Leah R Kaplan

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Education

2024 (exp)	Ph.D. Systems Engineering	The George Washington University, Washington, DC
2018	B.S. in Chemical Engineering Minor: Communication	The University of Arizona, Tucson, AZ

Research Interests

Automated vehicles: Exploring the potential impacts of AVs with a focus on equity and labor impacts.

Transportation equity: Developing transportation systems that improve transportation access for individuals that are least served by current transportation systems.

Trustworthy AI: Collaborating on research at the intersection of AI and human work systems.

Deliberative democracy: Developing methods for engaging the public in science and technology development and decision-making

Work Experience

Program Specialist, Consortium for Science, Policy & Outcomes, Washington, D.C. 08/2018 – 05/2020
- Designed a day-long public deliberation on autonomous vehicles used in **18 cities across 9 countries**
- Coordinated public forums on AV in 4 U.S. cities with over 300 participants and analyzed forum results
- **Facilitated table discussions at public forums and trained 6 other facilitators to moderate discussions**

Congressional Intern, House Committee on Science, Space, and Technology, Washington, D.C. 09/2018 – 12/2018
- Wrote memos for professional staff members on Hill briefings and scientific reports (e.g. quantum computing)
- Managed the office phone, prepared hearing rooms and materials, and helped coordinate room requests

Research Assistant, Kim Ogden Algae Biofuel Lab, University of Arizona 08/2017 – 05/2018
- Worked with Tucson Electric Power Plant to test algae as a waste stream remediation tool
- Conducted graphical analysis of temperature, carbon dioxide, pH, and optical density of algae samples

Supply Chain Intern, PepsiCo – Gatorade, Tolleson, AZ 05/2017 – 08/2017
- Created a VBA program in Excel to automate a report to yield a cost savings of $18,000 per year
- Coordinated with contractors to collect proposals and award a bid for a $130,000 project

Research Assistant, Tolbert/Oland Neuroscience Lab, University of Arizona 06/2015 – 05/2017
- Designed and optimized 15 experimental protocols using critical thinking skills
- Presented two scientific posters to over 150 people at two undergraduate research conferences

Conference Rapporteur, Science Diplomacy and Policy with Focus on the Americas, University of Arizona 02/2017
- Extracted key points from lectures and panel discussions & wrote a summary paper for the post-conference proceedings
- Aided conference organizers in developing a graduate-level science diplomacy course for the University of Arizona

Resident Assistant, Engineering Leadership Community, University of Arizona 08/2015 – 05/2016
- Addressed conflict in the dorm such as roommate disagreements and violations of alcohol policies
- Collaborated with 15 coworkers to create monthly educational events for over 170 residents

Publications

Publications in Peer Reviewed Journals

1. **Kaplan, L.**, Farooque, M., Sarewitz, D., and Tomblin, D. (2021). Designing Participatory Technology Assessments: A Reflexive Method for Advancing the Public Role in Science Policy Decision-making. *Technological Forecasting and Social Change.*

2. Nelson, J. P., **Kaplan, L.,** & Tomblin, D. (2020). Assessing solar geoengineering research funders: Insights from two US public deliberations. *The Anthropocene Review*,. https://doi.org/10.1177/2053019620964845

3. Hernandez, E., MacNamee, S., **Kaplan, L.**, Lance, K., Garcia-Verdugo, H., Farhadi, D., and Oland, L. The astrocyte network in the ventral nerve cord neuropil of the Drosophila third-instar larva. *Journal of Comparative Neurology*. https://doi.org/10.1002/cne.24852

Working Papers & Papers Under Review

1. **Kaplan, L.** & Helveston, J.P., "Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S." *Under Review*.

Book Chapters

1. **Kaplan, L.**, Rupprecht, S., Grosso, M., Thomopoulos, N., Backhaus, W., Raposo, M. A., ,Ä¶ & Franco, D. (2023). Ensuring Strong Public Support for Automation in the Planning Process: From Engagement to Co-creation. In Automated Road Transportation Symposium (pp. 167-183). Springer, Cham. https://link.springer.com/book/10.1007/978-3-031-11112-9#page=169

Policy Memos, Reports, Articles for Non-Academic Audiences, and Other Publications

1. **Kaplan, L.**, Mulcare, S., and Pantha, S. (2021). Cool Roofs to Reduce Urban Heat in New Orleans. European Horizons Policy Competition.

2. Weller, N., Sullivan-Govani, M., Farooque, M., and **Kaplan, L.** (2020). Blinded by the Frontier. *Issues in Science and Technology*. https://issues.org/endless-frontier-act-and-public-values/

3. **Kaplan, L.**, Nelson, J., Tomblin, D., Farooque, M., Lloyd, J., Neff, M., Bedsted, B., and Sarewitz, D., (2019). Exploring Democratic Governance of Geoengineering Research Through Public and Stakeholder Engagement. Consortium for Science, Policy & Outcomes. https://cspo.org/wp-content/uploads/2019/10/SRM_book_EPUB.pdf

4. **Kaplan, L.** (2019). Background materials for "Our Driverless Futures: Community Forums on Automated Mobility." Consortium for Science, Policy & Outcomes. https://cspo.org/wp-content/uploads/2019/04/Background-Materials-for-Our-Driverless-Futures.pdf

4. **Kaplan, L.** (2019). Give STAA a Chance. *As We Now Think*. Consortium for Science, Policy & Outcomes. https://cspo.org/give-staa-a-chance/

5. Farooque, M., **Kaplan, L.,** Lloyd, J., and Quach, K. (2019). Boundary Practitioners Workshop Report for the Earthrise Alliance. Consortium for Science, Policy & Outcomes. https://earthrisealliance.org/s/FinalBoundarySpanningWorkshopReport021519.pdf

Honors & Awards

Scholarships and Fellowships

2022 Co-Designing Trustworthy AI Systems National Science Foundation Research Traineeship

2021 National Science Foundation Graduate Research Fellowship

2017 Chapman Scholar – awarded to 1 UA engineering student, department nominated and committee selected

2014 Flinn Scholar – merit based scholarship awarded to top 20 high school seniors in Arizona, valued at more than $115,000

Awards

2018 Freeman Medal – awarded to 2 graduating seniors (out of 6,000 graduates) from the University of Arizona

2018 Outstanding Senior in Chemical Engineering, 2018 (out of 80 undergraduates)

2018 1st Place – Society of Women Engineers Undergraduate Rapid-Fire Research Presentation Competition

2018 2nd Place – Lockheed Martin Ethics in Engineering Case Competition

2016 The University of Arizona Honors College Outstanding Sophomore of the Year 2016

Teaching Experience

Courses Served as a Teaching Assistant

Fall '22 **Introduction to Systems Analysis**, The George Washington University
- Delivered a lecture on "Automated Vehicles as a Modern Engineering Case Study"
- Organized and ran the lab section of the course for a class of 34 students
- Hosted office hours for students and managed conflict that arose with group projects

Spring '16 **Argumentation**, University of Arizona
- Presented lectures to class and aided 35 students in preparing for and presenting their debates
- Engaged in a model debate to demonstrate successful argumentation techniques
- Coordinated review sessions for students to help them prepare for midterm exams

Guest Lectures

Spring '22 **"Macro-ethical Approaches to Engineering Design & Decision-Making"** Lecture for Ethics & Equity in Engineering Leadership. Pennsylvania State University.

Fall '22 **"Automated Vehicles as a Modern Engineering Case Study"** Lecture for APSC/EMSE 1001: Introduction to Systems Analysis, The George Washington University

Fall '21, '22 **"Applying Systems Engineering to Societal Problems"** Co-Lecture for EMSE 6801: Systems Engineering I, George Washington University.

Presentations

2022 **Kaplan, L.** & Helveston, J.P., *Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.* Association for Public Policy Analysis & Management (Oral)

2022 **Kaplan, L.** & Helveston, J.P., *Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.* Industry Studies Association (Oral)

2022 **Kaplan, L.** & Helveston, J.P., *Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.* GW School of Engineering Research Showcase 2022 (Poster)

2022 **Kaplan, L.** & Helveston, J.P., *Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.* GW Research Showcase 2022 (Poster)

2021 **Kaplan, L.** & Helveston, J.P., *Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S.* CESUN 2021 (Poster)

2021 **Kaplan, L., *Benefits for Whom? Considering Equity as a Design Goal for Autonomous Vehicle Development*, Society for Philosophy and Technology Conference (Oral)**

2021 Brown, R., **Kaplan, L.,** Isaac, L., & Lanigan, T. (2021, February 8). Vermont AV-Xchange – Opportunities and Challenges for Testing Collaboration.

2019 **Kaplan, L.,** John Nelson, and David Tomblin, *Informing the Governance of Geoengineering Research Through Public Deliberations*, Dec. 2019; American Geophysical Union Annual Conference (Oral)

2019 **Kaplan, L.,** Mahmud Farooque, Kimberly Quach, and Jason Lloyd, *Boundary Spanning at the Science Policy Interface: Challenges and Opportunities*, Dec. 2019; American Geophysical Union Annual Conference (eLightning)

2019 **Kaplan, L.**, John Nelson, *Our Driverless Futures – Informing Autonomous Vehicle Design and Deployment through Public Deliberation.* Oct. 2019. Phoenix Mobile and Emerging Tech Festival

2019 **Kaplan, L.**, John Nelson, *US Public Preferences in Geoengineering Funding and Governance*, Oct. 2019. The Science, Health and Engineering Policy and Diplomacy; Sustainable Development for the Americas Conference

2019 Tomblin, D., **Leah Kaplan**, JP Nelson, and Mahmud Farooque, *"Our Driverless Futures:" Informing Autonomous Vehicle Systems Design through Participatory Technology Assessment.* Oct. 2019. University of Maryland Do Good Robots Symposium

2019 Farooque, M. and **Leah Kaplan**, *Innovating with the Public – One Deliberation at a Time*, Aug. 2019. Symposium: Interrogating Innovation, Nanyang Technological University, Singapore.

2019 Sarewitz, D., **Leah Kaplan** and Mahmud Farooque, *How can engaging public deliberations build bridges across the S&T enterprise?*, June. 2019. National Science and Technology Council "Building Bridges Across the S&T Enterprise" Conference

2019 **Kaplan, L.**, *Engaging Stakeholders in Future Change*. Jun. 2019. The Foresight Sandbox, Workshop on Strategic Foresight

2019 **Kaplan, L.**, and David Tomblin, *Why Public Engagement with Science and Technology*. Mar. 2019. Workshop with American Association for the Advancement of Science (AAAS) Fellows

2019 Tomblin, D., John Nelson, and **Leah R. Kaplan**, *Solar Radiation Management Forum Results Workshop*. Dec. 2019. Workshop hosted by Arizona State University

2018 **Kaplan, L.**., Hassan A. Vafai, and Kevin E. Lansey. *Sowing the seeds of understanding and interest: An example of university-sponsored incubation and collaboration for science diplomacy.* Nov. 2018. Science Policy Symposium, Science and Education Policy Association

2017 **Kaplan, L.,** *Drosophila astrocytes span functional neural domains with variable overlap.* Oct. 2017. Undergraduate Rapid-Fire Research Presentation Competition, Society of Women Engineers National Conference

2017 **Kaplan, L.**., Hector D. Garcia, Ernesto Hernandez, Leslie P. Tolbert, and Lynne A. Oland. *Drosophila astrocytes span functional neural domains with variable overlap*. Jan. 2017. Research poster presented at the Undergraduate Biology Research Conference

2016 Hernandez, E., Sarah E. MacNamee, **Leah R. Kaplan**, Julie A. Charlton, Dara S. Farhadi, Kimberly N. Lance, Leslie P. Tolbert, and Lynne A. Oland. *Drosophila astrocytes span functional neural domains*. Nov. 2016. Research poster presented at the Society for Neuroscience Conference.

2016 **Kaplan, L.**, Sarah E. MacNamee, Kimberly N. Lance, Leslie P. Tolbert, and Lynne A. Oland. *Presence of markers for Glutamate, GABA, and Acetylcholine in particular neurons provides evidence for neuron-glia interactions*. Jan. 2016. Research poster presented at the Undergraduate Biology Research Conference.

Leadership Experience

EMSE Department Seminar Coordinator, George Washington University 08/2020 – 05/2023

- Coordinated monthly seminars including booking rooms, ordering food, and setting up AV systems
- Communicated with external speakers from both the public and private sector
- Hosted research workshops for Ph.D. students to solicit feedback on ongoing research projects

Coordinating Committee Member, STGlobal Conference 2021 06/2020 – 04/2021

- Served on a conference organizing committee for an international entirely graduate student-run conference
- Managed the web platform for the virtual conference
- Reviewed submitted abstracts and organized presentations into themed conference sessions

President, Tau Beta Pi Engineering Honor Society, UA Chapter 09/2015 – 05/2018

- Managed an officer board of 11 people and a club of approximately 70 members
- Organized soft skills workshops focused on conflict management and effective meetings
- Led club meetings and coordinated monthly professional development speakers

Undersecretary General of Finance, Model United Nations 08/2016 – 05/2018

- Reviewed 5 years of finances to compile a 61-page IRS application and earned nonprofit status
- Managed an annual $55,000 budget and coordinated finances for attending and hosting conferences
- Peer-selected as the best delegate in an 80-person committee for skill in negotiation and speaking

International Experience

IDEAS Study Abroad Program – Antigua, Guatemala 06/2016 – 08/2016

- Studied the relationship between governmental environmental policy and indigenous communities
- Taught English to 30 fifth-grade students and volunteered on a local organic farm

Anthropology and Sustainability in China – Beijing, Anshun, Tunpu Village, China 05/2015 – 06/2015

- Analyzed the environmental and cultural sustainability of food in China via visual anthropology
- Studied the economic and environmental challenges of China's rapidly growing economy

Skills

Analysis:	Multilevel Modeling, Survey Design, Open-coding, Theme-based coding, Statistical Analyses (T-Tests, ANOVA), Semi-structured interview design
Programming / Software:	Python, R, Visual Basic, Matlab, Microsoft Project, Microsoft Office
Public Engagement:	Participatory Technology Assessment (pTA), Forum design, Facilitation