

# Lyssa Freese

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## Education

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**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

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**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

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[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 21<sup>st</sup> 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

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**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. Eliminating Nuclear and Coal Power Generation Redistributes U.S. Air Quality and Climate Related Mortality Risk, *submitted to 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, *in review at Environmental Research Letters*.

**Freese, L. M.,** Cronin, T.W. Antarctic Radiative and Temperature responses to a doubling of CO<sub>2</sub>, 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

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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

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**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

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**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

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**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

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*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.