes in the united states. *53rd ACSP Conference*.

Kaza, N., Knaap, G., & Hopkins, L. D. (2014). Vain foresight: Against implementation. *ACSP Conference*

- Portland, OR.

Kaza, N. (2013). Industrial land transformation in cities. *Urban Affairs Association*.

Kaza, N., Tian, C., & Quercia, R. (2013). Home energy efficiency and mortgage risks. *ACEEE Finance Forum*.

Brookshire, D., & **Kaza, N.** (2012). Sustaining the seventh generation: Strategic energy planning of american indian tribes. *2012 Society of Government Economists*.

Kaza, N. (2012). Persons, polities and planning. *26th AESOP Conference*.

Kaza, N. (2012). The changing urban landscape of united states. *50th WRSA Conference*.

BenDor, T., & **Kaza, N.** (2011). Land value impacts of aquatic ecosystem restoration: An analysis of the research triangle region of north carolina. *51st ACSP Conference*.

Zapata, M., & **Kaza, N.** (2011). Scenario planning for uncertain futures: Incorporating multiple futures and multiple publics. *51st ACSP Conference*.

Blohm, A., Becker, J., **Kaza, N.**, Knaap, G., Moglen, G., & Ruth, M. (2010). Envisioning a sustainable maryland: Comparing alternative development scenarios considering energy con- sumption and water quality. *49th WRSA Conference*.

Kaza, N., Towe, C., & Ye, X. (2010). Scenarios using land conversion model for multiple land uses. *50th ACSP Conference*.

Knaap, G., **Kaza, N.**, & Lewis, R. (2010). Density and public health: It is not that simple. *50th ACSP Conference*.

Kaza, N., Knaap, G. J., & Clfiton, K. (2009). Economic scenarios and development patterns in the baltimore-washington region. *49th ACSP Conference,*.

Kaza, N., Towe, C., Ye, X., & Thapa, B. (2009). An economic model of land conversion incorporating multiple land uses. *American Agricultural Economics Association Annual Meetings*.

Knaap, G., Chakraborty, A., & **Kaza, N.** (2008). Planning a new era in the smart growth state: A primer on state development plans. *2008 ACSP-AESOP Joint Congress*.

Kaza, N. (2007). Plans in decision support systems and decisions in planning support system. *48th ACSP Conference*.

Kaza, N., Finn, D., & Hopkins, L. D. (2007). Updating plans: A historiography of decision over time. In C. Tweed (Ed.), *COST 21 second towntology workshop*.

Calderón, J., Froment, A. de, Donaldson, M., McInery, G., & **Kaza, N.** (2006). Games on evolving networks. *Proceedings of Complex Systems Summer School at Santa Fe Institute*.

Donaghy, K. P., & **Kaza, N.** (2006). The value of waiting: A primer on option value for planners. *47th ACSP Conference*.

Kaza, N., & Hopkins, L. D. (2006). In what circumstances should we plan in public?,. *Second World Planning Schools Congress*.

Kaza, N., & Hopkins, L. D. (2006). Ontology for land development decisions and plans. *Ontologies for Urban Development: Interfacing Urban Information Systems*.

Kaza, N., & Hopkins, L. D. (2006). Reasoning with plans: Semantic relationships among interde- pendent and contingent landuse plan. *47th ACSP Conference*.

Kaza, N. (2005). Deliberations between experts and laity: An approach to building planning information systems. *UCGIS Summer Assembly*.

Hopkins, L. D., **Kaza, N.**, & Pallathucheril, V. G. (2003). Planning markup language: Representing the meanings of plans and regulations. *ACSP-AESOP Joint Congress*.

Hopkins, L. D., **Kaza, N.**, & Pallathucheril, V. G. (2003). Shared data model for describing plans and regulations as inputs to simulation models of urban development. *North American Meetings of RSAI Conference*.

Teaching Activities

Instructor

PLAN 704	Theory of Planning	Fall 2009(14) Fall 2010(19) Spring 2010(25) Fall 2011(11) Fall 2012(16) Spring 2014(23) Spring 2015(41) Spring 2016(45) Spring 2017(40) Fall 2018(13) Spring 2020(32) Spring 2021(17) Spring 2021(24) Spring 2022(24) Fall 2022(46) Spring 2024(37)
PLAN 992	Master's Project	Spring 2010(2) Spring 2011(3) Spring 2012(2) Spring 2013(1) Spring 2014(3) Spring 2015(3) Spring 2016(4) Spring 2017(2) Spring 2018(2) Spring 2019(1) Spring 2021(3) Spring 2022(4) Spring 2022(2) Spring 2024(3)
PLAN 805	Advanced Planning Theory	Fall 2010(7) Fall 2012(8) Fall 2014(9) Fall 2017(6) Fall 2019(6) Fall 2021(6) Fall 2022(9)
PLAN 896	Independent Study	Spring 2010(2) Fall 2010(1) Fall 2014(2) Spring 2016(1) Spring 2024(1)
PLAN 547	Energy, Transportation and Land Use	Fall 2015(21) Fall 2016(21) Fall 2018(19) Fall 2021(12)
PLAN 672	Urban Data Analytics	Fall 2018(10) Fall 2020(7) Spring 2020(19) Fall 2022(7)
PLAN 562	Ethics and Politics of New Urban Analytics	Fall 2019(5) Fall 2020(5) Fall 2023(18)
ENEC 693H	ENEC Honors Research	Fall 2020(1) Spring 2021(1)
PLAN 823	Planning Workshop	Spring 2011(16) Fall 2011(9)
PLAN 057	What is a Good City?	Spring 2014(9) Spring 2015(9)

Dissertation Committee Chair

2018	Ke Peng	Essays on Associations of Built Environment with use of Restaurants and Food Stores and Food Purchase in the United States

Dissertation Commmittee Member

2024	Amanda Ullman	Measuring the Just Transition: Case Studies and Tools to Evaluate Justice in a Changing Energy System
2022	Alfredo Rojas (Anthropology)	Farming and Cooperation in Northwestern Côte d'Ivorie
2022	Kyle Onda	Essays on Measuring Urbanization and Infrastructure Service Levels
2021	Mark He (Statistics and Operations Research)	Essays on Community Detetction in Networks
2020	Ahmed Rachid El-Khattabi	Managing the Demand for Scarce Water Resources: An Evaluation of Current Approaches
2019	Yan Chen	Analysing the Determinants of Urban Vibrancy: A Big Data Approach to Connecting the Built Environment, Social Activity, and Images of Place
2018	Chaosu Li	Essays on Climate Change Mitigation, Building Energy Efficiency and Urban Form
2018	William L. Bishop	Value Capture and Relevant Value Creation Resulting from Public Investment in Light Rail Transit Infrastructure and Transit Oriented Development
2018	Allison Forbes	Linked Through Skill: Labor Market Interdependencies across the Automotive Value Chain
2017	Lilah Besser	Neighborhood Built Environment Characteristics and Cognition in Non-demented Older Adults
2016	Marc Howlett	Who Plans? The Role of Metropolitan Planning Organisations in Regional Freight Planning
2012	Lyndsey Ward Lyles	Stakeholder Network Influences on Local-Level Hazard Mitigation Planning Outputs

Comprehensive Exam Commmittee Member

Danielle Spurlock(2014), Louis Merlin(2014), Kevin Park(2015), Mac Howlett(2016), Chaosu Li(2016), Lilah Besser(2017), Allan Fryer(2017), Kristin Frescoln(2017), Erik Vergel(2017), William Bishop(2018), Ke Peng(2018), Henry Mckoy(2018), Allison Forbes(2018), Lindsay Mauer(2018), Yan Chen(2020), Jane Zhao(2021), Helena Cardenas(2022), Jordan Branham(2022), Nora Schwaller(2022), Matthew Wilson(2022), Alfredo Rojas(2022), Lindsay Oluyede(2022), Tibor Vegh(2024), Amanda Ullman(2024), Xijing Li(2024), Jun Huh(W), Joshu Shih(W), Kristin Vitro(W), Matthew Palmer, Kshitiz Khanal, Christopher Samoray, Yang Yang, Jo Kwan, Julia Cardwell, Megan McIntyre

Service

Other Professional Activities

2022–2024	Editorial Board Member, Jounral of Planning Literature
2019–2021	Associate Editor, Environmental Science and Policy
2017–2024	Editorial Board Member, Planning Theory
2016–2019	Co-Chair, Land Use and Governance Track, ASCP
2015–2015	Associate Editor, Journal of Urban Management
2013–2014	Organising Committee for Cities, Rivers and Cultures of Change: Rethinking and Restoring Environments of the Global American South

Reviewer for

American Journal of Public Health, *Applied Energy*, *Cities*, *EPJ Data Science*, *Energy Policy*, *Energy Sources, Part B: Economics, Planning, and Policy*, *Environment Systems and Decisions*, *Environmental Science and Policy*, *Environmental Science and Technology*, *European Journal of Decision Processes*, *European Journal of Operations Research*, *Future Internet*, *Growth and Change*, *International Journal of Geographic Information Science*, *Journal of American Planning Association*, *Journal of Environmental Management*, *Journal of Environmental Planning and Management*, *Journal of Planning Education and Research*, *Journal of Transport and Landuse*, *Land Use Policy*, *Landscape and Urban Planning*, *Sustainability*, *Transportation Research D*, *Urban Studies*

University Service

2023–2024	Search Committee Chair (Transporation and Resilience)
2022–2023	Search Committee Chair (Equity and Engagement)
2021–2024	Sustainability Committee
2020–2024	Academic Policy Committee, Graduate School
2020–2020	Co-Chair, 75th Anniversary Reunion
2019–2023	Weiss Urban Livabilty Fellowship Committee
2018–2019	Oraganiser of Urban Form and Biodiversity
2018–2019	Review Committee for Institute for the Environment
2018	Data Science Working Group
2018	Search Committee Member (E3P Cluster Hire)
2017	Website Taskforce Member
2014–2017	Summer School Administrator
2014–2016	Associate Chair
2014–2016	Director of Graduate Studies and MCRP Committee Chair
2014–2015	Search Committee Member (Lecturer in Sustainability)
2013–2014	Director of Undergraduate Studies
2013–2014	Search Committee Member (Urban Design)
2012–2012	MCRP Committee Member
2011–2012	PhD Committee Member
2008	Organiser for Symposium on ”Using Plans” honouring Lew Hopkins’ contributions

ANGEL HSU
CURRICULUM VITAE

(December 2024)

CONTACT

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Website: datadrivenlab.org

EDUCATION

2013 *Yale School of Environment*
Ph.D, Environmental Policy

2006 *University of Cambridge*
M.Phil, Environmental Policy

2005 *Wake Forest University*
B.A., Political Science (with honors)
B.S., Biology
Magna cum laude, Phi Beta Kappa

PROFESSIONAL EXPERIENCE

1/2024 - *University of North Carolina at Chapel Hill*
Associate Professor of Public Policy and Environment, Ecology, and Energy (E3P)
Director, Data-Driven EnviroLab, Institute of the Environment
Adjunct, Department of Geography

12/24-2/2025 *Yusof-Ishak Institute for Southeast Asian Studies*
Wang Gangwu Visiting Fellow

8/2023-12/2023	*National University of Singapore* Visiting Researcher, Building and Urban Data Science (BUDS) Lab, School of Design and Environment Visiting Researcher, Urban Analytics Lab, Department of Architecture
6/2022 - present	*National University of Singapore - Lee Kuan Yew School of Public Policy* Faculty Affiliate, Initiative on Environment and Sustainability (IES)
1/2021 - present	*University of North Carolina at Chapel Hill* Assistant Professor of Public Policy and Environment, Ecology, and Energy (E3P) Director, Data-Driven EnviroLab, Institute of the Environment
8/2019 - 7/2020	*University of North Carolina at Chapel Hill* Research Assistant Professor, Public Policy
9/2018 - 3/1/2019	*Oxford University - Blavatnik School of Government* British Academy Visiting Scholar
7/2015 – 12/2020	*Yale-NUS College* Assistant Professor of Environmental Studies Affiliated faculty of Urban Studies and Global Affairs Director and Founder, Data-Driven EnviroLab
7/2015 - 7/2019	*Yale School of Environment* Assistant Professor Adjunct
7/2013 – 7/2015	*Yale University* Post-doctoral associate, Urbanization and Global Change Group. Advisor: Karen C. Seto

7/2011 – 6/2016	*Yale Center for Environmental Law & Policy* Director and Principal Investigator, Environmental Performance Measurement Program and Environmental Performance Index
9/2010 - 8/2011	*Tsinghua University - School of Environment* U.S. Fulbright Scholar Advisors: Yi Liu and Yuxuan Wang
9/2006 - 9/2008	*World Resources Institute - Washington, D.C.* Research Analyst, Greenhouse Gas Protocol Initiative, Climate Change and Energy Program

HONORS

2023	UNC Hettleman Prize for Early Career Faculty Research Excellence
2022	Bloomberg New Economy Catalyst - one of 28 individuals selected
2021	Apolitical 100 most influential academics in government
2020	TED inaugural Climate Countdown Speaker
2019	Inspiring Yale Award - Top student-nominated Teaching Award
2019	National University of Singapore - Early Career Faculty Award
2018	British Academy Fellow to Oxford University
2018	TED Annual Summit Speaker – Age of Amazement
2018	Amplifier's 'My Climate Hero'
2016	One of 12 global finalists for TED Fellow Prize ($1 million USD)
2016	Inaugural Grist50: Global Environmental Leaders.
2015	Origins Magazine: 30 Climatechangers Thinkers and Doers
2012-2013	PEO - Edith Frances Langfitt Greathead Endowed Scholar
2012-2013	Switzer Foundation Fellow
2011	Yale Graduate School of Arts and Sciences – Public Scholar Award
2010	U.S. Fulbright Fellow to China
2001	U.S. Presidential Scholar

SCHOLARSHIP

Refereed Journal articles

49 peer-reviewed journal articles, 41 since 2015 and 26 since joining the faculty at UNC in 2021

[†]denotes undergraduate student, [‡]denotes graduate student

49. Creutzig, F., McPhearson, T., Bardna, R., Belmin, C., Chow, W., Garschagen, M., **Hsu, A.**, Kilkis, S., Islam, S., Milojevic-dupont, N., Pathak, M., Pereira, R., Salehi, P., and Urge-Vorsatz, D. Bridging the scale between the local particular and the global universal in climate change assessments of cities. *Nature Cities, in press.*

48. Ying Yu, Xijing Li, **Angel Hsu**, and Noah Kittner. (2024). Mapping Spatiotemporal Disparities in Residential Electricity Inequality Using Machine Learning. *Environmental Science & Technology.* DOI: 10.1021/acs.est.4c06093.

47. Wang, X., Johnson, E., Manya, D., Cardwell, J., **Hsu, A**. One Belt, Many Roads: Investigating China's Foreign Investment and Land-use Impacts in Southeast Asia, in review. Pre-print: https://eartharxiv.org/repository/view/7307/.

46. Li, X., Wang, G., Zaitchik, B. F., **Hsu, A.**, & Chakraborty, T. C. (2024). Sensitivity and vulnerability to summer heat extremes in major cities of the United States. *Environmental Research Letters*.

45. **Hsu, A.,** Laney, M., Manya, D., Zhang, J., Farczadi, L. Evaluating ChatNetZero, an LLM-Chatbot to Demystify Climate Pledges. Accepted to 2024 Association of Computational Lingustics Annual Meeting - ClimateNLP Workshop. Available: https://openreview.net/pdf?id=MmTaM7lmvu.

44. Song, K., **Hsu, A.**, Chakraborty, T., Peng, W., Yu, Y.[†], and Kittner, N. Growing Heat Disparities in the Contiguous United States by End of Century. *One Earth,* revise and resubmit. Pre-print: https://eartharxiv.org/repository/view/5657/

43. Song, K., Burley Farr, K.[‡], and **Hsu, A**. Assessing Subnational Climate Action in G-20 Cities and Regions: Progress and Ambition. 2024. *One Earth*. https://doi.org/10.1016/j.oneear.2024.10.001.

42. Burley Farr, K.[‡], Song, K., Yeo, Z.Y., Johnson, E., and **Hsu, A.** Cities and regions tackle climate change mitigation but often focus on less effective solutions. *Nature Commun Earth Environ* 4, 439 (2023). https://doi.org/10.1038/s43247-023-01108-6

41. Brandt, J.[*], Goyal, N., Moroney, M.[*], Janaskie, S.[*], and **Hsu, A**. (2024). Air pollution-induced Micromigrations: Impacts on Consumer Spending. *PLOSOne*. Thematic award winner in UN Data for Climate Action Challenge incorporating big data to address climate change.

40. Wang, X., **A. Hsu**, and TC Chakraborty. (2023). Citizen and Machine Learning-aided high-resolution mapping of urban heat exposure and stress. *Environmental Research: Infrastructure and Sustainability.* DOI:https://doi.org/10.1088/2634-4505/acef5.

39. Chakraborty, TC and Newman, A., Qian, Y., **Hsu, A.** and Sheriff, G. (2023). Residential Segregation and Urban Heat Stress Disparities in the United States. *One Earth*, 6(6), 738-750. https://doi.org/10.1016/j.oneear.2023.05.016

38. **Hsu, A.**, and M. Schletz. (2023). Digital technologies – the missing link between climate action transparency and accountability? *Climate Policy*. https://doi.org/10.1080/14693062.2023.2237937.

37. Schletz, M, Constant A, **Hsu A**, Schillebeeckx S, Beck R and Wainstein M (2023), Blockchain and regenerative finance: charting a path toward regeneration. *Front. Blockchain* 6:1165133. doi: 10.3389/fbloc.2023.1165133.

36. **Hsu, A.**, Li, L., Schletz, M., and Yu, Z. (2023). Chinese cities as digital environmental governance innovators: Evidence from subnational low-Carbon plans. *Environment and Planning B: Urban Analytics and City Science.* Vol. 0(0) 1–18. https://doi.org/10.1177/23998083231186622.

35. **Hsu, A.**, Wang, X., Tan, J.[†], Toh, W.[†], & Goyal, N. 2022. Predicting European Cities' Climate Mitigation Performance using Machine Learning. *Nature Communications.* DOI: 10.1038/s41467-022-35108-5.

34. Sachdeva, S., **Hsu, A.**, French, I.,[†] & Lim, E. *Nature Urban Sustainability* (2022). How are cities pledging net zero? A computational approach to analyzing subnational climate strategies. DOI: 10.1038/s42949-022-00065-x.

33. Schletz, M., **Hsu, A**., Mapes, B., & Wainstein, M. (2022). Nested climate accounting for our atmospheric commons – digital technologies for trusted interoperability across fragmented systems. *Frontiers in Blockchain*, *4*,789953. DOI: 10.3389/fbloc.2021.789953

32. Seto, K. C., Churkina, G., **Hsu, A.**, Keller, M., Newman, P. W., Qin, B., & Ramaswami, A. (2021). From Low-to Net-Zero Carbon Cities: The Next Global Agenda. *Annual Review of Environment and Resources*, *46*, 377-415. DOI: 10.1146/annurev-environ-050120-113117

31. Pereira, L., Asrar, G. R., Bhargava, R., Fisher, L. H., **Hsu, A.**, Jabbour, J., ... & Weinfurter, A. (2021). Grounding global environmental assessments through bottom-up futures based on local practices and perspectives. *Sustainability Science*, *16*(6), 1907-1922. DOI: 10.1007/s11625-021-01013-x

30. Pereira, L., Kuiper, J.J., Selomane, O., D. Aguiar, A.P., Asrar, G.R., Bennett, E.M., Biggs, R., Calvin, K., Hedden, S., **Hsu, A**., Jabbour, J., King, N., Köberle, A.C., Lucas, P., Nel, J., Norström, A.V., Peterson, G., Sitas, N., Trisos, C., van Vuuren, D.P., Vervoort, J., & Ward, J. (2021). Advancing a toolkit of diverse futures approaches for global environmental assessments. *Ecosystems and People, 17*(1), 191-204. DOI: 10.1080/26395916.2021.1901783

29. Chan, S., Boran, I., van Asselt, H., Ellinger, P., Garcia, M., Hale, T., Hermwille, L., Liti Mbeva, K., Mert, A., Roger, C.B., Weinfurter, A., Widerberg, O., Bynoe, P., Chengo, V., Cherkaoui, A., Edwards, T., Gütschow, M., **Hsu, A**., Hultman, N., Levaï, D., Mihnar, S., Posa, S., Roelfsema, M., Rudyk, B., Scobie, M. and Shrivastava, M.K. (2021). Climate Ambition and Sustainable Development for a New Decade: A Catalytic Framework. *Glob. Policy. 12,* 245-259. DOI: 10.1111/1758-5899.12932

28. **Hsu, A.**, Sheriff, G., Chakraborty, T.[*], & Manya, D. (2021). Disproportionate exposure to urban heat island intensity across major US cities. *Nature Communications*, *12*(1), 1-11. DOI: 10.1038/s41467-021-22799-5 (Press: New York Times, Washington Post, BBC, Verge, Associated Press, *Nature* news feature, The Guardian).

27. **Hsu, A.**, Wang, J., Xu, K., Zhang, W., & Yan, C[*]. (2021). Data and Transparency Key for China's pollution clean-up. *Ecological Economics*, *183*, 106963. DOI: 10.1016/j.ecolecon.2021.106963

26. **Hsu, A.**, and Rauber, R[†]. Diverse climate actors show limited coordination in a large-scale text analysis of strategy documents. (2021)
Nature Communications Earth & Environment, *2*(1), 30. 1-12. DOI: 10.1038/s43247-021-00098-7 (Recognized as one of the Invest in our Planet article contributions for Earth Day April 2022).

25. Thomas, R., **Hsu, A**., & Weinfurter, A. (2021). Sustainable and Inclusive - Evaluating urban sustainability indicators' suitability for measuring progress towards SDG-11. *Environment and Planning B: Urban Analytics and City Science. 48*(8), 2346–2362. DOI: 10.1177/2399808320975404

24. Hale, T., Chan, S., **Hsu, A.**, Clapper, A., Elliot, C., Faria, P., Kuramochi, T., McDaniel, S., Morgado, M., Roelfsema, M., Santaella, M., Singh, N., Tout, I., Weber, C., Weinfurter, A., & Wideberg, O. (2021). Assessing the progress, implementation, and impact of subnational and non-state climate action. *Climate Policy*. *21*(3), 406-420. DOI: 10.1080/14693062.2020.1828796

23. **Hsu, A.**, Chakraborty, T., Thomas, R., Manya, D., Weinfurter, A., Chin, N.[†], Goyal, N., & Feierman, A. (2020). Measuring what matters, where it matters: A spatially explicit Urban Environment and Social Inclusion Index for the Sustainable Development Goals. *Frontiers in Sustainable Cities, 2*, 556484. DOI: 10.3389/frsc.2020.556484. (Press: AGU EOS Science News, Indianapolis Recorder, Smart Cities Dive)

22. Lui, S., Kuramochi, T., Smit, S., Roelfsema, M., **Hsu, A.**, Weinfurter, A., Chan, S., Hale, T., Fekete, H., Lütkehermöller, K., de Villafranca Casas, M.J., Nascimento, L., Sterl, S., & Höhne, N. (2020). Correcting course: the emission reduction potential of international cooperative initiatives. *Climate Policy. 21*(2), 232-250. DOI: 10.1080/14693062.2020.1806021

21. **Hsu, A.,** Tan, J.[†], Ng, Y.M.[†], Vanda, R.[†] & N. Goyal. (2020). Performance determinants show European cities are delivering on climate mitigation. *Nature Climate Change. 10*(11), 1015-1022. DOI: 10.1038/s41558-020-0879-9

20. **Hsu, A.**, Khoo, W., Goyal, N., & M. Wainstein. (2020). Next-generation Digital Ecosystem for Climate Data Mining and Knowledge Discovery: A Review of Digital Data Collection Technologies. *Frontiers in Big Data,* Special Issue: Innovations and Perspectives in Data Mining and Knowledge Discovery. *3*, 1-19. DOI: 10.3389/fdata.2020.00029

19. Chakraborty, T.C.[‡], **Hsu, A.**, Manya, D., & Sheriff, G. (2020). A Spatially Explicit Satellite-Derived Surface Urban Heat Island Database for the United States: Characterization, Uncertainties, and Possible Applications. *ISPRS Journal of Photogrammetry and Remote Sensing. 168,* 74-88. DOI: 10.1016/j.isprsjprs.2020.07.021 (Press: New Hampshire NPR)

18. **Hsu, A.**, Yeo, Z.Y.[†], Rauber, R.[†], Sun, J.[†], Kim, Y.[†], Raghavan, S.[†], Chin, N.[†], Namdeo, V.[†], & Weinfurter, A. (2020). ClimActor, a harmonized dataset of 10,000+ city and region transnational climate network participation. *Nature Scientific Data, 7*(1), 374. p. 1-8. DOI: 10.1038/s41597-020-00682-0

17. Kuramochi, T., Roelfsema, M., **Hsu, A.**, Lui, S., Weinfurter, A., Chan, S., Hale, T., Clapper, A., Chang, A., & Höhne, N. (2020). Beyond national climate action: the impact of region, city, and business commitments on global greenhouse gas emissions. *Climate Policy*, *20*(3), 275-291. DOI: 10.1080/14693062.2020.1740150

16. **Hsu, A**., Yeo, Z.Y. [†], & Weinfurter, A. (2019). Emerging Digital Environmental Governance in China: The Case of Black and Smelly Waters in China, in "Data, Digitization and Environmental Governance in China" edited by G. Kotska, X. Zhang. *Journal of Environmental Management and Planning, 63*(1), 14-31., DOI: 10.1080/09640568.2019.1661228 (Press: CX Tech)

15. Fritz, S., See, L., Carlson, T., Haklay, M., Oliver, J.L., Fraisl, D., Mondarini, R., Brocklehurst, M., Shanley, L., Schade, S., When, U., Abrate, T., Anstee, J., Arnold, S., Billot, M., Campbell, J.,Espey, J., Gold, M., Hager, G., He, S., Hepburn, L., **Hsu, A.**, Long, D., Maso, J., McCallum, I., Muniafu, M., Moorthy, I., Obersteiner, M., Parker, A., Weissplug, M., & West, S. (2019). Citizen Science and the United Nations Sustainable Development Goals. *Nature Sustainability, 2*(10), 922-930. DOI: 10.1038/s41893-019-0390-3

14. **Hsu, A.**, Brandt, J.[‡], Widerberg, O., Chan, S., & Weinfurter, A. (2019). Exploring links between national climate strategies and non-state and subnational climate action in nationally determined contributions (NDCs). *Climate Policy, 20*, special Issue 4: Making climate action more transparent and ambitious: lessons learned from the first Nationally Determined Contributions (NDCs). 443-457. DOI: 10.1080/14693062.2019.1624252

13 .Chakraborty, T.[‡], **Hsu, A.**, Manya, D., & Sherriff, G. (2019). Disproportionately Higher Exposure to Urban Heat in Lower-income Neighborhoods: a Multi-City Perspective in "Urban Sustainability Solutions" special issue of *Environmental Research Letters, 14*(10), 105003. DOI: 10.1088/1748-9326/ab3b99

12. **Hsu, A.**, Höhne, N., Kuramochi, T., Roelfsema, M.,Weinfurter, A., Xie, Y., Lütkehermöller, K., Chan, S., Corfee-Morlot, J., Drost, P., Faria, P., Gardiner, A., Gordon, D.J., Hale, T., Hultman, N.E., Moorhead, J., Reuvers, S., Setzer, J., Singh, S., Weber, C., &

Widerberg, O. (2019). A Research Roadmap for Quantifying Non-State and Subnational Climate Action. *Nature Climate Change 9*(1), 11–17. DOI: 10.1038/s41558-018-0338-z

11. **Hsu, A.**, Weinfurter, A., Tong, J.,[†] & Xie, Y.[†] (2019). Black and Smelly Waters: How Citizen-Generated Transparency Addressing Gaps in China's Environmental Management, in "Disclosing Sustainability: The Transformative Power of Transparency?" A. Gupta, I. Boas, and P. Oosterveer, Eds. *Journal of Environmental Policy and Planning, 22*(1), 138-153. DOI: 10.1080/1523908X.2019.1654365

10. Berrang-Ford, L., Biesbroek, R., Ford, J.D., Lesnikowski, A., Tanabe, A., Wang, F., Chen, C., **Hsu, A.**, Hellmann, J., Pringle, P., Grecequet, M., Amado, J.C., Huq, S., Lwasa, S., & Heymann, S.J. (2019). Tracking global climate change adaptation among governments. *Nature Climate Change*, *9*(6), 440-449. DOI: 10.1038/s41558-019-0490-0

9. **Hsu, A.**, Weinfurter, A.J., & Xu, K[*]. (2017). Aligning Sub-national Climate Actions for the Post-Paris Regime. *Climatic Change, 142*(3), 419-432. DOI: 10.1007/s10584-017-1957-5 (Press: The Atlantic, Los Angeles Times)

8. **Hsu, A.**, Moffat, A.S. [*], Weinfurter, A.J., & Schwartz, J.D. (2015). Towards a New Climate Diplomacy. *Nature Climate Change, 5*(6), 501–503. DOI: 10.1038/nclimate2594

7.Chan, S., van Asselt, H., Hale, T., Abbott, K., Beisheim, M., Hoffmann, M., Guy, B., Höhne, **Hsu, A.**, Pattberg, P., Pauw, P., Ramstein, C., & Widerberg, O. (2015). Reinvigorating international climate policy: A comprehensive framework for effective nonstate action. *Global Policy*, *6*(4), 466-473. DOI: 10.1111/1758-5899.12294 Recognized as one of Global Policy's Top-10 cited papers.

6. **Hsu, A.** (2015). Measuring Policy Analytical Capacity for the Environment: A Case for Engaging New Actors. *Policy and Society, 34*(3-4), 197-208. DOI: 10.1016/j.polsoc.2015.09.003

5. Malik, O.[*], **Hsu, A.**, Johnson, L.[*], & de Sherbinin, A. (2015). An Indicator of Global Wastewater Treatment to Inform the Sustainable Development Goals. *Environmental Science and Policy, 48*(5),: 172-185. DOI: 10.1016/j.envsci.2015.01.005

4. **Hsu, A.** (2013). Limitations and Challenges of Provincial Environmental Protection Bureaus in China's Environmental Monitoring, Reporting, and Verification. *Environmental Practice*, *15*(3), 280-292. DOI: 10.1017/S146604661300032X

3. **Hsu, A.**, de Sherbinin, A., & Shi, H. (2012). Seeking truth from facts: the challenge of environmental indicator development in China. *Environmental Development*, *3,*: 39-51. DOI: 10.1016/j.envdev.2012.05.001.

2. **Hsu, A.**, Lloyd, A., & Emerson, J.W. (2013). What progress have we made since Rio? The 2012 Environmental Performance Index (EPI) and Pilot Trend EPI. *Environmental Science and Policy*, *3*3, 171–185. DOI: 10.1016/j.envsci.2013.05.011.

1. **Hsu, A.** Reuben, A.[‡], Shindell, D., de Sherbinin, A., & Levy, M. (2013). Toward the Next Generation of Air Quality Monitoring. *Atmospheric Environment*, *80*, 561-570. DOI: 10.1016/j.atmosenv.2013.07.036

Book chapters

4. **Hsu, A.** (*forthcoming*). "From Pixels to Progress: Advancing Urban Environmental Justice in the AI Era" in Josh Gellers and Henrick Saetra (Eds.), *AI in Society,* Oxford University Press.

3. **Hsu, A.** (2018). Governance by Numbers: The Environmental Performance Index in China, Viet Nam, and Malaysia. In Simon Bell (Ed). *Routledge Handbook of Sustainability Indicators and Indices.* London: Routledge.

2. **Hsu, A.** (2017). Measuring Policy Analytical Capacity for the Environment: A Case for Engaging New Actors" in Michael Howlett, Wu Xun and M Ramesh (Eds). *Policy Capacity and Governance: Assessing Governmental Competences and Capabilities in Theory and Practice,* Cah, Switzerland: Springer International Publishing / Palgrave Macmillan.

1. **Hsu, A.** Seeing through the Smog: China's Air Pollution Challenge for East Asia. (2015). In Paul G. Harris and Graeme Lang (Eds.), *Routledge Handbook of Environment and Society in Asia*. London: Routledge.

Edited volumes

1. **Hsu, A.**, H. Hung, N. Pirrone, J. Engel-Cox and K.W. Bowman, eds. (2013). Special Issue Section: Toward the Next Generation of Air Pollutant Monitoring and Indicators. *Atmospheric Environment, vol. 80*.

Refereed Editorials and Commentaries

7. Robiou du Pont, Y., Rogelj, J., **Hsu, A**., Hoepner, A., and Van Vuuren, D. (2024). Policy Forum: Corporate emissions targets and the neglect of future innovators. *Science* 384, 388-390(2024). DOI:10.1126/science.adl5081

6. **Hsu, A.**, S. Chan, M. Roelfsema, M. Schletz, T. Kuramochi, S. Smit, A. Deneault. (2023). From Drumbeating to Marching: Taking Stock of Non-State and Subnational Climate Actions. Invited commentary, special Global Stocktake Issue. *One Earth*.

5. Schletz, M., **Hsu, A.**, Robiou du Pont, Y., Durkin, L., Yeo, ZY., Wainstein, M. (2022) Climate Data need shared and open governance. *Nature* (610), 34

4. Ford, J. D., Tilleard, S. E., Berrang-Ford, L., Araos, M., Biesbroek, R., Lesnikowski, A. C., **Hsu, A.** ... & Bizikova, L. (2016). Opinion: Big data has big potential for applications to climate change adaptation. *Proceedings of the National Academy of Sciences*, *113*(39), 10729-10732. DOI: 10.1073/pnas.1614023113

3. **Hsu, A.**, Cheng, Y., Weinfurter, A., Xu, K.[‡], & Yick, C.[†] (2016). Track climate pledges of cities and companies. *Nature, 532*(7599), 303-305. DOI: 10.1038/532303a

2. **Hsu, A.**, Xu, K., & Moffat, A. (2015). Correspondence: China's emissions are a mystery. *Nature, 523*, 158 (09 July 2015).

1. **Hsu, A.**, Malik, O., Johnson, L., & Esty, D.C. (2014). Mobilize citizens to track sustainability. *Nature, 508,* 33-35. DOI: 10.1038/508033a

Referred Scientific Committee Reports

10. United Nations Environment Programme (2023). Strengthening transparency of non-state actors: How national experiences and new digital technologies can strengthen the Transparency efforts of non-state actors. https://wedocs.unep.org/20.500.11822/43573.

9. National Academies of Sciences, Engineering, and Medicine. (2022). Greenhouse Gas Emissions Information for Decision Making: A Framework for Going Forward. Washington, DC: The National Academies Press. https://doi.org/10.17226.26641.

8. Intergovernmental Panel on Climate Change (IPCC) – Sixth Assessment Working Group III. Contributing author to Chapter 4 (Mitigation and development pathways in the near to mid-term); Chapter 8 (Urban systems and other settlements); and Chapter 13 (National and sub-national policies and institutions).

7. **Hsu, A.** Widerberg, O. Weinfurter, A. Chan, S. Roelfsema, M. Lütkehermöller, K. and Bakhtiari, F. (2018). Bridging the emissions gap - The role of nonstate and subnational actors. In The Emissions Gap Report 2018. A UN Environment Synthesis Report. United Nations Environment Programme. Nairobi.

6. **Hsu, A.**, N. Alexandre, J. Brandt, T. Chakraborty, S. Comess, A. Feierman, T. Huang, S. Janaskie, D. Manya, M. Moroney, N. Moyo, R. Rauber, G. Sherriff, R. Thomas, J. Tong, Y. Xie, A. Weinfurter, Z. Yeo (in alpha order), (2018). The Urban Environment and Social Inclusion Index. New Haven, CT: Yale University. Available: datadrivenyale.edu/urban.

5. UN Environment Programme (UNEP) and Ministry of Environment, Norway. (2016). Renewable energy and energy efficiency in developing countries: contributions to global emissions reductions. Second report of the 1 Gigaton Coalition. Lead author.

4. UN Environment Programme (UNEP). (2016). The 2016 Emissions Gap Report. Contributing author to Chapter 4: Non-state actors.

3. Hsu, A. et al. (2016). The 2016 Environmental Performance Index. Yale University: New Haven, CT. Available: http://epi.yale.edu.

2. ICSU, ISSC (2015): Review of the Sustainable Development Goals: The Science Perspective. Paris: International Council for Science (ICSU). (Contributing author).

1. Hsu, A., J. Emerson, M. Levy, A. de Sherbinin, L. Johnson, O. Malik, J. Schwartz, and M. Jaiteh. (2014). The 2014 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law and Policy. Available: http://epi.yale.edu.

ENGAGED SCHOLARSHIP

Products of interdisciplinary scholarship

23. **Hsu, Angel.** (2024). How Artificial Intelligence Can Accelerate Global Climate Action. Anwar Gargash Diplomatic Academy. Available: https://www.agda.ac.ae/docs/default-source/2023/climate-action-and-ai_final.pdf?sfvrsn=8bc2643b_1.

22. Data-Driven EnviroLab. (2024). Cities Climate Action Report Card. Prepared by: Burley Farr, K., Hsu, A., Carney, W., & Chung, C. Available: https://datadrivenlab.org/cities_climate_action_report_card_nov2024/.

21. Net Zero Tracker (2024) Net Zero Stocktake 2024: NewClimate Institute, Oxford Net Zero, Energy and Climate Intelligence Unit and Data-Driven EnviroLab.

20. Hsu, A. and M. Schletz. (2023). Envisioning the Future of Non-State Climate Action Data and Accountability. Data-Driven EnviroLab. Available at: https://datadrivenlab.org/wpcontent/uploads/2023/11/Future_of_NSA_Data_Accountability_Nov2023.pdf.

19. United Nations Environment Programme (2023). Strengthening transparency of non-state actors: How national experiences and new digital technologies can strengthen the Transparency efforts of non-state actors. https://wedocs.unep.org/20.500.11822/43573.

18. Utrecht University and Data-Driven EnviroLab. (2023). Global Climate Action 2023: Ambition of Cities, Regions and Companies. https://datadrivenlab.org/wp-content/uploads/2023/09/20230926_Report_GCC_2023.pdf

17. Net Zero Tracker (2023) Net Zero Stocktake 2023: NewClimate Institute, Oxford Net Zero, Energy and Climate Intelligence Unit and Data-Driven EnviroLab.

16. Data-Driven EnviroLab, Utrecht University, and CDP. (2022). Global Climate Action 2022: Progress and Ambition of Cities, Regions and Companies. Research report prepared by the team of: Zhi Yi Yeo, Katherine Burley, Ian French, and **Angel Hsu** (Data-Driven EnviroLab), Mark Roelfsema, Chelsea Jones (Utrecht University) and Andrew Clapper and Lucy Du (CDP).

15. NewClimate Institute, Oxford Net Zero, Energy & Climate Intelligence Unit and Data-Driven EnviroLab. (2022). Net Zero Stocktake 2022. Available at: https://ca1-nzt.edcdn.com/@storage/Net-Zero-Stocktake-Report-2022.pdf?v=1655074300 (Press: Bloomberg, Reuters, South China Morning Post, Sky News, BusinessGreen, RTO Insider).

14. Data-Driven EnviroLab (2022). Chapel Hill Heat Watch 2021 – Campaign Report (Beta Release). Report compiled and designed by: Xuewei Wang and **Angel Hsu**, with the help of 40 citizen scientists and in partnership with the NC Museum of Life and Science and the Town of Chapel Hill.

13. NewClimate Institute, Data-Driven EnviroLab, Utrecht University, German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), CDP, Blavatnik

School of Government, University of Oxford. Global climate action from cities, regions and businesses. 2021 edition. Research report prepared by the team of: Takeshi Kuramochi, Sybrig Smit, Frederic Hans, Julia Horn, Katharina Lütkehermöller, Leonardo Nascimento, Julie Emmrich, Niklas Höhne, **Angel Hsu**, Brendan Mapes, Xuewei Wang, Mark Roelfsema, Sander Chan, Andrew Deneault, Bianca de Souza Nagasawa, Mishel Mohan, Megan Whitney, Johannes Brehm, Jonathan Hassel, Andrew Clapper, Abhishek Hiremath, Thomas Hale.

12. Höhne, N., Roy, J., Gaffney, O., Falk, J., Ribeiro, S. K., Levin, K., Smit, S., Nascimento, L., **Hsu, A.**, & Mapes, B. (2021). A seismograph for measuring the transformation to net-zero greenhouse gas emissions (NewClimate Discussion Paper).

11. NewClimate Institute & Data-Driven EnviroLab. (2020). Navigating the Nuances of Net-Zero. Research report prepared by the team of: Thomas Day, Silke Mooldijk and Takeshi Kuramochi (NewClimate Institute) and **Angel Hsu**, Elwin Lim, Zhi Yi Yeo, Amy Weinfurter, Yin Xi Tan, Ian French, Vasu Namdeo, Odele Tan, Sowmya Raghavan, and Ajay Nair (Data-Driven EnviroLab). Available at: https://newclimate.org/sites/default/files/2020/10/NewClimate_NetZeroReport_October2020.pdf (Press: The New York Times, Fast Company)

10. Data-Driven EnviroLab & NewClimate Institute. (2020). Accelerating Net Zero: Exploring Cities, Regions, and Companies' Pledges to Decarbonise. Research report prepared by the team of: **Angel Hsu**, Zhi Yi Yeo, Amy Weinfurter, Yin Xi Tan, Ian French, Vasu Namdeo, Odele Tan, Sowmya Raghavan, Elwin Lim, and Ajay Nair (Data-Driven EnviroLab) and Thomas Day, Silke Mooldijk, Niklas Höhne, and Takeshi Kuramochi (NewClimate Institute). Available at: https://newclimate.org/sites/default/files/2020/09/NewClimate_Accelerating_Net_Zero_Sept2020.pdf (Press: UN Climate Change News)

9. NewClimate Institute, Data-Driven Lab, PBL, German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), Blavatnik School of Government, University of Oxford. Global Climate Action of Cities, Regions, and Companies. 2019 edition. Research report prepared by the team of: Takeshi Kuramochi, Swithin Lui, Niklas Höhne, Sybrig Smit, Maria Jose de Villafranca Casas, Frederic Hans, Leonardo Nascimento, Paola Tanguy, **Angel Hsu**, Amy Weinfurter, Zhi Yi Yeo, Yunsoo

Kim, Mia Raghavan, Claire Inciong Krummenacher, Yihao Xie, Mark Roelfsema, Sander Chan, Thomas Hale. (Press: Caixin Global)

8. Data Driven Yale, NewClimate Institute, PBL 2018. Global climate action of regions, states and businesses. Research report published by Data Driven Yale, NewClimate Institute, PBL Netherlands Environmental Assessment Agency, prepared by project team of **Angel Hsu**, Amy Weinfurter, Andrew Feierman, Yihao Xie, Zhi Yi Yeo, Katharina Lütkehermöller, Takeshi Kuramochi, Swithin Lui, Niklas Höhne, Mark Roelfsema. Available at http://bit.ly/yale-nci-pbl-global-climate-action (Press: TEDBlog, The Guardian)

7. Data Driven Yale, Carbon Tracker, Climate Action Tracker (Ecofys, Climate Analytics, NewClimate Institute), the Potsdam Institute for Climate Impact Research, Chloe Revill and Victoria Harris. Mission2020: The Climate Turning Point. (2017). Mission 2020 Campaign. Available at: https://mission2020.global/wp-content/uploads/2021/04/2020-The-Climate-Turning-Point.pdf

6. **Hsu, A.**, Y. Cheng, A. Weinfurter, and C. Yick (2016). Understanding NAZCA: Challenges and Future of the World's Largest Voluntary Climate Action Platform. Yale Data-Driven Environmental Solutions Group: New Haven, CT. Available: http://datadriven.yale.edu/files/2016/06/Yale_ADEME_Report-13l7eu8.pdf

5. **Hsu, A.** N. Hoehne, Y. Cheng, A. Weinfurter, M. Hagemann, A. Moffatt and K. Xu. (2015). Inaugural Report of the 1 Gigaton Coalition: Filling the Gap – Renewable Energy and Energy Efficiency. Available: http://www.1gigatoncoalition.org/wp-content/uploads/2015/12/1-gigaton-coalition-key-findings-and-executive-summary.pdf

4. **Hsu A**., K. Xu, A. Weinfurter, and S. Wnuck. (2015). The Global Impact of Sub-national Climate Action. White paper with R-20 Regions for Climate Change, The Stanley Foundation, and USC Schwarzenegger Global Policy Institute. Available at: https://stanleycenter.org/publications/report/WhitePaperScalingUp12-2015.pdf (Press: Bloomberg)

3. Yale Center for Environmental Law and Policy, Center for International Earth Science Information Network at Columbia University, Chinese Academy for Environmental

Planning, and the City University of Hong Kong. 2011. "Towards a China Environmental Performance Index." Available at: http://environment.yale.edu/envirocenter/files/China-EPI-Report.pdf

2. **Hsu, A**., N. Singh, and R.P. Song. "Sector-based approaches to Measuring and Managing Greenhouse Gas Emissions: A Case of the Chinese Cement Industry." *China Environment Forum: China and the Climate Change Challenge,* Vol. 11. Available at: http://www.wilsoncenter.org/topics/pubs/CES%2011%20pp.%20239-294.pdf

1. Fransen, T., P. Bhatia, and **A. Hsu**. 2007. *The Greenhouse Gas Protocol Initiative: Measuring to Manage: A Guide to Designing GHG Accounting and Reporting Programs.* Washington, D.C.: World Resources Institute.

Op-eds, blogs and other media (*selected - complete list available at datadrivenlab.org*)

Hsu, A. (2024). Finding the Sweet Spot Amidst Major Power Rivalry: The Case of Vinfast. Fulcrum.

Hsu, A. (2023). Connecting the Dots Between Climate and Air Quality. Think Health, Council on Foreign Relations.

Hsu, A., and M. Schletz. (2022). "We desperately need to modernize Climate Change Emissions Tracking." *Scientific American*.

Appeared in: Myerscough, J. (Director). (2021). Greta Thunberg: A Year to Change the World [*Television series*]. R. Liddell & H. Thomas (Producers). London, United Kingdom: BBC Studios Production Limited. Expert Interviewee / Commentator.

Appeared in: 2045: Memories of the Future. (2021). [*Television Broadcast*]. London, United Kingdom: BBC Global News Limited. Expert Interviewee / Commentator.

Hsu, A. (2021). Don't Be So Quick to Doubt China's Climate Change Dedication. *The New York Times.*

Hsu, A., A. Wang, and K. Kuo. (2021). US-China climate cooperation in a competitive age. *SupChina* Podcast.

Hsu, A., and B. Mapes. (2021). Amid extreme weather, city and company climate action is more important than ever. *The Hill.*

Hsu, A. (2021). Commentary: Making pledges was the easy part but it's a long road to net-zero emissions. *Channel News Asia*.

Hsu, A. and B. Mapes. (2021). Are different actors coordinating on climate change? *Springer Nature.*

Appeared in: Tsai, Jen. (Producer, Director, & Writer). (2020, March 1). Carbon Conundrum: Can We Reduce Our Reliance On Carbon? [*Television Broadcast*]. Singapore: *Channel News Asia*. Expert Interviewee / Commentator.

Hsu, A., N. Goyal, and A. Weinfurter. (2020). Are European cities delivering on their climate commitments? *Carbon Brief*.

Hsu, A. (2019). In Singapore's climate fight, transition to clean energy is a matter of will. *South China Morning Post*.

Hsu, A. (2019). Commentary: Forget bamboo straws. Let's name the elephants in the room of Singapore's climate debate. *Channel News Asia*.

Hsu, A. and K. Samuel. (2018). How cities are failing to be inclusive and sustainable – and what they can do about it. *World Economic Forum*.

Hsu, A. and A. Weinfurter. (2018). All climate politics is local. *Foreign Affairs*, September 24.

Hsu, A. and C. Rosengarten. (2017). The leadership void on climate change. *China Dialogue*, April 21.

Hsu, A. and C. Rosengarten. (2016). Just how bad is the air we breathe? *World Economic Forum*.

Hsu, A., D. Wong, and C. Rosengarten. (2016). A New Air Pollution Database Is Good, but Imperfect. *Scientific American*.

Hsu, A. and C. Rosengarten. (2016). 2016 Environmental Rankings Show Declining Air Quality and Collapsing Fish Stocks. *Huffington Post.*

Seligsohn, D. and **A. Hsu.** (2016). How China's 13th Five-Year Plan Addresses Energy and the Environment. *ChinaFile.*

Hsu, A., A. Moffat, and K. Xu. (2016). Making sense of China's drop in coal consumption. *Scientific American*.

Hsu, A. (2015). Liveability Ranking Ignores the Environment. *Huffington Post*.

Hsu, A. and A. Weinfurter. (2015). Paris climate talks need business to move beyond greenwash and empty promises. *The Guardian*, July 10.

Hsu, A. and A. Zomer. 2015. Four Hurdles to Getting Data and Science in the SDGs. *Scidev.net*.

Hsu, A. and W. Miao. 2014. Soil Pollution in China Still a State Secret Despite Recent Survey. *Scientific American*, June 18.

Hsu, A. and A. Zomer. 2014. An interactive air-pollution map. *The Atlantic*, June 11.

Hsu, A. and J.D. Schwartz. 2014. China-India Smog Rivalry a Sign of Global Menace. *Scientific American*, March 26.

Hsu, A. 2013. "Does the Environment Need Big Data?" *The Huffington Post*.

Hsu, A. and W. Miao. 2013. "28,000 Rivers Disappeared in China: What Happened?" *The Atlantic*, April 29.

Hsu, A. 2012. "Can a New Smartphone App Hold Leaders More Accountable in the Doha Climate Talks?" *The Huffington Post.*

Hsu, A. 2011. "Clearing the Haze." *China Dialogue*, October 19. ** One of the Top-10 most read on *China Dialogue* in 2011.

Hsu, A. and Y. Zhao. 2011. "Talking Tactics: China's performance in Cancún points to a new, more conciliatory climate diplomacy from a country that knows the sharp end of the blame game." *China Dialogue*, January 27.

Seligsohn, D. and **A. Hsu**. 2011. "What to expect on climate change and energy in China in 2011." *Grist*, January 6.

Hsu, A. 2010. "Account of the Tianjin Climate Talks: Of Pigs and Mirrors - The Breakdown of the U.S.-China Dialogue in Tianjin." *The Atlantic*, October 15.

Hsu, A. et al. 2009. "China in Copenhagen," series of analytical pieces following the Chinese negotiation position at UNFCCC Conference of Parties (COP-15) in Copenhagen, Denmark. Featured on http://www.greenleapforward.com and http://climateprogress.org

Expert testimony

2021 U.S. Senate Committee on Energy and Natural Resources. Hearing on "Examining Global Climate Trends and Progress in addressing Climate Change." Washington, D.C., February 3, 2021. Available: https://www.energy.senate.gov/hearings/2021/2/hearing-to-examine-global-climate-trends

2010 U.S.-China Economic and Security Review Commission. Hearing on "China's Green Energy and Environmental Policies." Washington, D.C. April 8, 2010. Available: http://www.uscc.gov/hearings/2010hearings/bios/10_04_08_bios/hsu.php

OTHER SCHOLARSHIP

Book reviews

Hsu, A. (2014). China's Environmental Policy and Urban Development, edited by Joyce Yanyun Man. *Journal of Regional Science, 54:4: 719-721.*

INVITED TALKS AND PRESENTATIONS *(selected since 2020 - recent events and recordings available at datadrivenlab.org/events)*

2024 Association for Public Policy Analysis and Management (APPAM) Annual Meeting - "Does Electricity Affordability Shape Support for the Clean Energy Transition?" with Ying Yu.

2024 Vanderbilt University - "Bypassing Climate Polarization: Integrating Behavioral Science, Law and Policy," invited speaker. Nashville, TN. Oct. 2-4.

2024 Lewis & Clark College - "Sustainable Cities in China and the U.S: Harnessing AI for Climate Solutions,"ENVX Invited Keynote Speaker. Portland, OR. September 30.

2024 George Washington University - Second Executive Course on Subnational Governance and Diplomacy, invited lecturer. September 14. Online.

2024 Duke University - Department of Civil and Environmental Engineering. "Identifying and Solutions to Urban Heat Stress and Climate Justice with Satellite Remote Sensing and Multi-Modelling Approaches." Invited Seminar speaker. Durham, NC. August 26.

2024 2024 Association of Computational Linguistics (ACL) Annual Meeting - ClimateNLP Workshop. Invited Keynote Speaker. Bangkok, Thailand. August 16.

2024 ClimateChangeAI - Summer School invited lecturer. July 19. Online.

2024 World Cities Summit - "Designed for People: Expert Insights on Building Smarter Cities." Keynote. Singapore. June 4.

2024 Emory University - China Town Hall. Invited keynote. Atlanta, GA. April 9.

2024 Yale School of Environment - BIOMES speaker on how AI can be used for environmental research. March 6.

2023 Newsweek - Pillars of a Green Transition. Keynote speaker. Dubai - COP28. December 5.

2023 National University of Singapore, Department of Architecture. Graduate Student Research Symposium. Keynote speaker. Singapore. November 22.

2023 Duke University, Nicholas Institute of the Environment. Energy Data Analytics Symposium. Invited speaker. Durham, NC. October 26-27.

2023 Wageningen University. Using AI to Assess Climate Change Adaptation Action. Invited speaker. Wageningen, Netherlands. October 23-25.

2023 Yushof Ishak Institute of Southeast Asian Studies. 2023 Climate Outlook Survey. Singapore. September 21.

2023 National University of Singapore, Department of Architecture. Invited Seminar - Cities on the Climate Frontlines: Evaluating Urban Climate Change and Policy Responses. Singapore. September 18.

2023 Climatechange AI. Invited Seminar (virtual). August 31.

2023 Symposium on Comprehensive Modernization and Political Development, invited presentation. Zhejiang University, Hangzhou. August 11-12.

2023 National Academies of Science, Engineering and Medicine. Invited speaker at Climate Crossroads Launch. Washington, DC. July 11-12.

2023 The Economist US Sustainability Week. Harnessing data and technology to optimize ESG reporting. Washington, DC. May 31.

2023 Duke University - Masters of Interdisciplinary Environmental Data Science Program - Commencement Speaker. May 13.

2023 University of North Carolina at Chapel Hill - Department of Geography invited colloquium speaker. April 14.

2023 Wake Forest University - Department of Politics and International Affairs. April 13.

2023 University of Virginia - Miller Center - U.S.–China tech competition: Has democracy met its match? Invited panel speaker (virtual). April 21-22.

2023 U.S. Environmental Protection Agency - invited speaker for Women's History Month. March 22.

2023 Brown University - Brown China Summit Sustainability and Climate Change. Invited speaker (virtual). March 19.

2023 Asia Research Institute - National University of Singapore. Urban Model Making - Knowledge, Technology, and Society. Invited Speaker. March 2-3.

2023 University of Pennsylvania - Penn Center on China. Future of US-China Relations. Invited Speaker. January 26-27.

2023 London School of Economics - Environmental Economics Research Seminar Series. Invited Speaker. Virtual. January 19.

2022 National Academy of Sciences, Engineering and Medicine (NASEM) - Board on Environmental Change and Society Board Meeting. Private Sector Wedge in Climate Mitigation Public Seminar. Invited speaker. Washington, D.C. December 2.

2022 Integrated Assessment Modeling Consortium Annual Meeting. "Quantifying Non-state and Subnational Climate Mitigation Contributions with IAMs" and "Utilizing IAMs to Project Future Disparities in Heat Stress." University of Maryland. November 30-December 1.

2022 Institute for Mathematical and Statistical Innovation (IMSI) - Detection and Attribution of Climate Change Summit. Invited speaker. Chicago, IL. October 17-21.

2022 Yale University. Cities as Solutions to Climate Change: Perspectives from IPCC Authors. Invited speaker. New Haven, CT. September 23.

2022 Furman University. Straight Talk Speaker Series - Back from the Brink: A Framework for Climate Action. Keynote speaker. Greenville, SC. August 30.

2022 Harvard University. Climate Politics Pipeline Project. Invited presenter and discussant. Cambridge, MA. June 15-16.

2022 World Bank Innovate4Climate Conference. "Climate Transparency and Digital Technologies." World Bank Innovate for Climate Conference. May 24 (delivered online).

2022 Copenhagen Business School. "Accountability without Accounting: The potential of digital technology for new modes of transparency in the post-Paris climate regime." 7th Transparency Governance Conference. Copenhagen, Denmark. May 19.

2022 National University of Singapore - Lee Kwan Yew School of Public Policy. "Unpacking the New UN Panel Report on Climate Solutions." April 15 (delivered online).

2022 Duke University Nicholas School for the Environment. Coding for the Environment - invited speaker. Durham, NC. April 6.

2022 Financial Times Capital Live Conference. "What Does the Green Smart City of the Future Look Like?" March 10 (delivered online).

2022 Association for Asian Studies Annual Conference. "Peaking Pioneers in China's Robot Revolution." Association for Asian Studies Annual Conference. Honolulu, HI. March 25.

2022 Harvard Kennedy School of Government. "Catalyzing Virtuous Cycles of Climate Action: An Empirical Model of Polycentric Climate Governance." Cambridge, MA. February 9.

2021 IOP Publishing - Environmental Research Conference. "The Science of Net-Zero." November 18 (delivered online).

2021 Schwarzman Scholars Foundation. "Takeaways from COP 26: What does US-China geopolitical competition mean for global climate action?" Invitation from Schwarzman Scholars Foundation. November 17 (delivered online).

2021 Stanford Shorenstein Asia-Pacific Research Center. "Facing Code Red: Climate Change in Southeast Asia." October 19 (delivered online).

2021 Yushof Ishak Institute for Southeast Asian Studies. "Climate action in China and Implications for Southeast Asia." August 6 (delivered online).

2021 University of Southern California - U.S.-China Institute. "From Citizens to

Sensors: Third-Wave Data in China's Environmental Management." April 22 (delivered online).

2021 World Bank Innovate4Climate Conference. "Emerging Technologies for Climate Market Accounting." May 26 (delivered online).

2021 The Climate Group. Keynote speaker, Climate Footprint Project's Milestone Celebration Event. May 18 (delivered online).

2021 University of North Carolina at Chapel Hill - Center for Asia Studies. "Examining China-Southeast Asia Urban Teleconnections through the Belt and Road Initiative." May 17 (delivered online).

2021 National-Committee on US-China Relations. "US-China Climate Cooperation: The Path Forward." April 22 (delivered online).

2021 University of California - Berkeley - China-California Institute. "China's Carbon Neutrality Plan: Game Change for Climate." China-California Institute. UC Berkeley. April 15 (delivered online).

2021 NC BREATHE - Annual Conference. "Environmental Racism: Inequalities in Urban Heat Island." April 6 (delivered online).

2021 Princeton University - Center for Policy Research on Energy and the Environment. "Cities on the Climate Frontlines: Evaluating Urban Climate Change and Policy Responses." David Bradford Energy and Environmental Policy Seminar Series. April 5 (delivered online).

2021 The Climate Group. "Net-Zero 101." Net-Zero Futures. March 31 (delivered online).

2021 Tuesdays for the Planet - AI for the Planet Digital Conference. "Sustainable Mobility and Cities" - panelist. March 16 (delivered online).

2021 Singapore Foundation. Climate Hack 2021 - Panelist. March 13 (delivered online).

2021 Davos Dialogue. "AI and Climate Change" - Panelist. February 25 (delivered online).

2021 Yale University / Yale-NUS College - Policy Hackathon. "A Green Transition in a Post-Pandemic World" - Panelist. February 20 (delivered online).

2021 UN Framework Convention on Climate Change Secretariat/Climate Champions team. "Narrowing the Gap: Quantifying Non-State Actor Contributions to Global Climate Mitigation." Presentation to the February 17, 2021.

2020 American Geophysical Union - Annual Meeting. "Unequal impacts of heat, pollution and climate change. December 9 (delivered online).

2020 National Committee on US-China Relations. China Town Hall: Health and Climate - Panelist. November 18 (delivered online).

2020 National University of Singapore - Lee Kwan Yew School of Public Policy. "Sustainable and Inclusive: Are cities meeting goals for sustainable and inclusive growth?" November 17 (delivered online).

2020 Princeton University - Princeton Environmental Institute. "Beyond States: Global Climate Action from Subnational and Non-State Actors," Conversation on the Environment, Responsible Energy, And Life. November 3 (delivered online).

2020 TED - Climate Countdown inaugural speaker. "Cities are driving climate change - here's how they can fix it." October 11 (delivered online).

2020 Earth Systems Governance Conference. "The Transformative Potential of Transparency in Climate Governance," Virtual Forum on Earth Systems Governance. September 17 (delivered online).

2020 National University of Singapore - Asia-Pacific Centre for Environmental Law. "COVID-19 and Climate Change in Asia: Opportunity or Red Herring?" July 1 (delivered online).

2020 University of Pennsylvania - "Future of US-China Climate Relations: Working towards a Green New Deal," US-China University of Pennsylvania Project. June 4-5 (delivered online).

2020 World Economic Forum - Annual Meeting. Invited speaker, Davos, Switzerland. Jan. 20-24. (Press: The Washington Post)

TEACHING EXPERIENCE

Since I am jointly appointed with the Environment, Energy and Ecology (E3P) program at UNC, I am required to offer half of my classes jointly with this program. Since joining the UNC faculty in January 2021, I have had two course releases and five course buyouts.

UNC Chapel Hill

Spring 2024 PLCY/ENEC 373: Confronting Climate Change in the Anthropocene: Science to Policy Solutions
(31 undergraduate students; elective offering)

Spring 2023	PLCY 715: Data Science for Public Policy Analysis (33 graduate students; required class for all Masters of Public Policy students)
Fall 2022	PLCY/ENEC 373: Confronting Climate Change in the Anthropocene: Science to Policy Solutions (30 undergraduate students; elective offering)
Spring 2022	PLCY 715: Data Science for Public Policy Analysis (32 graduate students; required class for all Masters of Public Policy students)
Fall 2021	PLCY/ENEC 373: Confronting Climate Change in the Anthropocene: Science to Policy Solutions (25 undergraduate students; elective offering)
Spring 2021	PLCY/ENEC 373: Confronting Climate Change in the Anthropocene: Science to Policy Solutions (15 undergraduate students; elective offering)

Yale-NUS College/Yale University

Fall 2020	YCC1122: Quantitative Reasoning (capped at 22 students; required core common curriculum class) YSS2242: Data Science for the Environment (capped at 15 students; elective/methods core class for Environmental Studies major)
Fall 2019	YCC1122: Quantitative Reasoning (capped at 22 students; required core common curriculum class) YID4000: Environmental Studies Capstone Seminar (capped at 15 students; required class for Environmental Studies major)
Spring 2019	FES798/YID3207: China's Energy and Environmental Sustainability Challenge - joint course offered between Yale School of Environment Masters students and Yale-NUS College students (capped at 35 students) YID3209: Climate Science and Policy (17 students)
Spring 2017	FES798/YID3207: China's Energy and Environmental Sustainability Challenge (25 students) YID3209: Climate Science and Policy (14 students)
Fall 2016	YCC1121: Comparative Social Inquiry (capped at 19 students; required core common curriculum class) YSS3229: Urbanization and the Environment (12 students; elective

	class)
Spring 2016	YSS3229: Urbanization and the Environment (12 students; elective class)
	FES798/YID3207: China's Energy and Environmental Sustainability Challenge (14 students)
Fall 2015	YCC1121: Comparative Social Inquiry (capped at 18 students; required core common curriculum class)
Spring 2013	EVST346: Urbanization and Environment in China and India (capped at 15 students). Instructor of Record, with Karen Seto.
Spring 2012	FES245: International Environmental Governance and Policy. Teaching Assistant for Benjamin Cashore.
Fall 2011	FES 850a International Organizations and Conferences Advanced Seminar on International Environmental Negotiations and Governance (capped at 25 students). Instructor of Record, with Gordon Geballe.
Fall 2009	FES245: International Environmental Governance and Policy. Teaching Assistant for Benjamin Cashore.

STUDENT ADVISING, TRAINING, AND MENTORSHIP

UNC Chapel Hill

Post-doctoral advising

2024 - present	Ying Yu, University of North Carolina PhD '24
2024 - present	Sarah Berk, University of East Anglia PhD '24
2022 - April 2024	Kaihui Song, University of Maryland PhD '22
2021 - 2023	Marco Schletz, UNEP-DTU Partnership PhD '21
2019 - 2020	Nihit Goyal, NUS LKYSPP PhD '19, Assistant Professor, Delft University

Graduate student advising

2023-present	Isabel Bukovnik, Public Policy and E&P PhD (expected 2028) - main advisor
2022 - 2024	Daniel Han, Public Policy PhD'24 - main advisor (placement: post-doctoral research associate, Florida State University)
2022 - present	Elizabeth Brown, Public Policy PhD (expected 2027) - main advisor

2022 - 2024	Ying Yu, Environmental Sciences and Engineering and Gillings School of Global Public Health PhD - committee member
2021 - present	Katherine Burley, Public Policy PhD (expected 2026) - main advisor

Undergraduate honors thesis advising

2024-2025	Anthony Buckley, Environmental Science (Major)
2021-2022	Jamie Cummings, Global Affairs (Major), Public Policy (Minor)
2021-2022	Varun Subramaniam, Environmental Public Health and Political Science (Double Major)

Undergraduate student research assistants

Emma Holmes (Global Studies '24), Noah Civaletti (Math '24), Christian Chung (Public Policy and Biology, '24), Ella Feathers (Communications and Economics '24), Alicia Bao (Statistics and Computer Science '26), Will Carney (Public Policy '26), Qianhui Fang (Statistics and Economics '23), Davin Rammani (Computer Science and Math '23), Ella Feathers (Economics and Environmental Studies '24), Jackson Dowden (Computer Science and Quantitative Biology '23), Andi Carnell (Statistics and Economics '23), Hanqi Hua (Computer Science and Statistics '23), Julia Cardwell (Geography PhD '26), Kate Mao (Computer Science '22), Samanthan Anthony (Statistics and Computer Science '23), Varun Subramaniam (Political Science and Environmental Health '22), Wenxin Chen (Masters in Communication '23), Joyce Mei (Statistics and Computer Science '23), Zhitong Yu (Masters of Public Health '22), Kayla Guilliams (Masters in Environmental Communication '22).

<u>Yale-NUS</u>

Undergraduate advising -Yale-NUS Senior Capstones

2019-2020	Jamie Lee, Environmental Studies
2019-2020	Zhi Yi Yeo, Environmental Studies – Winner of Best Environmental Studies Capstone
2019-2020	Zac Yeow, Environmental Studies
2016-2018	Maria Ivanenko, Environmental Studies
2016-2018	Christina Ho, Environmental Studies
2016-2018	Yihao Xie, Environmental Studies – Winner of Best Environmental

Studies Capstone

Undergraduate student research assistants
Stefan Roata ('23), Vasu Namdeo ('23), Ajay Nair ('23), Odele Tan ('23), Ian French ('22), Yin Xi Tan ('22) Sowmya Raghavan ('21), Yunsoo Kim ('21), Nick Chin ('21), Xiyao Fu, ('21), Jonas Tan ('21), Regina Vanda ('21), Wayne Toh ('21), Yi Ming Ng ('21), Jacob Jarabejo ('21), Damon Lim, ('21), Rayner Ng ('21), Zhi Yi Yeo ('20), Claire Krummenmacher ('20), Yaoling Zhang ('18), Jeffrey Tong ('18), Willie Khoo ('17), Yihao Xie ('17)

Yale College

Senior Capstones

2019	Luke Hellum, Statistics and Data Science
2019	Barkley Dai, Statistics and Data Science
2018	Udit Jain, Statistics and Data Science

Undergraduate student research assistants
James Sun ('21), Jayshree Sarathy ('18), Udit Jain ('18), Cameron Yick ('17), Breanna Lujan ('16), Anna Young ('15), Diego Torres-Quantanilla ('15), Yinan Song ('14)

Yale School of Environment

Masters of Environmental Management Capstones

2019	John Brandt, Masters of Environmental Management

Graduate Research Assistants
TC Chakraborty (PhD '22), Emmett Culhane (MESc'20), Daniel Csonth (MEM'20), Tina Huang (MEM'19), Sophie Janaskie (MEM'19), Matthew Moroney (MEM'19), John Brandt (MEM'19), Diego Manya (MESc'19), Nikola Alexandre (MEM/MBA'18), Chendan Yan (MEM '18), Pamela Jao (MEM/MBA'17), Anne Householder (MArch'16), Ariana Spawn (MEM'16), Kaiyang Xu (MEM'16), Daphne Yin (MEM'16), Sam Cohen (MEM'16), Cory Nester (MEM'16), Stephanie Wnuck Keohane (MEM'15), Andrew Moffat (MEM'15), Don Mosteller (MEM'15), Avi Allison (MEM'15), Peter Hirsch (MEM'15), Yaping Cheng (MEM'15), William Miao (MEM'14), Alisa Zomer (MEM'14), Nora Hawkins (MEM'14), Danny Macri (MEM'14), Omar Malik (MEM'13), Noah Walker (MEM/MBA'13), Laura

Johnson (MEM'13), Jason Schwartz (MEM'13), Ainsley Lloyd (MEM'12), Aaron Reuben (MEM'12),

Research Fellows/Data Scientists
Ryan Thomas (PhD graduate in City and Regional Planning, Cornell University)
Andrew Feierman (MBA graduate, Columbia School of Business)

National University of Singapore
Undergraduate Honors Thesis
2015 - 2016 Foo Jia Min, Statistics

FUNDED GRANTS
Nearly $11 million in competitive grants as either Principal Investigator or Co-PI, $7 million since joining UNC in 2020, with more than $4 million directly going to me at UNC.

Active

2024 Yusof-Ishak Institute for Southeast Asian Studies. "Power Play: Investigating the Implications of US-China Clean Energy Competition on Southeast Asia." $17,500 SGD. PI: Hsu.

2024-2025 Climateworks Foundation. "Investigating national climate policy ambition through large-language models." $95,000 gift contribution. PI: Hsu.

2025-2027 National Science Foundation, CRISES Program Planning Grant. "Center for Climate Leadership and AI-driven Integrity (CLAIM)." $100,000. PI: Hsu, with Co-PI Michael Vandenbergh (Vanderbilt University).

2024-2027 IKEA Foundation. "Three-year project on non-state climate action integrity: research and stakeholder engagement." $775,000. PI: Hsu.

2024-2025 UNC School of Data Science Seed Grant - "ChatNetZero: Demystifying Net-Zero with a Fine-Tuned Large Language Model Chatbot." $50,000. PI: Hsu, with Co-PIs Shashank Srivistava (UNC Computer Science) and Jeffrey Mittelstadt (UNC Kenan-Flagler Business School.

2024-2027 NASA - Interdisciplinary Research in Earth Science. "Identifying Disparities and Solutions to Urban Heat Stress and Climate Justice with Multi-satellite Imagery and Modeling Approaches" - $1,518,939 million. PI:

Hsu, with Collaborators Glenn Sheriff (ASU), TC Chakraborty (PNNL), Xiaojiang Li (Temple), and Max Cawley (Museum of Life and Science.

2022-2025 National Science Foundation, Accountable Institutions and Behavior Program. Project title: "Catalyzing virtuous cycles of climate action: an empirical model of polycentric climate governance." $503,819 USD. PI: Hsu. (14.59% effort)

2022-2027 Luce Foundation. Project title: "Bringing Southeast Asia Home." $900,000 USD. PI: Christian Lentz, Co-PI: Hsu, with Noah Kittner and Becky Butler. (0% effort).

Completed

2022-2024 Samuel Centre for Social Connectedness. Project title: "Urban Environment and Social Inclusion Index – 2022-2024." $402,000 CAD. PI: Hsu. (15% effort).

2023 European Climate Foundation. Project title: "Envisioning the Future of Climate Data and Accountability." 30,000 Euro. PI: Hsu.

2023 Rajkumar Faculty Fellowship. Carolina Asia Center. $5,000.

2022-2023 European Climate Foundation, "Net-Zero Tracker," with Oxford University, Energy and Climate. Co-PI: Hsu. 150,000 GBP (Hsu portion 22,425.00 GBP). (4.17% effort)

2022 Climateworks Foundation, "Net Zero HERO: High-Performance Extraction and Retrieval Operation." $150,000 USD. PI: Hsu. (0% effort)

2022 UNC Chapel Hill Junior Faculty Development Grant, "Understanding Southeast-Asia Urban teleconnections in China's Belt and Road Initiative." $10,000 USD. (0% effort)

2022 North Carolina SciFest Grant. $3,000 USD. (0% effort)

2022 UNC Chapel Hill Creativity Hubs Seed Grant, "Heat, Energy, and Health Equity Nexus," with Noah Kittner, Jason West, Richard Smith, Cassandra Davis, and Iheoma Iruka. $5,000 USD. (0% effort)

2021-2022 European Climate Foundation and Climateworks Foundation, "A Net-Zero Tracker," with Oxford University. Co-PI: Hsu. $200,000 USD (Hsu portion $50,000). (2.08% effort)

2021-2023 Carnegie Corporation, "A Digitally-Enabled Independent Climate Accounting Network," with the Open Earth Foundation, as part of the

	Reimagining Multilateralism program. Co-PI: Hsu. $500,000 USD (Hsu portion $149,250. (4.17% effort)
2021-2024	IKEA Foundation, "Tracking Non-State Climate Action." PI: Takeshi Kuramochi (NewClimate Institute); Co-PI: Hsu. 2.5 million Euro (Hsu portion: $500,000 USD). (4.17% effort)
2020-2021	IKEA Foundation, "Tracking Non-State Climate Action." PI: Takeshi Kuramochi (NewClimate Institute); Co-PI: Hsu. 522,500 Euro (Hsu portion: 112,500 Euro). (4.5% effort)
2020-2021	Samuel Centre for Social Connectedness, "Urban Environment and Social Inclusion Index 2.0" – PI: Hsu. $149,805 CAD. (10% effort)
2019-2022	National Science Foundation - Science of Science Policy and Innovation, "The use of distributed ledger technology in climate governance" – PI: Hsu, Co-PI: Leandros Tassiulas, Department of Electrical Engineering, Yale University. $499,068 USD (Hsu portion: $450,068 USD). (16.67% effort)
2019-2020	Yale-NUS College Tan-Chin Tuan Chinese Studies Research Programme, "Understanding and Strengthening Non-State and Subnational Climate Action in China," $93,537 SGD. PI: Hsu.
2019	Climateworks Foundation – "2019 Global Aggregation Report for Non-State and Subnational Climate Action" - $180,650 USD. Co-PI: Hsu, with New Climate Institute, Oxford University, PBL Netherlands, Mission 2020, German Development Institute, CDP.
2019-2020	National Geographic Society/Microsoft AI for Earth - $15,000 in Microsoft Azure computing credits and in-kind computing support from Microsoft for project, "Multi-scale Indicators to Map and Evaluate Urban Heat Risk and Policy Performance at Fine Resolutions in Singapore." PI: Hsu.
2019-2022	National University of Singapore Early Career Award – competitive early career research award for scholars within first three years of tenure-track position for project, "Next Generation Innovation in Tracking Non-State and Subnational Climate Action" - $499,593.42 SGD. PI: Hsu.
2019-2021	Singapore Humanities and Social Sciences Seed Fund Grant – $20,000 SGD. PI: Hsu.
2018	British Academy Visiting Fellowship with Oxford University's Blavatnik School of Government - £33,000 GBP (maximum amount awarded). PI: Hsu.

2017	UN Data for Climate Action Challenge – Thematic Prize Winner for Linking Climate Change to the Sustainable Development Goals - $4,000 USD. PI: Hsu.
2017	Climateworks Foundation – Assessing the Global Impact of Non-state and Subnational Climate Actions - $360,349 USD (Hsu portion: $260,349). PI: Hsu.
2017	Samuel Family Foundation – Measuring Urban Environment and Social Isolation – PI - $250,000 USD. PI: Hsu.
2017	UN Environment Programme – Research support to the 1 Gigaton Coalition – $139,844 USD. PI: Hsu.
2016	Yale-NUS Workshop Grant – Tracking adaptation to climate change: conceptual, methodological, and empirical challenges – Yale-NUS College – $30,000 SGD. PI: Hsu.
2016	UN Framework Convention on Climate Change – Research support to the Non-State Actor Zone for Climate Action - $15,000 USD. PI: Hsu.
2016	Natural Resources Defense Council (NRDC) – Galvanizing the Groundswell of Climate Action research support – $25,000 USD. PI: Hsu.
2016	UNEP and Norway – Research support to the 1 Gigaton Coalition - $216,171 USD. PI: Hsu.
2015 - 2016	Climateworks Foundation – Third-Wave Data for Environmental Policy in China – $125,000 USD. PI: Hsu.
2015	ADEME – The French Environment and Energy Management Agency – Understanding NAZCA: Challenges and Future of the World's Largest Voluntary Climate Action Platform – $50,000 USD. PI: Hsu.
2015	Google – Air Quality in China education and research – $12,000 USD. PI: Hsu.
2015	Natural Resources Defense Council (NRDC) – Galvanizing the Groundswell of Climate Action research support - $15,000 USD. PI: Hsu.
2015	New Paradigm Institute, Seoul, Korea – PI – Urban Environmental Sustainability Indicators - $25,000 USD. PI: Hsu.
2015	Natural Resources Defense Council (NRDC) – PI – Urban Indicators Hub Research - $25,000 USD. PI: Hsu.

2015	UNEP and Norway - Quantifying reduced GHG emissions resulting from renewable energy and energy efficiency initiatives and programmes in developing countries – $77,000 USD. PI: Hsu.
2015	Connecticut Clean Energy Finance and Investment Authority – grant to support research on CT's solar PV policies – $70,000 USD. PI: Hsu.
2015	Natural Resources Defense Council – grant to support climate groundswell research and workshop - $18,000 USD. PI: Hsu.
2015	R-20 Regions for Climate Change and The Stanley Foundation – grant to support state and regional action on climate change case studies – PI – $6,000 USD. PI: Hsu.
2014 - 2016	McCall McBain Foundation - Environmental Performance Index – $300,000 USD. PI: Hsu.
2014	Samuel Family Foundation - Environmental Performance Index – $125,000 USD. PI: Hsu.
2014	United Nations Development Programme (UNDP) - "Feasibility Study for a Sub-national Environmental Performance Index in Vietnam." - $35,760 USD. PI: Hsu.
2012-2013	PEO - Edith Frances Langfitt Greathead Endowed Scholar - $15,000
2012-2013	Switzer Foundation Fellow - $15,000 USD
2011	Yale Graduate School of Arts and Sciences – Public Scholar Award - $1,000 USD
2010-2011	U.S. Fulbright Scholar Award to China - $22,700 USD
2002	National Science Foundation Research Experiences for Undergraduates (REU) Grant to conduct research at La Selva Biological Station in Costa Rica. 2002.
2001-2005	Wake Forest University 0 Nancy Susan Reynolds Scholarship (1 of 5 top merit-based full scholarships) - $160,000 USD (estimated)
2001	Coca-Cola National Scholar (1 of 251 recipients) - $20,000 USD

Pending grants

2024	Center for Accelerating Operational Efficiency. "Cool-IT: An Interactive Platform and Robust Benefits-Cost Analysis Model for Extreme Heat Mitigation" - $500,000. PI:Hsu, Co-PI: Glenn Sheriff (ASU).

PROFESSIONAL SERVICE

Reviewer for Journals

Nature Climate Change
Proceedings of the National Academy of Sciences
Science
Ecological Indicators
Environment and Planning B: Urban Analytics
Environmental Development
Journal of Environment and Development
PLOSone
Environmental Politics
Nature Scientific Reports
Nature Communications
Global Environmental Politics
Environmental Science and Technology
AMBIO – A Journal of the Human Environment
Review of Policy Research
Renewable and Sustainable Energy Reviews
One Earth
Nature Sustainability

Committees

University of North Carolina at Chapel Hill

2024-2025	Co-Chair, PhD Admissions Committee, Public Policy
Spring 2024	Co-Chair, Master of Public Policy (MPP) Program
2023-	Carolina Asia Center Faculty Advisor
2021-present	Data Science Minor committee
2021-2024	Public Policy PhD Admissions Committee
2021-present	United Nations Framework Convention on Climate Change (UNFCCC) Focal Point

Yale-NUS College

2019	Undergraduate Research Ethics Committee
2016	Presidential Technology Task Force
2015-2017	Chinese Studies Committee
2015-2019	Yale-NUS College and Yale School of Environment Concurrent Degree Program Coordinator

Committees and Advisory Roles

2025- Intergovernmental Panel on Climate Change - Special Report on Cities -

	Lead author, Chapter 3 - urban risks and solutions.
2024	*PLOSClimate* - Environmental policy and governance section editor.
2024	Intergovernmental Panel on Climate Change - Special Report on Cities, one of six US experts nominated to contribute to scoping meeting.
2023	*Cell Reports - Sustainability* inaugural Editorial Board Member
2023	Integrity Matters - Working group on Net-Zero Integrity for Cities (convened by World Resources Institute, Bloomberg Philanthropies, C-40 Cities, and Global Covenant of Mayors for Climate and Energy) - one of 20 experts invited.
2023-2024	World Economic Forum Global Future Council on Clean Air
2022	Bloomberg-Macron Climate Data Steering Committee
2022	National Academy of Sciences, Engineering and Medicine (NASEM) – appointment to 11-person expert Committee on Greenhouse Gas Emissions measurement for decisionmaking.
2021	Climate Policy Radar – Advisory Board (non-interested Board Member)
2021	Open Earth Foundation – Advisory Board (non-interested Board Member)
2021	International Advisory Group (IAG) for the Reimagining Climate Governance in the Digital Age
2021	United Nations Environment Programme (UNEP) Sustainability in the Digital Age - Advisor
2020	*Environmental Research: Infrastructure and Sustainability* – Founding Editorial Board Member.
2020	World Economic Forum Global Future Council on Air Pollution
2019	Intergovernmental Panel on Climate Change (IPCC) – Sixth Assessment Report Working Group III – Contributing author to Chapters 4, 8, and 13
2019	World Economic Forum Global Future Council on Public Goods in the Fourth Industrial Revolution – Co-chair
2018	UNEP – 2018 Emissions Gap Report Lead Author for chapter on non-state actors.
2017-2019	National Committee on US-China Relations – Public Intellectual Scholars Program
2017-2018	UNEP Global Environment Outlook (GEO-6) Lead author, Outlooks Chapter

2017	iCAT International Climate Action Transparency Initiative – Technical Working Group member for Non-State Actor Track.
2016	UNEP – Emissions Gap Report Contributing author and Reviewer
2015-present	World Wildlife Fund (WWF) – Markets Institute Thought Leader Board
2015	Earth Security Index – Advisory Board
2015	UNEP GEO-6 Co-author for Asia-Pacific region
2015	UNEP - Transboundary Water Assessment Programme – Reviewer
2015	Canadian Environmental Sustainability Indicators - Reviewer
2014	Global Water Compendium, International Water Association - Reviewer
2013	International Union for Conservation of Nature - Environment and Gender Index - Expert advisor and contributor
2008	ChinaFAQs: China Energy and Climate Change Network - Contributor