

John Paul Helveston, Ph.D.

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Academic Appointments

- 2018 - Present **George Washington University**, Washington, D.C.
Assistant Professor, Engineering Management and Systems Engineering
- 2016 - 2018 **Boston University**, Boston, MA
Postdoctoral Fellow, Institute for Sustainable Energy

Education & Training

- 2016 Carnegie Mellon University, Pittsburgh, PA Ph.D. Engineering and Public Policy
Dissertation: *Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation*
Doctoral Committee: *Jeremy Michalek, Erica Fuchs, Elea McDonnell Feit, & Valerie Karplus*
- 2015 Carnegie Mellon University, Pittsburgh, PA M.S. Engineering and Public Policy
- 2010 Virginia Tech, Blacksburg, VA B.S. Engineering Science and Mechanics
- Mandarin Chinese Training**
- 2010 National Taiwan University, Taipei, Taiwan Business Chinese (Huayu Scholarship)
- 2009 Heilongjiang University, Harbin, China Intensive Chinese (Critical Language Scholarship)
- 2008 Liaoning Normal University, Dalian, China Independent Study (Horton Scholarship)

Research Interests

- **Clean Technology Development & Adoption:** Quantify how consumers, firms, markets, and policy affect the nature & pace of transitioning to sustainable energy and transportation technologies.
- **Consumer Preferences for Emerging Technology:** Measure and model consumer preferences to assess policy and product design and simulate consumer choice behavior under uncertainty.
- **Electric Vehicles & Sustainable Transportation Technologies:** Assess barriers and opportunities to accelerating the development & adoption of sustainable transportation technologies.
- **U.S.-China Climate Relationship:** Study the critical relationship between the US and China in developing, scaling, and mass deploying low carbon energy technologies.

Teaching Interests

- **Programming & Data Analytics:** Programming in R and Python; exploratory data analysis; data visualization; reproducibility.
- **Choice Modeling:** Discrete choice modeling; consumer preferences and choice behavior; conjoint analysis; design decisions.
- **Team Projects:** Open-ended, team-based projects that emphasize critical thinking and real-world data collection and analysis.

External Grants

Total External Funding: \$1,676,128

Total External Funding as PI: \$1,246,128

A. Principal Investigator

1. Alfred P. Sloan Foundation Energy & Environment Program. "[Quantifying the Benefits and Constraints of Plug-In Electric Vehicle Smart Charging Adoption](#)". With Brian Tarroja (UCI, Co-PI), Eric Hittinger (RIT), Alan Jenn (UC Davis). \$516,677. Helveston portion \$282,571. Sep. 2023 - Aug. 2026.
2. DOE Vehicle Technologies Office (VTO). "[Quantifying New and Used Plug-in Electric Vehicle Market Dynamics in Disadvantaged Communities](#)". With Dong-Yeon (D-Y) Lee (NREL), Jeff Gonder (NREL). \$474,517. Helveston portion \$276,838. Oct. 2023 - Jun. 2026.
3. Electric Power Research Institute. "Investigation of used electric vehicle movements, sales and availability". \$109,743. 100% Credit. Jul. 2022 - Jun. 2023.
4. Alfred P. Sloan Foundation Energy & Environment Program. "[Identifying More Efficient and Equitable Plug-In Electric Vehicle Financial Incentives Through Consumer-Centric Design](#)". With Laura Roberson. \$31,268. 100% Credit. Sep. 2021 - Aug. 2022.
5. Toyota Mobility Foundation. "[Evolvability Analysis Framework Dashboard Development](#)". With Zoe Szajnfarder (Co-PI) and David Broniatowski (Co-PI). \$24,963. 100% Credit. Jul. 2021 - Jun. 2022.
6. New Venture Fund Public Interest Technology University Network. "[GW Coders Scholarship & Internship Program: Building Coding Capacity for Public Interest Technology Engagement](#)". With Ryan Watkins (Co-PI). \$88,960. 100% Credit. Jul. 2021 - Jun. 2022.

B. Co-Principal Investigator

1. Toyota Mobility Foundation. "[Evolvability for Mobility Systems](#)". With Zoe Szajnfarder (PI) and David Broniatowski (Co-PI). \$430,000. Helveston portion \$238,150. Jul. 2019 - Jun. 2021.

Internal Grants (GWU)

1. Adapting Course Materials for Equity, GW Libraries & Academic Innovation (LAI). "[Textbook for Open Source Course: Exploratory Data Analysis](#)". \$1,500. 100% Credit. Jul. 2024 - Jun. 2025.
2. GWU University Facilitating Fund. "[Measuring Consumer Preferences for Used Alternative Fuel Vehicles](#)". \$14,210. 100% Credit. Jul. 2021 - Jun. 2022.
3. GWU University Facilitating Fund. "[Spatial and Temporal Mapping of Technological Progress In Electric Vehicle Powertrain Technologies](#)". \$16,929. 100% Credit. Jul. 2019 - Jun. 2020.

Honors / Awards

- 2024: Best paper award, Bridging Transportation Researchers (BTR) #6 Conference.
- 2024: Representative for Shanghai Workshop on Climate and China-U.S. Relations, organized by Fudan-UCSD Center on Contemporary China (Shanghai, China).
- 2023: SEAS Outstanding Early Career Teaching Award.
- 2023: IOP Outstanding Reviewer Award.
- 2022: Awarded an "IOP Trusted Reviewer" status for a 5/5 rated review for *Environmental Research Letters*.
- 2022: Best poster award, Integrated Assessment Modeling Consortium.

- 2019: [Energy Innovation Policy and Management Scholar](#), Innovation and Information Technology Foundation.
- 2018: Finalist, Coase Dissertation Award, [Society for Institutional & Organizational Economics](#).
- 2017: Best Dissertation Award, [Industry Studies Association](#).
- 2016: Best Paper in Innovation & Entrepreneurship Research, [Industry Studies Association](#).
- 2014: [NSF East Asia Pacific Summer Institute Fellowship](#) (\$5,000).
- 2014: [Link Energy Foundation Fellowship](#).
- 2013: Herbert Toor Award for Best Engineering and Public Policy Qualifying Examination Paper.
- 2011: [NSEP Boren Fellowship](#) (Award Declined).
- 2010: Taiwan Huayu Mandarin Enrichment Scholarship.
- 2009: Department of State [Critical Language Scholarship](#) for Mandarin Chinese.
- 2007: [Horton Honors Scholarship](#) for 6-month independent study abroad in China.
- 2005: Eleanor Davenport Leadership Scholarship, Virginia Tech: Full tuition and Fees (2005 - 2009).
- 2002: Eagle Scout Award, BSA Troop 11, Valrico, FL, July 7, 2002.

Publications

ORCID: [0000-0002-2657-9191](#) | [Google Scholar Profile](#)

Underline indicates advisee; * graduate student, **undergraduate student

Note on author order: In my field, it is conventional that the last author denotes intellectual direction by the senior author when advised student(s) are engaged on the study. On non-student papers, authorship effort is denoted in standard order.

A. Refereed Journal Articles

1. Jenn, A., Chakraborty, A., Hardman, S., Hoogland, K., Sugihara, C., Tal, G., **Helveston, J.P.**, Rich, J., Jochem, P., Sprei, F., Williams, B., Axsen, J., Figenbaum, E., Plötz, P., Pontes, J., Refa, N. (2024) "Supply-side challenges and research needs on the road to 100% zero-emissions vehicle sales" *Progress in Energy*. DOI: [10.1088/2516-1083/ada199](#)
2. Hardman, S., Chakraborty, A., Hoogland, K., Sugihara, C., **Helveston, J.P.**, Jensen, A.F., Jenn, A., Joche, P., Plötz, P., Sprei, F., Williams, B., Axsen, J., Figenbaum, E., Pontes, J., Tal, G., Refa, N. (2024) "Demand-side challenges and research needs on the road to 100% zero-emissions vehicle sales" *Progress in Energy*. 159, pg. 108-119. DOI: [10.1088/2516-1083/ad9f1a](#)
3. *Kaplan, Leah, **Nurullaeva, L., & **Helveston, J.P.** (2024) "Modeling the Operational and Labor Costs of Autonomous Robotaxi Services" *Transport Policy*. DOI: [10.1016/j.tranpol.2024.10.010](#)
4. *Roberson, Laura A., *Pantha, S., & **Helveston, J.P.** (2024) "Battery-Powered Bargains? Assessing Electric Vehicle Resale Value in the United States" *Environmental Research Letters*. DOI: [10.1088/1748-9326/ad3fce](#)
5. *Kaplan, Leah R. & **Helveston, John P.** (2023) "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S." *Transportation Research Record*. DOI: [10.1177/03611981231208976](#)
6. *Zhao, L., **Ottinger, E., Yip, A., & **Helveston, J.P.** (2023) "Quantifying electric vehicle mileage in the United States" *Joule*. 7, 1-15. DOI: [10.1016/j.jjoule.2023.09.015](#)
7. *Zhao, L., Szajnfarder, Z., Broniatowski, D.A., & **Helveston, J.P.** (2023) "Using conjoint analysis to incorporate heterogeneous preferences into multimodal transit trip simulations" *Systems Engineering*. DOI: [10.1002/sys.21670](#)
8. **Helveston, John P.** (2023) "logitr: Fast Estimation of Multinomial and Mixed Logit Models with Preference Space and Willingness to Pay Space Utility Parameterizations" *Journal of Statistical*

Software. 105(10), 1-37. DOI: [10.18637/jss.v105.i10](https://doi.org/10.18637/jss.v105.i10)

9. **Helveston, J.P.**, He, G., & Davidson, M.R. (2022) "Quantifying the cost savings of global solar photovoltaic supply chains" *Nature*. 612 (7938), pg. 83-87. DOI: [10.1038/s41586-022-05316-6](https://doi.org/10.1038/s41586-022-05316-6)
10. *Roberson, Laura A. & **Helveston, John P.** (2022) "Not all subsidies are equal: Measuring preferences for electric vehicle financial incentives" *Environmental Research Letters*. 17(084003). DOI: [10.1088/1748-9326/ac7df3](https://doi.org/10.1088/1748-9326/ac7df3)
11. Szajnfarter, Z., **Groover, J.A., Wei, Z., Broniatowski, D.A., Chernicoff, W., & **Helveston, J.P.** (2021) "Evolvability Analysis Framework: Adding Transition Path and Stakeholder Diversity to Infrastructure Investment Decisions" *Systems Engineering*. 25(1):35-50. DOI: [10.1002/sys.21600](https://doi.org/10.1002/sys.21600)
12. Feinberg, F., Bruch, E., Braun, M., Hemenway Falk, B., Fefferman, N., Feit, E.M., **Helveston, J.P.**, Larremore, D., McShane, B.B., Patania, A., & Small, M.L. (2020) "Choices in networks: a research framework" *Marketing Letters*. 31(4), 349-359. DOI: [10.1007/s11002-020-09541-9](https://doi.org/10.1007/s11002-020-09541-9)
13. *Roberson, Laura A. & **Helveston, John P.** (2020) "Electric vehicle adoption: can short experiences lead to big change?" *Environmental Research Letters*. 15(0940c3). DOI: [10.1088/1748-9326/aba715](https://doi.org/10.1088/1748-9326/aba715)
14. **Helveston, John P.** & Nahm, Jonas (2019) "China's key role in scaling low-carbon energy technologies" *Science*. 366(6467), pg. 794-796. DOI: [10.1126/science.aaz1014](https://doi.org/10.1126/science.aaz1014)
15. **Helveston, J.P.**, Seki, S., Min, J., **Fairman, E., Boni, A.A., Michalek, J.J., & Azevedo, I. (2019) "Choice at the Pump: Measuring Preferences for Lower-Carbon Combustion Fuels" *Environmental Research Letters*. 14(8). DOI: [10.1088/1748-9326/ab2bd2](https://doi.org/10.1088/1748-9326/ab2bd2)
16. **Helveston, J.P.**, Wang, Y., Karplus, V.J., & Fuchs, E.R.H. (2019) "Institutional Complementarities: The Origins of Experimentation in China's Plug-in Electric Vehicle Industry" *Research Policy*. 48(1), pg. 206-222. DOI: [10.1016/j.respol.2018.08.006](https://doi.org/10.1016/j.respol.2018.08.006)
17. **Helveston, J.P.**, Feit, E.M., & Michalek, J.J. (2018) "Pooling Stated and Revealed Preference Data in the Presence of Endogeneity" *Transportation Research Part B: Methodological*. 109, pg. 70-89. DOI: [10.1016/j.trb.2018.01.010](https://doi.org/10.1016/j.trb.2018.01.010)
18. **Helveston, J.P.**, Liu, Y., Feit, E.M., Fuchs, E.R.H., Klampfl, E., & Michalek, J.J. (2015) "Will subsidies drive electric vehicle adoption? Measuring consumer preferences in the U.S. and China" *Transportation Research Part A: Policy and Practice*. 73, 96-112. DOI: [10.1016/j.tra.2015.01.002](https://doi.org/10.1016/j.tra.2015.01.002)

B. Refereed Articles in Conference Proceedings

1. *Kaplan, Leah, Szajnfarter, Z., & **Helveston, John P.** (2023) "Shifting, Not Shrinking? Exploring Labor Roles in Traditional and Automated Door-to-Door Transportation Service" *Proceedings of the IISE Annual Conference & Expo 2023*. New Orleans, LA, USA, May 20-23, 2023, 3125.
2. *Zhao, Lujin & **Helveston, J.P.** (2025) "Spatial Disparities in Electric Vehicle Availability in the United States" *National Academies Transportation Research Board Annual Meeting*. Washington, D.C. Jan. 07.
3. *Hu, Pingfan, Tarroja, B., Dean, M., Forrest, K., Hittinger, E., Jenn, A. & **Helveston, J.P.** (2024) "Measuring Consumer Willingness to Participate in BEV Smart Charging Programs" *2024 IEEE Vehicle Power and Propulsion Conference (VPPC)*. 07-10 October. DOI: [10.1109/VPPC63154.2024.10755299](https://doi.org/10.1109/VPPC63154.2024.10755299)
4. *Kaplan, Leah & **Helveston, John P.** (2023) "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S." *National Academies Transportation Research Board Annual Meeting*. Washington, D.C. Jan. 09.
5. **Helveston, John P.** (2022) "The Rise of Chinese Leadership in the Plug-in Electric Vehicle Industry" *Chinese Industrial Policy: Sectors and Resources*. UCSD Institute on Global Conflict and Cooperation, San Diego, CA. Sep. 30.
6. **Helveston, John P.** (2022) "The cbcTools Package: Tools for Designing and Testing Choice-Based Conjoint Surveys in R" *Sawtooth Software Conference*. Orlando, FL. May 6.

7. **Helveston, John P.** (2021) "Obtaining Willingness to Pay Estimates from Preference Space and Willingness to Pay Space Utility Models" *Sawtooth Software Conference*. San Antonio, TX. Apr. 19.
8. Liang, Z., Li, D., Fu, X., Beltekian, D., **Helveston, J.P.** (2018) "Why is Siemens establishing its robotics R&D centers in China? A case study on the Siemens industrial robot project" *IEEE International Symposium on Innovation and Entrepreneurship (TEMS-ISIE)*. Beijing, PRC, pp. 1-9. DOI: [10.1109/TEMS-ISIE.2018.8478558](https://doi.org/10.1109/TEMS-ISIE.2018.8478558)
9. **Helveston, J.P.**, Wang, Y., Karplus, V.J., & Fuchs, E.R.H. (2016) "Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles" *Academy of Management Annual Meeting*. Anaheim, CA. Aug. 5.
10. **Helveston, J.P.**, Liu, Y., Feit, E.M., Fuchs, E.R.H., Klampfl, E., & Michalek, J.J. (2014) "Will subsidies drive electric vehicle adoption? Measuring consumer preferences in the U.S. and China" *National Academies Transportation Research Board Annual Meeting*. Washington, D.C. Jan. 13.

C. Working Papers & Papers Under Review

1. Forsythe, Connor R., Arteaga, C., & **Helveston, J.P.** (2024) "The Mixed Integrated Learning Logit (MILL) Model: A Machine Learning Approach to Modeling Unobserved Heterogeneity in Discrete Choice Analysis" *Working paper*.
2. *Kaplan, Leah, Szajnfarder, Z., & **Helveston, John P.** (2024) "Mapping the AI-Enabled Transformation of Labor in Autonomous Vehicle Taxi Services" *Under review*.
3. Jenn, A., Chakraborty, A., Hardman, S., Hoogland, K., Sugihara, C., **Helveston, J.P.**, Rich, J., Jochem, P., Plötz, P., Sprei, F., Williams, B., Axsen, J., Figenbaum, E., Pontes, J., Refa, N. (2024) "Supply-side challenges and research needs on the road to 100% zero-emissions vehicle sales" *Progress in Energy*.
4. *Zhao, Lujin & **Helveston, J.P.** (2025) "Spatial Disparities in Electric Vehicle Availability in the United States" *Working paper*.
5. *Hu, Pingfan, Tarroja, B., Dean, M., Forrest, K., Hittinger, E., Jenn, A. & **Helveston, J.P.** (2025) "Measuring Consumer Willingness to Participate in BEV Smart Charging Programs" *Working paper*.
6. Murphree, M., **Helveston, J.P.**, & Breznitz, D. (2024) "Intellectual Property as a Production Input: Expanding Theories of Institutional Change and Profiting from Innovation" *Under review*.

D. Books and Book Chapters

1. **Helveston, John P.** and **Lola Nurullaeva (2024) "Yet Another R Dataviz (YARD) Book" <https://yardbook.jhelvy.com/>
2. **Helveston, John P.** (2022) "Programming for Analytics in R." <https://p4a.jhelvy.com/>
3. Ren, Justin Z. & **Helveston, John P.** (2019) "Measuring Electric Vehicle Infrastructure Among Cities: A Multi-Dimensional Approach" *Melting the ICE: Lessons from China and the West in the Transition from the Internal Combustion Engine to Electric Vehicles*. Ed. Fox-Penner, P., Ren, Z.J., & Jermain, D.O.. Harvard University Press. <http://www.bu.edu/ise/research/meltingtheice/>
4. Hatch, Jennifer & **Helveston, J.P.** (2019) "Brookline, MA: A Small Town seeking to lead in a Broader EV Charging Network" *Melting the ICE: Lessons from China and the West in the Transition from the Internal Combustion Engine to Electric Vehicles*. Ed. Fox-Penner, P., Ren, Z.J., & Jermain, D.O.. Harvard University Press. <http://www.bu.edu/ise/research/meltingtheice/>

E. Magazine Publications

1. *Kaplan, Leah, Szajnfarber, Z., & **Helveston, John P.** (2023) "Driverless – but not humanless – vehicle systems" *IISE Magazine*. November.
2. **Helveston, John P.** (2021) "Why the US Trails the World in Electric Vehicles" *Issues in Science and Technology*. 37, no. 2 (Winter 2021).
3. **Helveston, John P.** (2017) "Perspective: Navigating an Uncertain Future for US Roads" *Issues in Science and Technology*. 34, no. 1 (Fall 2017).

F. Opinion Editorials

1. **Helveston, John P.**, Triolo, P., & Nahm, J. (2024) "The Problem With "Overcapacity" in China's Automotive Industry" *The Wire China*.
2. **Helveston, John P.** (2023) "Electric Vehicle Owners Are Not Driving Enough—And That's Bad" *Scientific American*.
3. **Helveston, J.P.**, He, G., & Davidson, M.R. (2022) "The Cost of Going Solo in Solar" *New Security Beat*.
4. **Helveston, John P.** (2022) "To boost solar, the US should use more carrots and fewer sticks" *The Hill*.
5. **Helveston, John P.** (2022) "Tariffs won't build a robust US solar industry" *The Hill*.

G. Other Publications

1. **Helveston, John P.** (2019) "Podcast: GWU Professor John Helveston on EVs in China" *The Future Car: A Siemens Podcast*. May 13, 2019.
2. **Helveston, John P.** (2019) "China's looser rules may usher in a new era for EV and AV companies" *Axios*. February 1, 2019.
3. Hatch, Jennifer & **Helveston, J.P.** (2018) "Will Autonomous Vehicles be Electric?" *Institute for Sustainable Energy Blog*. August 8, 2018.

H. Theses

1. **Helveston, John P.** (2016) "Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation" *Ph.D. Dissertation*. Carnegie Mellon University, Pittsburgh, PA.

I. Software

1. **Helveston, John P.** (*aut, cre, cph*), *Pingfan Hu (*aut, cre*), **Bogdan Bunea (*aut, cre*) (2024) "surveydown: Markdown-Based Surveys Using Quarto Shiny Documents" R package.
2. **Helveston, John P.** (*aut, cre, cph*) (2021) "logitr: Fast Estimation of Multinomial and Mixed Logit Models with Preference Space and Willingness to Pay Space Utility Parameterizations" R package.
3. **Helveston, John P.** (*aut, cre, cph*) & Aden-Buie, Garrick (*aut*) (2021) "renderthis: Render Slides To Different Formats" R package.
4. **Helveston, John P.** (*aut, cre, cph*) (2022) "cbcTools: Tools For Designing Choice-Based Conjoint Survey Experiments" R package.

Presentations / Conferences

Total Presentations by Category:

Invited Speaker (19), Invited Panelist (8), Conference Presentation (48),
Poster Presentation (6), Organizer (4), Discussant (2)

A. Invited Speaker

1. "Advancing Open Science", with Brice Nichols and Andrew Rohne. Bridging Transportation Researchers (BTR) 6 Conference. Remote. Aug 08, 2024.
2. "Scaling up electric vehicles in China and India for a cleaner and healthier future". Johns Hopkins University. Washington, DC. Oct 23, 2023.
3. "China's EV Future", with Marianne Ryghaug and Maciej Mazur. EV: Plugging Into The Future. University of Pittsburgh. Pittsburgh, PA. Apr 22, 2022.
4. "China's key role in scaling low-carbon energy technologies", with Barry Naughton. 2020 Fall Speaker Series on US-China Relations in the 21st Century. Confucius Institute at the University of Albany. Albany, NY. Oct 09, 2020.
5. "China's key role in scaling low-carbon energy technologies". Center for Security and Emerging Technology, Georgetown. Washington, DC. Feb 28, 2020.
6. "Development and Adoption of Plug-in Electric Vehicles in China". Center for Security and Emerging Technology, Georgetown. Washington, DC. Dec 02, 2019.
7. "Institutional Complementarities: The Origins of Experimentation in China's Plug-in Electric Vehicle Industry". Center for Global Sustainability, U. of Maryland School of Public Policy. College Park, MD. Oct 07, 2019.
8. "Visualizing Information". Engineering & Public Policy Department. Pittsburgh, PA. Apr 12, 2019.
9. "Science-Based Business Initiative Seminar Series, Harvard Business School". Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories. Cambridge, MA. Mar 01, 2018.
10. "Trends in Vehicle Electrification: China, Policy, & Car Sharing". Seminar Series. Institute for Sustainable Energy. Boston, MA. Feb 14, 2018.
11. "Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories". Energy Policy Seminar Series. Harvard Kennedy School. Cambridge, MA. Oct 02, 2017.
12. "Development and Adoption of Plug-in Electric Vehicles in China". Center for International Environment and Resource Policy, The Fletcher School, Tufts. Medford, MA. Sep 18, 2017.
13. "BU Upward Bound, Boston University". Types of Energy. Boston, MA. Jul 01, 2017.
14. "Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation". Tsinghua University Technology Policy Research Center (清华大学中国科技政策研究中心). Beijing, China. May 12, 2017.
15. "Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation". State Information Center (国家信息中心). Beijing, China. May 04, 2017.
16. "Innovation in China's Plug-in Electric Vehicle Industry". Chinese Politics Research Workshop. Cambridge, MA. Mar 08, 2017.
17. "Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment". Shanghai Jiaotong University. Shanghai, China. Jun 15, 2015.
18. "Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment". Beijing Energy Network. Beijing, China. Jun 25, 2014.
19. "China Today: Economy, Technology, and People, University of Pittsburgh & Carnegie Mellon Uni-

versity". The Chinese Car Market: Development and Electrification. Pittsburgh, PA. Oct 01, 2013.

B. Invited Panelist

1. "Trade and Tradeoffs: Are U.S. Trade and Climate Policies At Odds?". CSIS. Washington, DC. Oct 03, 2024.
2. "Industrial Strategy Impacts of Recent US Tariff Increases", with John Paul MacDuffie, Susan Helper. Industry Studies Association Annual Conference. Sacramento, CA. Jun 14, 2024.
3. "Enhancing Education with LLMs: Innovative Approaches in Engineering Pedagogy", with Ryan Watkins, Lorena Barba, Jason Torres. Spring 2024 ASEE Middle Atlantic Section Conference, George Washington University. Washington, DC. Apr 20, 2024.
4. "Future of ZEV & EVSE Panel". 2023 Fedfleet Annual Meeting. Washington, DC. Jan 26, 2023.
5. "Why the US needs to collaborate with China on solar", with Scott Sklar. US-China cooperation and competition in alternative energy industries. Elliott School of International Affairs. Washington, DC. Mar 23, 2022.
6. "China's Impact on the Solar Industry: Lessons for the Future of Clean Energy". Information Technology and Innovation Foundation. Washington, DC. Oct 30, 2019.
7. "Early Career Scholar Panel". Atlanta Conference on Science & Innovation Policy. Atlanta, GA. Oct 16, 2019.
8. "Lessons from China: Rapid EV Adoption in a Dynamic Policy Landscape". GWU Law Transportation Electrification Conference. Washington, DC. Apr 03, 2019.

C. Conference Presentations

1. "Modeling the Hidden Labor Costs of Autonomous Vehicle Taxi Services", with Leah Kaplan, Lola Nurullaeva. Bridging Transportation Researchers (BTR) 6 Conference. Remote. Aug 08, 2024.
2. "Battery-Powered Bargains? Assessing Electric Vehicle Resale Value in the United States", with Laura Roberson. Bridging Transportation Researchers (BTR) 6 Conference. Remote. Aug 07, 2024.
3. "Quantifying Plug-in Electric Vehicle Mileage and Resale Value", with Lujin Zhao, Eliese Ottinger, Arthur Yip, Laura Roberson, Saurav Pantha. International Symposium on Sustainable Systems and Technologies. Baltimore, MD. Jun 20, 2024.
4. "Mapping the AI-Enabled Transformation of Labor in Autonomous Vehicle Taxi Services", with Leah Kaplan, Zoe Szajnfarber. Technology Data and Policy Consortium. Boston, MA. Jun 17, 2024.
5. "Modeling the Hidden Labor Costs of Autonomous Vehicle Taxi Services", with Leah Kaplan, Lola Nurullaeva. Industry Studies Association Annual Conference. Sacramento, CA. Jun 14, 2024.
6. "The Rise of Chinese Leadership in the Plug-In Electric Vehicle Industry". Industry Studies Association Annual Conference. Sacramento, CA. Jun 14, 2024.
7. "The Heterogeneous Aggregate Valence Analysis (HAVAN) Modeling Framework: A Flexible Framework for Discrete Choice Modeling", with Connor Forsythe, Cristian Arteaga. Quant UX Conference. Remote. Jun 12, 2024.
8. "Shanghai Workshop on Climate and China-U.S. Relations". Fudan University & UCSD. Shanghai, China. May 23, 2024.
9. "Quantifying Electric Vehicle Mileage in the United States", with Lujin Zhao, Eliese Ottinger, Arthur Yip. International EV Policy Council Workshop at the National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 11, 2024.

10. "Battery-Powered Bargains? Assessing Electric Vehicle Resale Value in the United States", with Laura Roberson. International EV Policy Council Workshop at the National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 11, 2024.
11. "Coming of Age: An Investigation of Electric Vehicle (EV) Use Over Time", with Allan Zhao, Erin Costigliolo, Laura Roberson, Eliese Ottinger, Lujin Zhao, Jamie Dunckley. EVS36 Symposium. Sacramento CA. Jun 15, 2023.
12. "Going the Distance: Quantifying Electric Vehicle Mileage in the United States", with Lujin Zhao. Industry Studies Association Annual Conference. Columbus, OH. May 31, 2023.
13. "Quantifying the effect of subsidies on the residual value of plug-in vehicles in the United States", with Laura Roberson. Industry Studies Association Annual Conference. Columbus, OH. May 31, 2023.
14. "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.", with Leah Kaplan. National Academies Transportation Research Board Annual Meeting. Washington, D.C.. Jan 09, 2023.
15. "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.", with Leah Kaplan. Association for Public Policy Analysis & Management Annual Conference. Washington, D.C.. Nov 19, 2022.
16. "Quantifying the Role of Globalized Solar Photovoltaic Supply Chains in Reaching Climate Targets", with Gang He and Michael Davidson. Association for Public Policy Analysis & Management Annual Conference. Washington, D.C.. Nov 18, 2022.
17. "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.", with Leah Kaplan. Industry Studies Association Annual Conference. Philadelphia, PA. Jun 25, 2022.
18. "Not All Subsidies Are Equal: Identifying More Efficient and Equitable Plug-in Electric Vehicle Subsidies", with Laura Roberson. Industry Studies Association Annual Conference. Philadelphia, PA. Jun 25, 2022.
19. "The Role of Open Online Labor Platforms in the Future of Intellectual Work", with Suparna Mukherjee and Zoe Szajnfarder. Industry Studies Association Annual Conference. Philadelphia, PA. Jun 25, 2022.
20. "Quantifying the Role of Globalized Solar Photovoltaic Supply Chains in Reaching Climate Targets", with Gang He and Michael Davidson. Industry Studies Association Annual Conference. Philadelphia, PA. Jun 25, 2022.
21. "The renderthis Package: Render Slides To Different Formats". useR! 2022: The R Conference. Virtual. Jun 22, 2022.
22. "The cbcTools Package: Tools for Designing and Testing Choice-Based Conjoint Surveys in R". Sawtooth Software Conference. Orlando, FL. May 06, 2022.
23. "Measuring and Modeling Multi-Modal Trip Choices with Uncertain Arrival Times", with Lujin Zhao. CESUN Annual Conference. Charlottesville, VA. Oct 07, 2021.
24. "Healthier & Happier Hands: Software and Hardware Solutions for More Ergonomic Typing". useR! 2021: The R Conference. Virtual. Jul 06, 2021.
25. "Intellectual Property as a Production Input: Reconsidering Theories of Institutional Change & Profiting from Innovation", with Michael Murphree, Dan Breznitz. Industry Studies Association Annual Conference. Virtual. Jun 04, 2021.
26. "Obtaining Willingness to Pay Estimates from Preference Space and Willingness to Pay Space Utility Models". Sawtooth Software Conference Turbo Choice Modeling Seminar. NA. Apr 20, 2021.
27. "Using formr to create R-powered surveys with individualized feedback". RStudio Global Conference. Virtual. Jan 21, 2021.
28. "Reflection on Government Subsidies for Clean Energy Technologies: The Case of Electric Vehi-

- cles", with Hittinger, E., Nealer, R., Dunckley, J., & Berube, M.. APPAM Fall Research Conference. Virtual. Nov 11, 2020.
29. "Economic and Behavioral Dimensions of Urban Transport Policy - How Does Consumer Experience & Knowledge Affect Willingness to Adopt Plug-in Electric Vehicles?", with Laura Roberson. APPAM Fall Research Conference. Virtual. Nov 11, 2020.
 30. "Influence of knowledge and direct experience on the willingness to consider purchasing an EV", with Laura Roberson. Industry Studies Association Annual Conference. Virtual. Jun 04, 2020.
 31. "Influence of knowledge and direct experience on the willingness to consider purchasing an EV", with Laura Roberson. International EV Policy Council Workshop at the National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 16, 2020.
 32. "Influence of knowledge and direct experience on the willingness to consider purchasing an EV", with Laura Roberson. Solar Power International Conference. Salt Lake City, UT. Sep 23, 2019.
 33. "China's EV Future: The Good, The Bad, and The Ugly". International EV Policy Council Workshop at the National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 17, 2019.
 34. "Institutional Complementarities: The Origins of Experimentation in China's Plug-in Electric Vehicle Industry". APPAM Fall Research Conference. Washington, DC. Nov 08, 2018.
 35. "Intellectual Property as a Production Input: Expanding Theories of Institutional Change and Profiting from Innovation", with Michael Murphree, Dan Breznitz. International Business, Economic Geography and Innovation (iBEGIN). Philadelphia, PA. Oct 26, 2018.
 36. "Intellectual Property as a Production Input: Expanding Theories of Institutional Change and Profiting from Innovation", with Michael Murphree, Dan Breznitz. Industry Studies Association Annual Conference. Seattle, WA. May 31, 2018.
 37. "The Institutional Origins of Experimentation in China's Plug-in Electric Vehicle Industry", with Michael Murphree, Dan Breznitz. Frontiers in International Business Symposium, The Darla Moore School of Business, University of South Carolina. Columbia, SC. Feb 02, 2018.
 38. "The Institutional Origins of Domestic Experimentation in China's Plug-in Electric Vehicle Industry". Atlanta Conference on Science & Innovation Policy. Atlanta, GA. Oct 08, 2017.
 39. "Innovating Up, Down, and Sideways: The (Unlikely) Institutional Origins of Experimentation in China's Plug-in Electric Vehicle Industry". Industry Studies Association Annual Conference. Washington, DC. May 25, 2017.
 40. "Policy, Strategy, and the Emergence of Electric Car Sharing in China". Industry Studies Association Annual Conference. Washington, DC. May 25, 2017.
 41. "Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles". Consortium For Cooperation And Competition (CCC). Milan, Italy. Jun 12, 2016.
 42. "Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles". DRUID Annual Conference. Copenhagen, Denmark. Jun 10, 2016.
 43. "Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles". Industry Studies Association Annual Conference. Minneapolis, MN. May 25, 2016.
 44. "Consumer Preferences for Hybrid and Electric Vehicles in China and the U.S.". National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 14, 2014.
 45. "Consumer Preferences for Hybrid and Electric Vehicles in China and the U.S.". INFORMS Annual Meeting. Minneapolis, MN. Oct 07, 2013.
 46. "Who is more willing to adopt electrified vehicle: China or the U.S.?". Technology Management and Policy Consortium. Boston, MA. Jun 18, 2013.
 47. "Comparing Consumer Preferences for Electrified Vehicles in China and the U.S.". Industry Studies Association Annual Conference. Kansas City, MO. May 30, 2013.

48. "Consumer Preferences for Electrified Vehicles in China and the U.S.". Center for Climate and Energy Decision Making Annual Meeting. Pittsburgh, PA. May 21, 2013.

D. Conference Panel Organizer / Chair

1. "Special Session 11: Economics and Decision-making in the Transition to Electric Vehicles", with Eric Hittinger. 2020 IEEE Vehicular Power and Propulsion Conference (VPPC). Gijón, Spain. Oct 26, 2020.
2. "Accelerating plug-in electric vehicle adoption and achieving climate goals". Industry Studies Association Annual Conferencej. Virtual. Apr 04, 2020.
3. "Innovation in China From an Individual, Firm, and National Perspective". Academy of Management Annual Meeting. Anaheim, CA. Aug 05, 2016.
4. "Tensions Between Government, Industrial Innovation, and Energy Efficiency in China". Academy of Management Annual Meeting. Philadelphia, PA. Aug 05, 2014.

E. Posters

1. "Quantifying Electric Vehicle Mileage in the United States", with Lujin Zhao, Eliese Ottinger, Arthur Yip. Technology Data and Policy Consortium. Boston, MA. Jun 17, 2024.
2. "Quantifying Electric Vehicle Mileage in the United States", with Lujin Zhao, Eliese Ottinger, Arthur Yip. NA. Washington, DC. Jan 10, 2024.
3. "Not All Subsidies are Equal: Measuring Preferences for Electric Vehicle Financial Incentives", with Laura Roberson. National Academies Transportation Research Board Annual Meeting. Washington, DC. Jan 09, 2023.
4. "Identifying more efficient & equitable plug-in electric vehicle (PEV) financial incentives through consumer-centric design", with Laura Roberson. CESUN Annual Conference. Charlottesville, VA. Oct 07, 2021.
5. "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.", with Leah Kaplan. CESUN Annual Conference. Charlottesville, VA. Oct 07, 2021.
6. "Consumer Preferences for Electrified Vehicles in China and the U.S.". 32nd Annual USAEE / IAEE North American Conference. Anchorage, AK. Jul 28, 2013.

F. Discussant

1. "Economics of Energy Use in Transportation, Spring 2023". NBER Economics of Energy Use in Transportation. Boston, MA. May 22, 2023.
2. "15th Annual Conference on China's Economic Development and U.S.-China Economic Relations". GWU Elliott School of International Affairs. Washington, D.C.. Nov 04, 2022.

Selected Media Coverage: Impact of Research in Society

Total Media Appearances

International Press (3), National Press (51), University Press (12), Federal Government (1), Radio (3), TV (4)

1. Nov 26, 2024, **Associated Press**: Quoted in article ["Auto industry's shift toward EVs is expected to go on despite Trump threat to kill tax credits"](#).

2. Jul 29, 2024, **New York Times**: Study featured in article ["Electric Cars Help the Climate. But Are They Good Value?"](#).
3. Jul 01, 2024, **The World and stuff**: Hour-long podcast interview: ["China, Trade, and Green Energy"](#).
4. Jun 18, 2024, **NPR Marketplace**: Featured in [radio segment on the US EV market](#).
5. Apr 27, 2024, **Washington Post**: Study featured and quoted in article ["You can now get a \\$7,500 upfront discount for buying an EV"](#).
6. Apr 19, 2024, **Climatewire**: Study featured in article ["Want a used EV? Prices are rising."](#).
7. Mar 28, 2024, **Issues in Science and Technology**: Research referenced in article ["Lessons From a Decade of Philanthropy for Interdisciplinary Energy Research"](#).
8. Feb 03, 2024, **Business Insider**: Quoted in article ["Battery swapping is taking off in China — and it could help rescue the EV revolution in the US"](#).
9. Jan 17, 2024, **New York Times**: Study featured in article ["Are You a Super Driver? Some States Want to Help You Go Electric."](#).
10. Dec 04, 2023, **CNN**: Study featured in article ["New US rules on Chinese batteries could push up price of electric cars"](#).
11. Nov 07, 2023, **Scientific American**: Study featured in article ["Electric Vehicles Might Not Yet Have Replaced as Much Car Mileage as Hoped"](#).
12. Nov 07, 2023, **Climatewire**: Study featured in article ["EVs are driven less than gas cars. That's an issue for climate policy."](#).
13. Oct 06, 2023, **Politico**: Study featured in article ["Treasury lays out rules for instant EV rebate"](#).
14. Oct 06, 2023, **U.S. Dept of Treasury**: Study featured in U.S. Department of the Treasury Press Release: ["IRS Release Guidance to Expand Access to Clean Vehicle Tax Credits, Help Car Dealers Grow Businesses"](#).
15. Oct 06, 2023, **Forbes**: Study featured in article ["Electric Vehicle Buyers Can Soon Get Rebates At The Dealer"](#).
16. Oct 06, 2023, **Politico**: Study featured in article ["Will an instant tax credit spark more EV sales?"](#).
17. Nov 11, 2022, **Chinese Academy of Sciences**: Study featured in article ["全球化生产有望降低太阳能成本"](#).
18. Oct 26, 2022, **Bloomberg**: Study featured in article ["Tariffs Threaten to Undermine Global Shift to Clean Energy"](#).
19. Sep 12, 2022, **Nasdaq**: Study featured in article ["A 'Tale of Two Cities' and the Energy Crisis"](#).
20. Aug 12, 2022, **Time**: Quoted in ["What Experts Say About How Valuable The Inflation Reduction Act's Green Subsidies Will Be"](#).
21. Aug 11, 2022, **NPR**: Featured in ["All Things Considered"](#) segment.
22. Aug 11, 2022, **NPR**: Quoted in article ["3 ways the Inflation Reduction Act would pay you to help fight climate change"](#).
23. Jul 11, 2022, **The Drive**: Study featured in [The Drive](#).
24. Apr 29, 2022, **CGTN**: Long form interview with CGTN Full Frame: [Going Green](#).
25. May 30, 2021, **The Wire China**: Quoted in ["The Competition Conundrum"](#).
26. Mar 03, 2020, **Associated Press**: TV interview: ["China's emissions drop amid coronavirus outbreak"](#).
27. Nov 21, 2019, **NPR Climate Cast**: Quoted in ["Trade dispute with China could slow transition to low-carbon power"](#).
28. Nov 15, 2019, **Xinhua News**: Quoted in ["美能源专家呼吁美加强与中国合作以实现减排目标"](#).

Teaching & Education

A. Courses Taught at George Washington University

Sem.	Course	Level	N. Resp. / N. Enrolled	Instr. FCE* / Dept Mean
S19	EMSE 6035: Marketing Analytics for Design Decisions	Grad	13 / 18	5 / 4.3
F19	EMSE 6574: Intro. to Programming for Analytics	Ugrad	16 / 23	5 / 4.3
S20 [†]	EMSE 4197: Exploratory Data Analysis	Ugrad	NA / 21	NA / NA
F20	EMSE 4574: Intro. to Programming for Analytics	Ugrad	9 / 18	4.8 / 4.4
S21	EMSE 4575: Exploratory Data Analysis	Ugrad	13 / 22	5 / 4.4
F21	EMSE 6035: Marketing Analytics for Design Decisions	Grad	18 / 21	4.9 / 4.4
S22	EMSE 4571 / 6571: Intro. to Programming for Analytics	Mixed	24 / 32	4.9 / 4.4
F22	EMSE 4572 / 6572: Exploratory Data Analysis	Mixed	24 / 28	5 / 4.5
F22	EMSE 6035: Marketing Analytics for Design Decisions	Grad	18 / 20	4.9 / 4.5
S23	EMSE 4571 / 6571: Intro. to Programming for Analytics	Mixed	24 / 31	5 / 4.4
F23	EMSE 4572 / 6572: Exploratory Data Analysis	Mixed	20 / 28	4.9 / 4.5
F23	EMSE 6035: Marketing Analytics for Design Decisions	Grad	17 / 20	4.6 / 4.5
S24	EMSE 4571 / 6571: Intro. to Programming for Analytics	Mixed	19 / 37	5 / 4.5
F24	EMSE 4572 / 6572: Exploratory Data Analysis	Mixed	NA / 26	NA / NA
F24	EMSE 6035: Marketing Analytics for Design Decisions	Grad	NA / 24	NA / NA

* Faculty Course Evaluations (FCE) are scored by students (1 = worst, 5 = best).

[†] No course evaluations were recorded in Spring 2020 due to the COVID19 pandemic.

B. Workshops

1. "An Introduction to Effective Storytelling and Data Visualization". Systems Engineering Department, U.S. Military Academy. West Point, NY. Apr 05, 2024.. <https://jhelvy.github.io/stories-with-data/>
2. "Coding with AI Workshop", with Ryan Watkins, Justine Manning, Jason Torres. GW Coders. Washington, DC. Oct 20, 2023.
3. "An Open Source Framework for Choice Based Conjoint Experiments in R". Workshops for Ukraine. Virtual. Aug 10, 2023.. <https://jhelvy.github.io/2023-qux-conf-conjoint/>
4. "An Open Source Framework for Choice Based Conjoint Experiments in R". Quant UX Conference. Remote. Jun 14, 2023.. <https://jhelvy.github.io/2023-qux-conf-conjoint/>
5. "NRT workshop content on storytelling & data visualization". GWU DTAIS. Washington, DC. Jul 12, 2022.. <https://jhelvy.github.io/dtais-dataviz/>

C. Seminars

1. "Using Marketing Analytics to Measure Consumer Preferences and Inform Policy". Masterclass seminar for GWU SEED Event. Washington, DC. Oct 15, 2024.
2. "Github Actions (and Quarto websites & cursor)". GW Coders. Washington, DC. Oct 03, 2024.. <https://youtu.be/yTSLc2U2miA?si=mktOmQwGtN8jZUwz>
3. "Using Marketing Analytics to Measure Consumer Preferences and Inform Policy". Masterclass seminar for GWU SEED Event. Washington, DC. Feb 21, 2024.
4. "Automating your CV with Googlesheets and Quarto". GW Coders. Washington, DC. Jan 25, 2024.. <https://youtu.be/eFpJeAxQ80c?si=L4iuSwBPWC82Xu-T>
5. "Rendering templated PDFs with Quarto". GW Coders. Washington, DC. Feb 03, 2023.. <https://youtu.be/rQS2OGuFMUK?si=Y47rA275D1jgVopN>

6. "Apache Arrow in R". GW Coders. Washington, DC. Jan 25, 2022.. <https://youtu.be/659xQD516iw?si=PcY7HlgFlcnZ-PUo>
7. "Static websites in R". GW Coders. Washington, DC. Oct 13, 2021.. <https://youtu.be/6BBqUuXEPo4?si=6YLNgOBsUxsBf5lr>
8. "Using formr to make R-powered surveys". GW Coders. Washington, DC. Feb 19, 2021.. https://youtu.be/Hjosc_NQ3to?si=FhNtZ7oCLbBVe2CU
9. "Introduction to RMarkdown". GW Coders. Washington, DC. Dec 04, 2020.. <https://youtu.be/CGT3McFITF4?si=B-4VPLxMo7uVvYjJ>
10. "Tidyverse for R". GW Coders. Washington, DC. Nov 20, 2020.. <https://youtu.be/Tw6VjWsoQro?si=progW-v8LuiyNm4e>
11. "R Shiny Apps". GW Coders. Washington, DC. Oct 02, 2020.. <https://youtu.be/28oKINmXgzQ?si=IUxrQkzIB5YQOve>
12. "Global Education Connection". Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories. Virtual. Mar 01, 2017.

D. Guest Lectures

1. "Research overview". APSC 1001: Guest Lecture. Washington, DC. Nov 12, 2021.
2. "Preferences at the Pump: Are Consumers Willing to Pay for Low-Carbon Fuels?". EMSE 1001: Introduction to Systems Engineering, George Washington University. Washington, DC. Nov 08, 2019.
3. "Preferences at the Pump: Are Consumers Willing to Pay for Low-Carbon Fuels?". EMSE 1001: Introduction to Systems Engineering. Washington, DC. Nov 01, 2018.
4. "Emerging Automotive Trends: Chinese, Electric, and Shared". UA 510: Sustainable Energy Planning, Boston University. Boston, MA. Nov 01, 2017.
5. "Emerging Automotive Trends: Chinese, Electric, and Shared". PL851: Sustainable Energy Business Models And Policies, Boston University. Boston, MA. Nov 01, 2016.
6. "Vehicle Electrification: Market Trends, Policy, and Business Models". PL851: Sustainable Energy Business Models And Policies, Boston University. Boston, MA. Nov 01, 2016.
7. "Conjoint Analysis and Discrete Choice Modeling". 19702: Quantitative Methods for Policy Analysis, Carnegie Mellon University. Pittsburgh, PA. Mar 01, 2015.
8. "Penalty and Barrier Functions". 24785: Engineering Optimization, Carnegie Mellon University. Pittsburgh, PA. Nov 01, 2014.
9. "Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment". 19711: Global Competitiveness: Firms, Nations, and Technological Change, Carnegie Mellon University. Pittsburgh, PA. Oct 01, 2014.

E. Educational Contributions

1. Courses Developed at GWU

- **EMSE 4571 / 6571: Intro to Programming for Analytics.** Developed new open-source introductory level course that provides a foundation in programming for data analytics using the [R programming language](#) with a comparison to [Python](#).
- **EMSE 4572 / 6572: Exploratory Data Analysis.** Developed new open-source course that provides a foundation in exploring data using the [R programming language](#), including how to source, manage, wrangle, explore, and visualize a wide variety of data types. All analyses are reproducible from raw data to results using [RMarkdown](#) and [Quarto](#). Students demonstrate mastery of these skills through a semester-long research project of their own design, culminating in a reproducible final report and a 10-minute presentation of their findings.

- **EMSE 6035: Marketing Analytics for Design Decisions.** Developed a new open-source course that introduces data analysis techniques to inform design decisions in an uncertain, competitive market. Over the course of the semester, students learn and apply theory and methods to a team project to assess the market competitiveness of an emerging product or technology. Students learn how to design and field conjoint surveys as well as how to source, manage, and visualize data and modeling results using the [R programming language](#). Students demonstrate mastery of these skills through a semester-long research project of their own design, culminating in a final report and a 10-minute presentation of their design insights.

2. Resources Developed

- **Textbook:** "Yet Another R Dataviz (YARD) Book", written for [EMSE 4572 / 6572: Exploratory Data Analysis](#).
- **Textbook:** "Programming for Analytics in R", written for [EMSE 4571 / 6571: Intro to Programming for Analytics](#).
- **Video lecture series** for [EMSE 6035: Marketing of Technology](#). Six-lecture series on conjoint survey theory and practice. [View on youtube](#).
- **Autograder** for [EMSE 4571 / 6571: Intro to Programming for Analytics](#). Students can test and receive automated feedback on their programming assignments.
- **Course website:** <http://p4a.seas.gwu.edu/>, for [EMSE 4571 / 6571: Intro to Programming for Analytics](#). Open source lessons on the fundamentals of programming for data analytics in R with a comparison to Python.
- **Course website:** <http://eda.seas.gwu.edu/>, for [EMSE 4572 / 6572: Exploratory Data Analysis](#). Open source lessons on sourcing, managing, transforming, and exploring a wide variety of data types in R.
- **Course website:** <http://madd.seas.gwu.edu/>, for [EMSE 6035: Marketing Analytics for Design Decisions](#). Open source lessons on designing conjoint surveys and choice modeling in R.

Advising

A. Primary Research Advisor

1. Ph.D. Students - Current

1. Pingfan Hu, "Measuring preferences for EV smart charging and integrating them into grid simulation models.", George Washington University (2023 to present). *Expected graduation: May 2027*.
2. Michael Rossetti, "Machine Learning Techniques for Text Analysis", George Washington University (2023 to present). *Expected graduation: May 2027*.
3. Zain Hoda, "Assessing vehicle ownership and EV adoption barriers in disadvantaged communities", George Washington University (2024 to present). *Expected graduation: May 2028*.

2. Ph.D. Students - Completed

1. Laura Roberson, "Accelerating Electric Vehicle Adoption in the United States: The Impact of Experience, Knowledge, and Financial Incentives", George Washington University (2019 to 2024). *Defense date: 2024-02-28*.
2. Lujin Zhao, "A Path to Sustainable Transportation: Essays on Transit Adoption and Electric Vehicle Usage and Supply Patterns in the U.S.", George Washington University (2020 to 2024). *Defense date: 2024-10-24*.

3. Leah Kaplan, "AI Behind the Wheel: Work, Economics, and Preferences in the Era of Autonomous Vehicles", George Washington University (2020 to 2024). *Defense date: 2024-08-07.*

3. Masters Students - Completed

1. Saurav Pantha, George Washington University (2020 to 2021).
2. Lujin Zhao, George Washington University (2020 to 2021).
3. Zain Hoda, George Washington University (2023 to 2024).
4. Eliese Ottinger, George Washington University (2023 to 2024).

4. Undergraduate Students - Current

1. Lola Nurullaeva, George Washington University (2023 to Present).
2. Bogdan Bunea, George Washington University (2024 to Present).

5. Undergraduate Students - Completed

1. Eliese Ottinger, George Washington University (2021 to 2023).
2. Kazi Ashrafi, George Washington University (2021 to 2021).
3. Jennifer Kim, George Washington University (2021 to 2021).
4. Helena Rowe, George Washington University (2021 to 2021).
5. Michael O'Keefe, George Washington University (2022 to 2022).

4. High School Students

1. Charles Melchior-Fisher, "Senior Project: Electric Vehicles", School Without Walls (2019 to 2020).

B. Ph.D. Committee Member

1. Ph.D. Students - Current

1. Suparna Mukherjee, George Washington University (2022 to Present).
2. Lydia Gleaves, George Washington University (2023 to Present).

2. Ph.D. Students - Completed

1. Vikram Rao, "Investigation of Decision Processes in Chemical Substitution Decision Making", George Washington University (2019 to 2020). *Defense date: 2020-11-23.*
2. Ilaria Mazzocco, "Electric Dreams: Industrial Policy, New Energy Vehicles, and the Persistent Role of Local Government in China", School of Advanced International Studies, Johns Hopkins University (2019 to 2020). *Defense date: 2020-03-09.*
3. Xiaoying Yang, "Essays on Transportation and Environmental Regulations: EV incentives, fuel standards and air quality, and bike share substitution with transit", George Washington University (2020 to 2023). *Defense date: 2023-07-06.*
4. Dian Hu, "Rapidly Testing Policymakers' Assumptions Using Social Media: A Systematic Approach Applied to Public Health", George Washington University (2021 to 2022). *Defense date: 2022-04-01.*

Awards / Honors by Advised Students

- 2024: Winner of the GW OSPO Open Source Project Award.
- 2024: PhD student Leah Kaplan awarded First Prize for GWU 3 Minute Thesis competition.
- 2023: PhD student Leah Kaplan selected as FASPE Design & Technology Fellow.
- 2023: EMSE Senior design team with Eliese Ottinger wins best paper at the IEEE Systems and Information Engineering Design Symposium (SIEDS).
- 2022: PhD student Laura Roberson awarded First Prize for Studies in Engineering and Data Analysis at the GW Research Showcase.
- 2022: PhD student Laura Roberson awarded Sustainability and Resiliency Prize at the GW Research Showcase.
- 2020: PhD student Leah Kaplan awarded NSF Graduate Student Research Fellowship (\$147,000).

Service

A. Departmental Service (EMSE)

1. Non-Academic Short Course Committee (2024 - present).
2. Undergraduate ABET Committee (2024 - present).
3. Undergraduate Curriculum Committee (2020 - present).
4. Advised a senior design team (2022 - 2023).
5. Scribe for Faculty Meetings (2019 - 2022).
6. Doctoral Qualifying Exam Committee (2019 - 2020).

B. College Level Service (School of Engineering and Applied Sciences, GWU)

1. *Director*, Data Analytics MS Program (2023 - present).
2. Strategic Research Planning Committee (2021 - 2022).
3. Computing Committee (2020 - 2022, 2024 - present).
4. Community Development: *Co-founder* and bi-weekly research meet up community organizer, GW Coders Organization (2020 - present).

C. University Level Service (George Washington University)

1. *Event Organizer*, Electric Vehicle Policy Symposium, GW Alliance for a Sustainable Future (2025).
2. *Workshop Organizer*, Coding with AI (full-day workshop for students and faculty) (2023).
3. Generative AI Faculty Committee (2023 - present).

D. Professional Service

1. Organized research symposium for the International Electric Vehicle Research Council held in SEH (2024, 2025).
2. *Special Issue Editor*, Environmental Research Infrastructure and Sustainability (2024 - present).
3. Annual Conference Organizing Committee Member, Industry Studies Association (2023 - present).
4. Dissertation Award Committee Chair, Industry Studies Association (2020 - 2022).
5. Online Program Committee Member, Industry Studies Association (2020 - 2022).
6. *Organizer*, Industrial Policy Webinar Series, Industry Studies Association (2021 - 2022).

7. Dissertation Award Committee Member, Industry Studies Association (2018 & 2019).
8. Conference Organizing Committee Member, Technology, Management, & Policy Consortium (2019).
9. Review Panel Member, National Science Foundation (2021).
10. Review Panel Member, VTO Annual Merit, Dept. of Energy (2020 & 2021).
11. IEEE Vehicular Power and Propulsion Conference Reviewer (2020 & 2024).
12. Reviewer, National Academies Transportation Research Board Annual Meeting (2013, 2019, & 2020).

E. Peer Reviewer

Completed 73 journal reviews and 13 conference paper reviews (2013 - present)

List of Journals

Climate Policy	Nature Energy
Energies	Research Policy
Energy Policy	RSC Sustainability
Environmental Research Letters	Science
Environmental Research: Infrastructure & Sustainability	Science Advances
Geography & Sustainability	Technovation
iScience	The Electricity Journal
Joule	Transactions in GIS
Journal of Environmental Management	Transactions on Engineering Management
Journal of International Business	Transport Policy
Journal of Mechanical Design	Transportation Research Part A: Policy & Practice
Journal of Systems Science & Systems Engineering	Transportation Research Part D: Transport & Environment
Nature Communications Earth & Environment	World Electric Vehicle Journal

Memberships in Professional Organizations

- Transportation Research Board
- Industry Studies Association
- Academy of Management
- INFORMS
- U.S. Association for Energy Economics (USAEE / IAEE)
- Tau Beta Pi
- Phi Beta Kappa
- Beijing Energy Network

Industry Experience

- Intern, Electric Vehicle Charging Policy. Innovation Center for Energy & Transportation (iCET), Beijing, China (Jan. - May., 2011).
- Engineering Intern, Wind Power Advanced Technology Operations. General Electric Company, Shanghai, China (Aug. - Dec., 2008).
- Engineering Intern, Wind Power Advanced Technology Operations. General Electric Company, Greenville, SC, USA (Jun. - Aug., 2007).

Leadership, Volunteer, and Community Activities

- *Co-Founder and Organizer, GW Coders*: Informal study group to apply computational and data analytics skills in research (2020-present).
- *Analyst & Committee Member*, Boston University Climate Action Plan Task Force (2016 - 2018).
- *Violinist*, Carnegie Mellon All University Orchestra, 1st Violin Section (2011 - 2015). _ *Dance Instructor*, Tartan Swing (CMU Swing Dance Club) (2011 - 2015).
- *Head Dance Instructor*, Solely Swing, Virginia Tech Swing Dance Club (2007 - 2010).
- *Concert Master*, New River Valley Symphony Orchestra, Virginia Tech (2005 - 2010).
- *Volunteer*, Virginia Tech Alternative Breaks Service Programs for Tau Beta Pi, Appalachia Service Project, & Presbyterian Campus Ministries (2006 - 2009).

Skills

- **Language**: Mandarin Chinese (speaking: *fluent*, reading / writing: *intermediate*).
- **Modeling & Analysis**: Discrete Choice Modeling, Conjoint Analysis, Decision Analysis, Monte Carlo Simulation, Consumer Preferences, Quantitative Policy Analysis, Process-Based Cost Modeling, Optimization, Regression.
- **Data Collection**: Survey Design, Qualitative Interviews.
- **Programming**: R, Python, Git, MatLab, LaTeX, Shiny, Stata, Mathematica, HTML, Wordpress.
- **Software**: Adobe Photoshop, Adobe Illustrator, Microsoft Office, Analytica.

Dance Awards

A. Lindy Hop

- **1st Place**: 2016 Advanced Jack & Jill w/Banban, *China Lindy Hop Championships*, Beijing, China.
- **3rd Place**: 2013 Open Jack & Jill, *Rocktober*, Columbus, OH.
- **5th Place**: 2012 Open Jack & Jill, *Boston Tea Party*, Boston, MA.
- **2nd Place**: 2012 Open Jack & Jill w/Akemi Kinukawa, *Babble*, New York, NY.
- **1st Place**: 2011 Open Strictly Lindy w/Annabel Truesdell Quisao, *International Lindy Hop Championships*, Washington, D.C.
- **Finals**: 2011 Open Jack & Jill, *Lindy Focus X*, Asheville, NC.
- **Finals**: 2011 Open Jack & Jill, *International Lindy Hop Championships*, Washington, D.C.

B. Solo Jazz / Charleston

- **1st Place**: 2012 Solo Jazz, *Sparx*, Cleveland, OH.
- **3rd Place**: 2012 Solo Charleston, *Stompology*, Rochester, NY.

C. Balboa

- **Finals**: 2014 Strictly Balboa w/Jennifer Lee, *International Lindy Hop Championships*, Washington, D.C.
- **3rd Place**: 2013 Amateur Strictly Balboa w/Annabel Truesdell Quisao, *All Balboa Weekend*, Independence, OH.

- **4th Place:** 2013 Amateur Jack & Jill, *All Balboa Weekend*, Independence, OH.
- **Finals:** 2012 Amateur Jack & Jill w/Nina Galicheva, *All Balboa Weekend*, Independence, OH.

D. Blues

- **Finals:** 2013 Solo Riffin' Competition, *Steel City Blues*, Pittsburgh, PA.
- **1st Place:** 2012 Solo Riffin' Competition, *Steel City Blues*, Pittsburgh, PA.
- **Finals:** 2010 Open Jack & Jill, *Steel City Blues*, Pittsburgh, PA.