

Lyssa Freese

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Education

Massachusetts Institute of Technology Department of Earth, Atmosphere and Planetary Sciences. Cambridge, MA. Ph.D. Student in Atmospheric Chemistry focusing on Energy, Policy, Pollution and Climate. Fall 2018-Current.

Georgetown University Edmund A. Walsh School of Foreign Service. Washington, D.C. B.S. Science, Technology, and International Affairs: Health and the Environment. May, 2016.

Work Experience

MIT Department of Earth, Atmosphere and Planetary Sciences. Cambridge, MA. Research Assistant. *Fall 2019-Present.*

China Environment Forum at the Wilson Center. Washington, D.C. Research Assistant. *Fall 2017- Fall 2018.*

Environmental Protection Network (EPN). Washington, D.C. Intern. *Fall 2017- Fall 2018.*

Green Camel Bell. Lanzhou, Gansu, China. Research Assistant and Educator. *Summer 2017.*

Rock Environment and Energy Institute. Beijing, China. Research Assistant. *September 2016- April 2017.*

Grants, Fellowships and Honors

[Martin Fellowship for Sustainability](#). PhD Fellowship. *Present*

Jack C. Tang (1949) Fellowship. PhD Fellowship. *2020*

NIEHS Training Grant in Environmental Toxicology. PhD Training Grant. *2019-Present*

AMS Summer Policy Colloquium NSF Fellowship. Summer Policy Colloquium run by AMS and funded by NSF. *Summer 2019.*

MIT Presidential Fellowship. Year-long PhD Student Fellowship. *2018-2019.*

NSF Data Science for the 21st Century Fellowship. (*declined*). Two-year PhD Fellowship to pursue studies at U.C. Berkeley. *2018-2020.*

Sixth Tone Environmental Research Fellowship. Summer Fellowship. "Environmental Protection in the Countryside". *2018.*

Yenching Social Innovation Forum on Sustainability. Delegate. *2017.*

Georgetown University Environment Initiative. Summer Fellowship. "Polluting the Internet: ENGO Social Media Strategy and Capacity in China". *2015.*

Georgetown University School of Foreign Service. Improving the Human Conditions Grant.
“Polluting the Internet: ENGO Social Media Strategy and Capacity in China”. 2015.

Academic Publications

Freese, L. M., Eastham, S., Selin, N. Black Carbon Climate and Health Impacts of Coal Power Plant Lifetimes, Locations and Funders through the creation of a Reduced Form Model, in prep.

Freese, L. M., Chossiere, G., Eastham, S., Jenn, A., Selin, N. Nuclear Power Plant Shutdowns have Air Quality and Climate Impacts, in prep for *PNAS*.

Garima Raheja, Leatra Harper, Ana Hoffman, Yuri Gorby, **Freese, L. M.,** Brendan O’Leary, Melissa Goodwin, Daniel M. Westervelt. Community-Based Participatory Research for Low-Cost Air Pollution Monitoring in the Wake of Unconventional Oil and Gas Development in the Ohio River Valley - Empowering Impacted Residents through Community Science, under revision for *Environmental Research Letters*.

Freese, L. M., Cronin, T.W. Antarctic Radiative and Temperature responses to a doubling of CO₂, 2021, *Geophysical Research Letters*. <https://doi.org/10.1029/2021GL093676>.

Ranganathan, M., Lalk, E., **Freese, L. M.,** Freilich, M.A., Wilcots, J., Duffy, M.L., Shivamoggi, R., Trends in the representation of women amongst geoscience faculty from 1999-2020: the long road towards gender parity, 2021, *AGU Advances*, <https://doi.org/10.1029/2021AV000436>.

Reports, White Papers and News Articles

Freilich, M., Wilka, C., Shivamoggi, R., **Freese, L.,** Heiderich, J., Drake, H. F., Cantine, M. 2019. “[Young Climate Scientists Speak Out](#)”. Special Climate Crisis Issue of DigBoston

Goodman, S and **Freese, L.** 2018. “[China’s Ready to Cash in on a Melting Arctic](#)”. Foreign Policy.

Freese, L. 2018. “[Why Citizen Science Faces an Uphill Climb in China](#)”. Sixth Tone.

Freese, L. 2018. “[How Citizen Science is Helping Save China’s Environment](#)”. Sixth Tone.

JiaQiao, Lin and **Freese, L.** 2017. “China’s Coal-based Thermal Power Sector: Compliance of Environmental Standards”. Written for consultation with Centre for Science and Environment, India.

Freese, L. 2017. “The ‘Just Transition’ is not just a simple transition: the complexities of China’s coal phase-out”. Published in Rock Environment and Energy Institute’s Annual Energy Review 2016 and on their website.

Freese, L. 2016. “Polluting the Internet: ENGO Social Media Strategy and Capacity in China”. Senior Honors Thesis at Georgetown University. Advised by Joanna Lewis.

Teaching and Mentorship

Seminar on Racism, Colonialism, and Extraction in Geosciences. Co-creator and teacher. *Spring 2021 and 2022*

Teaching Assistant: People and the Planet: Environmental Governance and Science. *Undergraduate Course, Fall 2021*

Kaufman Teaching Certificate Program. *Spring, 2022*

Research Advisor: Gabby Cazeres, *Fall 2019 and Spring 2020*; Yuka Perera, *Summer 2020*

Academic Service

Program in Atmospheres, Oceans and Climate (PAOC) Colloquium Series. Planning Committee Member. *Current*

MIT Atmospheric Chemistry Colloquium. Co-founder and organizer. *2019-2021*

Graduate Climate Conference. Executive Co-Chair. *2020*

Taskforce 2023. MIT EAPS Department taskforce focused on the Department's Organization, Cohesion, Experience and Diversity. *2019-2020*

PAOC Retreat. Planning Committee Chair. *2019*

Justice, Equity, Diversity and Inclusion

AGU Thriving Earth Exchange. Community Scientist. *Current*

EAPS Application Mentorship Program. Co-Chair. *Current*

Diversity, Equity and Inclusion Committee. Graduate Student Representative. *2020-2021*

Skills, Languages, and Relevant Coursework

Languages: Mandarin Chinese.

Computer Languages: Python, Matlab, basic Julia, R, and Fortran.

Relevant Coursework: Atmospheric Composition in a Changing Earth System; Environmental Modeling and Data Analysis; Climate Diagnostics and Variability; Science, Technology and Public Policy; Atmospheric Chemistry and Physics; Climate Science; Atmospheric Dynamics; Radiation and Convection; Geophysical Fluid Dynamics; Science Policy Bootcamp.