1. Meredith Hastings (neé Meredith Galanter)
Professor of Earth, Environmental and Planetary Sciences
Department of Earth, Environmental and Planetary Sciences
Institute at Brown for Environment and Society

2. Home address
Providence, RI 02906

3. Education
Ph.D., Department of Geosciences, Princeton University, Princeton, NJ, 2004.
Thesis title: *Studies of Reactive Nitrogen in the Atmosphere Using Global Modeling and Stable Isotope Measurements*.

B.Sc. with Honors, *magna cum laude*, Marine Science and Chemistry, University of Miami, Coral Gables, FL, 1998. Senior thesis title: *Design and Implementation of a Continuous Flow Analysis System for Shipboard Determination of Nutrients*.

4. Professional Appointments

7/2020 – present	Professor of Earth, Environmental and Planetary Sciences and Institute at Brown for Environment and Society, Brown University
7/2020 – 6/2023	Deputy Director, Institute at Brown for Environment and Society, Brown University
7/2015 – 6/2020	Associate Professor of Earth, Environmental and Planetary Sciences and Institute at Brown for Environment and Society, Brown University
7/2011 – 6/2014	Joukowsky Family Assistant Professor of Earth, Environmental and Planetary Sciences, Brown University, Department of Earth, Environmental and Planetary Sciences and Institute at Brown for Environment and Society
7/2008 – 6/2011	Assistant Professor, Brown University, Department of Geological Sciences and Environmental Change Initiative
1/2005 – 6/2008	Postdoctoral Fellow, University of Washington, Joint Institute for the Study of the Atmosphere and Ocean Department of Atmospheric Sciences
7/2004 – 12/2004	Postdoctoral Research Associate, Princeton University, Department of Geosciences
9/1999 – 6/2004	Ph.D. candidate, Princeton University, Department of Geosciences
9/1998 – 8/1999	Technical Staff, Princeton University/NOAA Geophysical Fluid Dynamics Laboratory, Atmospheric and Oceanic Sciences Program
6/1998 – 9/1998	Summer Intern, Princeton University/NOAA Geophysical Fluid Dynamics Laboratory, Atmospheric and Oceanic Sciences Internship Program
7/1995 – 6/1998	Research Assistant, University of Miami Rosenstiel School of Marine and Atmospheric Sciences, Marine Physical Chemistry Laboratory

5. Publications

I. Refereed journal articles (*graduate student, †post-doc, °undergraduate advisee)

Outside of papers as lead author, significant leadership is indicated when I am last author or second author of the manuscript.

98. *Zhengjie L., Huang, K., Geng L., Fang, Y., Wu, L., Tian, L. †Walters, W.W., Pan, Y., Ruan, X., **Hastings, M.G.**, Song, L., Shao, L., The first high-resolution aerosol pH change since Industrial Revolution constructed by the nitrogen isotopes of ice core ammonium, *Science Advances*, *in review*.

97. Kaspari, J. H., J. †Chai, B. E. Anderson, C. E. Jordan, E. Scheuer, **M. G. Hastings** and J. E. Dibb, Influence of Solar Irradiation on Nitrous Acid Production in Western U.S. Wildfire Smoke, *JGR-Atmospheres*, *in revision*.

96. Burger, J., Joyce, E.E., Hastings, M.G., Spence, K., Altieri K., A seasonal analysis of aerosol NO3- sources and NOx oxidation pathways in the Southern Ocean marine boundary layer, *Atmospheric Chemistry and Physics Discussions*, *submitted*.

95. *Kim, H., †Walters, W.W., °Bekker, C., Murray, L.T., Hastings, M.G. Nitrate Chemistry in the Northeast US Part II: Oxygen Isotopes Reveal Differences in Particulate and Gas Phase Formation, *Atmospheric Chemistry and Physics*, *in revision*.

94. °Bekker, C., †Walters, W.W., Murray, L.T., **Hastings, M.G.**, Nitrate chemistry in the northeast US part I: nitrogen isotope seasonality tracks nitrate formation chemistry, *Atmospheric Chemistry and Physics*, *in revision*.

93. Primack, R., Miller, T., Terry, C., Marin-Spiotta, E., Templer, P., Asafew-Berhe, Asmeret; Diaz-Vallejo, E., **Hastings, M.G.**, Magley, V., Mattheis, A., Schneider, B., Barnes, B. (2023), Historically excluded groups in ecology are undervalued and poorly treated, *Frontiers in Ecology and the Environment*, *in press*.

92. *Blum, D.E., †Walters,W.W., Eris, G., Takeuchi, M. Huey, Tanner, D., Xu, W. Rivera-Rios, J., Liu, F. Ng, N.L., and **M.G. Hastings** (2023), Collection of Nitrogen Dioxide for Nitrogen and Oxygen Isotope Determination Laboratory and Environmental Chamber Evaluation, *Analytical Chemistry*, *in press*.

91. Warneke, C. et al. (FIREX-AQ Fire Science Team), Fire Influence on Regional to Global Environments and Air Quality (FIREX-AQ) (2022), *Journal of Geophysical Research Atmospheres*, 128(2), https://doi.org/10.1029/2022JD037758.

90. Ren, P., Luo, C., Zhang, H., †Schiebel, H., **Hastings, M.G.,** Wang, X. (2022), Atmospheric Particles Are Major Sources of Aged Anthropogenic Organic Carbon in Marginal Seas, *Environmental Science & Technology*, 56 (19), 14198-14207, https://doi.org/10.1021/acs.est.2c06321.

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88. †Walters, W.W., °Karod, M., °Wilcocks, E., Baek, B.H., *Blum, D.E., **Hastings, M.G.,** (2022) Quantifying the Importance of Vehicle Ammonia Emissions in an Urban Area of the Northeastern US Utilizing Nitrogen Isotopes, *Atmospheric Chemistry and Physics*, 22(20), 13431-13448, https://doi.org/10.5194/acp-22-13431-2022.

87. †Miller, D.J., †J. Chai, °F. Guo, M.A. Ponce de León, †R. Ryals, C.J. Dell, H. Karsten, and **M.G. Hastings** (2021), Soil NO_x contributions to reactive nitrogen emissions from dairy manure-fertilized cropland, *Agrosystems, Geosciences and Environment*, *submitted*.

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85. Shi, G., C. Li, Y. Li, Z. Chen, M. Ding, H. Ma, S. Jiang, C. An, J. Yu, T. Ma, Y. Li, B. Sun, and **M. G. Hastings** (2022), Isotopic constraints on sources, production, and phase partitioning for nitrate in the atmosphere and snowfall in coastal East Antarctica, *Earth and Planetary Science Letters*, 578, https://doi.org/10.1016/j.epsl.2021.117300.

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68. †Walters, W.W., L. Song, Y. Fang, °N. Colombi, †J. Chai, **M.G. Hastings** (2020), Characterizing the spatiotemporal nitrogen stable isotopic composition of ammonia in vehicle plumes, *Atmospheric Chemistry and Physics*, 20 (19), 11551-111567, https://doi.org/10.5194/acp-20-11551-2020.

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58. Shi, G., †J. Chai, Z. Hu, J. Yu, T. Ma, H. Ma, C. An, S. Jiang, Y. Li, and **M. G. Hastings** (2019), Isotope fractionation of nitrate during volatilization in snow: a field investigation in Antarctica, *Geophysical Research Letters*, 46(6), 3287-3297, https://doi.org/10.1029/2019GL081968.

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Fuel-based Oil and Gas Inventory of Nitrogen Oxides Emissions, *Environ. Sci. & Tech.*, 52 (17), 10175-10185, doi: 10.1021/acs.est.8b02245.

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II. Selected Abstracts (since 2015; 148 total) (*graduate student advisee, †post-doc, °undergraduate)

*Joyce, E.E., °S. J. Balint, W.W. Walters, B. Heikes, **M. G. Hastings**, The Quantification of Dry Deposition of Ammonia/Ammonium and the Bi-Directional Flux of Ammonia to an Urban Estuary in the Northern Eastern U.S, American Meteorological Society Annual Meeting, Jan, 2023.

Berg, G., M. °Fay, W. Walters, °O. McClain, °S. Jayanthi, **M. G. Hastings**, Building a Low-Cost Air Monitoring Network in Providence, RI: Community-Driven Criteria and Collaborative Approaches for Site Selection, American Meteorological Society Annual Meeting, Jan, 2023.

°Jayanthi, S., O. P. Huber, G. Berg, **M. G. Hastings**, Supporting High School STEM Achievement and Environmental Justice through Hyperlocal Air Quality Monitoring in Providence, RI, American Meteorological Society Annual Meeting, Jan, 2023.

°Lee, T., †Chai, J., Xiong, Y., Huang, Y. *Kim, H., Mao, H., **Hastings, M.G.**, Isotopic investigation of NOx and Ozone chemistry in Southeast Michigan under the influence of lake-land air recirculation, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

°Fay, M., †W.W. Walters, G. Berg, °S. Jayanthi, °O. McClain, **Hastings, M.G.**, Air Monitor Siting for Multiple Objectives: Combining Geospatial Mapping and Community Priorities to Site a High-Density Network in Providence, RI USA, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

†Walters, W.W., *D.E. Blum, M. Takeuchi, Weiqi X., J. Rivera-Rios, G. Eris, F. Liu, D. Tanner, L.G. Huey, N. Ng, **M.G. Hastings**, Improving model representation of NOx and α-pinene oxidation chemistry utilizing oxygen and nitrogen stable isotope constraints, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

†Chai, J., *D.E. Blum, °E. Donnachie, M.G. Hastings, Isotopic characterization of heterogeneous HONO chemistry, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

*Kim, H., †W.W. Walters, **M.G. Hastings**, Long-term trends in aerosol chemical composition at an urban versus rural site in the northeastern U.S., 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

*MacFarland, A. *E.E. Joyce, X. Wang, †W.W. Walters, †K. Altieri, †H. Schiebel, **M.G. Hastings**, Determining Ammonium Aerosol Sources in the Northwest Pacific Ocean: Natural or Anthropogenic?, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

†Walters, W.W., °Karod, M., °Wilcocks, E., Baek, B.H., *Blum, D.E., **Hastings, M.G.,** Quantifying the Importance of Vehicle Ammonia Emissions in an Urban Area of the Northeastern US Utilizing Nitrogen Isotopes, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

Rahilly, K.E., W.E. Abshire, E.W. Mills, L.T. Huffman, **M.G. Hastings**, E.J. Brook. Bringing the Search for Oldest Ice to Classrooms and Early Career Researchers Through COLDEX, a new NSF Science and Technology Center, 2022 Fall Meeting, American Geophysical Union (AGU), Dec, 2022.

*Kim, H., †W.W. Walters, °C. Bekker, L. Murray, **M.G. Hastings**, Atmospheric Nitrate Chemistry in the Northeast US: Oxygen Isotopes Reveal Differences in Particulate and Gas Phase Formation, National Acid Deposition Program Fall Meeting and Scientific Symposium, Nov, 2022.

†Walters, W.W., et al. Nitrate chemistry in the Northeast US: Nitrogen isotope seasonality tracks nitrate formation chemistry, National Acid Deposition Program Fall Meeting and Scientific Symposium, Nov, 2022.

Burger, J.M., *E.E. Joyce, **M.G. Hastings**, K.A.M. Spence, †K.E. Altieri, A seasonal analysis of aerosol NO3- sources and NOx oxidation pathways in the Southern Ocean marine boundary layer, Joint International Atmospheric Chemistry Conference, IGAC, Jun, 2022.

°Balint, S.J., *Joyce, E.E., °Pennino, S., Oczkowski, A., McKinney, R., **Hastings, M.G.**, Identifying Sources and Impacts of Precipitation-Derived Nitrogen in Narragansett Bay, RI, Joint Aquatic Sciences Meeting, May, 2022.

*Joyce, E.E, °Balint, S., †Walters, W.W., Heikes, B., **Hastings, M.G.,** Atmospheric Nitrogen Deposition in the Narragansett Bay Region, RI, USA, Joint Aquatic Sciences Meeting, May, 2022.

†Walters, W.W., *Blum, D.E., Takeuchi, M., Xu, W., Rivera-Rios, J., Eris, G., Liu, F., Min, J., Weber, R.J., Tanner, D., Huey, L.G., **M.G. Hastings**, Tracking NOx and α-pinene oxidation chemistry utilizing novel oxygen isotopic constraints, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

Schneider, B., C. Fabian Bell, E. Marín-Spiotta, **M.G. Hastings**, R.T. Barnes, A.A. Berhe, A. Mattheis, B.M. Williams, Evaluating the efficacy of the ADVANCEGeo bystander intervention training program to improve workplace climate, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

†Chai, J., *D.E .Blum, T.C. VandenBoer, C. Young, **M.G. Hastings**, A method for isotopically characterizing heterogeneous HONO production pathways, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

Diaz-Vallejo, E.J., T.K. Miller, C. L. Terry, V.J. Magley, A. Mattheis, B. Schneider, R.T. Barnes, A.A. Berhe, **M.G. Hastings**, B.M. Williams, R.B. Primack, P.H. Templer, E. Marín-Spiotta, Identifying hostile workplace conditions associated with negative experiences that disproportionately affect minoritized groups in ecological, earth and spaces sciences, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

*Kim, H., †W.W. Walters, °C. Bekker, **M.G. Hastings**, Diagnosing spatiotemporal variations of atmospheric nitrate sources and production in the northeastern US, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

Barnes, R.T., A.A. Berhe, E.J. Diaz-Vallejo, **M.G. Hastings**, V.J. Magley, A. Mattheis, B. Schneider, B.M. Williams, E Marin-Spiotta, "I do not belong": The ADVANCEGeo Partnership's workplace climate survey of earth and space scientists, 2021 Fall Meeting, American Geophysical Union (AGU), Dec, 2021.

Marín-Spiotta, E., V. Magley, E.D. Vallejo, B. Schneider, R. Barnes, A.A. Berhe, **M.G. Hastings**, A. Mattheis, C.F. Bell, J. Maertens, B.M. Williams, Empowering geoscientists to transform workplace climate through behavioral and institutional change, results from a workplace climate survey by the ADVANCEGeo Partnership, Virtual Presentation, European Geophysical Union (EGU) General Assembly, April 2021.

*Joyce, E., °T. Carter, **M.G. Hastings** (2020), Isotopic evidence that alkyl nitrates are important to aerosol nitrate formation in the Equatorial Pacific (A037-0003), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

*Blum, D., †W.W. Walters, **M.G. Hastings** (2020), Speciated Collection of Nitric Acid and Fine Particulate Nitrate for Nitrogen and Oxygen Stable Isotope Determination (A206-05), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

Hastings, M.G., *E.E. Joyce, †K.A. Altieri, †H. Schiebel, G. Shi, X. Wang (2020), Atmospheric Nitrogen Deposition to the North Pacific Ocean (A037-0001) (Invited), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

*Kaspari, J. H., E. Scheuer, J. Chai, M. G. Hastings, B. Anderson, C. Jordan, J. E. Dibb (2020), Influences of Solar Irradiation and Aerosol Surface Area on Nitrous Acid Production in Western U.S. Wildfire Smoke (A225-0001), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

†Chai, J., *E.E. Joyce, *Dani Blum, *J. Kaspari, C. Jordan, K. Brunke, B. Anderson, J.E. Dibb, **M.G. Hastings** (2020), Isotopically Tracking Nitrogen Oxides, Nitrous Acid, Nitric Acid, and Particulate Nitrate from Wildfire during FIREX-AQ (A234-07), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

†Walters, W.W., M. Karod, E. Wilcocks, B. H. Baek, *D. Blum, and **M.G. Hastings** (2020), Constraining Elevated Urban Atmospheric Ammonia/Ammonium Sources in New England Utilizing Novel Isotopic Measurements (A074-07), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

*Li, Z., **M.G. Hastings**, †W.W. Walters, L. Tian, S.C. Clemens, L. Song, L. Shao, Y. Fang (2020), Isotopic Evidence That Recent Agriculture Overprints Climate Variability in Nitrogen Deposition to the Tibetan Plateau (C056-0008), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

Fischer, F., B. Bloodhart, K.L. Rasmussen, I.B. Pollack, **M.G. Hastings**, E. Marin-Spiotta, A.R. Desai, J.P. Schwarz, S. Nesbitt, D. Hence (2020), Leveraging Field-Campaign Networks to Effect Collaborative Change on Sexual Harassment (SY031-0015), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

Barnes, R., C.F. Bell, A.A. Berhe, **M.G. Hastings**, A. Mattheis, B. Schneider, E. Marin-Spiotta, B.M. Williams (2020), Improving workplace culture, indoors and out: Challenges and opportunities to make the geosciences more inclusive and welcoming (Y037-07), Virtual Presentation, 2020 Fall Meeting, American Geophysical Union (AGU), Dec, 2020.

Marin-Spiotta, E., V. Magley, E.D. Vallejo, B. Schneider, R. Barnes, A.A. Berhe, **M.G. Hastings**, A. Mattheis, C.F. Bell, J. Maertens, B.M. Williams, A Critical Feminist Approach to Transforming Workplace Climate in the Geosciences (Invited), Virtual Presentation, Geological Society of America (GSA) Annual Meeting, 25-28 Oct, 2020.

Fischer, F., B. Bloodhart, K.L. Rasmussen, I.B. Pollack, **M.G. Hastings**, E. Marin-Spiotta, A.R. Desai, J.P. Schwarz, S. Nesbitt, D. Hence (2020), Leveraging Field-Campaign Networks to Effect Collaborative Change on Sexual Harassment, Boston, MA, 2020 American Meteorological Meeting (AMS), 12-16 Jan.

*Clark, S.C., R. Barnes, L. Gratz, E.F. Cerf, I. Oleksy, J. Baron, **M.G. Hastings** (2019), The reactive nitrogen landscape in the high Colorado alpine: quantifying atmospheric inputs, San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

°Pennino, S., *E. Joyce, °S. Hibben, **M.G. Hastings** (2019), Stormwater and Rain: Sources of Nutrients to Upper Narragansett Bay?, San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

Marin-Spiotta, E., R. Barnes, A.A. Berhe, **M.G. Hastings**, A. Mattheis, B. Schneider, B.M. Williams (2019), ADVANCEGeo Partnership: Empowering geoscientists to transform workplace climate through bystander intervention and research ethics training, San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

Berhe, A.A., B. Schneider, R. Barnes, **M.G. Hastings**, A. Mattheis, B.M. Williams, E. Marin-Spiotta (2019), Persistent Lack of Diversity in the Geosciences: The Case of ADVANCEGeo Partnership to Promote Institutional and Cultural Change, San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

°Balint, S., *E. Joyce, °S. Pennino, **M.G. Hastings**, Investigation of the importance of atmospheric deposition on nutrient cycling in a major northeastern U.S. estuary (2019), San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

†Chai, J., †W.W. Walters, H.R. Munro, E. Heim, J.E. Dibb, and **M.G. Hastings** (2019), Tracking nitrogen oxides, nitrous acid, and particulate nitrate from wildfire during WE-CAN, San Francisco, CA, 2019 Fall Meeting, American Geophysical Union (AGU), 9-13 Dec.

Marin-Spiotta, E., R. Barnes, A.A. Berhe, **M.G. Hastings**, A. Mattheis, B. Schneider, B.M. Williams (2019), ADVANCEGeo partnership: Empowering Geoscientists to Transform Workplace Climate Through Behavioral and Institutional Change, Geological Society of America Annual Meeting, Phoenix, AZ, 22 – 25 Sept.

Rollinson, V., J. Granger, *S. Clark, C. Tobias, M. Blanusa, R. Jacksin, C. Koerting¸ J. Vaudrey, and **M.G. Hastings** (2019), Sources of nutrients discharged seasonally from a Southern New England river evidenced by nitrate N and O isotope ratios, San Juan, Puerto Rico, 2019 Aquatic Sciences Meeting, ASLO, 23 Feb. – 2 Mar.

†Chai, J., †W.W. Walters, H.R. Munro, E. Heim, J.E. Dibb, and **M.G. Hastings** (2019), Tracking Nitrogen Oxides, Nitrous Acid, and Nitric Acid, Particulate Nitrate and Ammonia from Wildfire, Phoenix, AZ, 2019 Annual Meeting, American Meteorological Society (AMS), 6-10 Jan.

Munro, H.R., E.M. Scheuer, E.W. Heim, †J. Chai, †W.W. Walters, J.E. Dibb, **M.G. Hastings** (2019), Investigation of Reactive Nitrogen Chemistry in Smoke Plumes Emitted from Western Wildfires, Phoenix, AZ, 2019 Annual Meeting, American Meteorological Society (AMS), 6-10 Jan.

*Joyce, E., †W.W. Walters, °E. Le Roy, *S. Clark, **M.G. Hastings** (2018), Highly Concentrated Nitrogen Atmospheric Deposition in an Urban, Coastal Region, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

Munro, H.R., E.M. Scheuer, E.W. Heim, †J. Chai, †W.W. Walters, J.E. Dibb, **M.G. Hastings** (2018), Investigation of Reactive Nitrogen Chemistry in Smoke Plumes Emitted from Western Wildfires, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

Marin-Spiotta, E., A.A. Berha, R. Barnes, **M.G. Hastings**, A. Mattheis, B. Schneider, B.M. Williams (2018), ADVANCEGeo: Building partnerships to transform workplace climate, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

Schneider, B., R. Barnes, A.A. Berhe, **M.G. Hastings**, A. Mattheis, B.M. Williams, E. Marin-Spiotta (2018), ADVANCEGeo Partnership: Building a Sustainable Toolkit for Bystander Intervention Training to Improve Workplace Climate, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

†Chai, J., †W.W. Walters, **M.G. Hastings** (2018), Characterizing the Concentration and Isotopic Composition of Nitrous Acid (HONO) from Vehicular Emissions, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

*Clark, S.C., R. Barnes, I. Olesky, J. Baron, **M.G. Hastings** (2018), Nutrient cycling in a warming alpine environment: investigating the provenance and persistence of atmospheric nitrate and ammonium deposition using isotopes, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

°Le Roy, E., †W.W. Walters, *E. Joyce, **M.G. Hastings** (2018), Intra-event Variations of Nitrogen Isotopes of Ammonium in Wet Deposition, , Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

*Blum, D.E., †W.W. Walters, **M.G. Hastings**, Development of Highly-Speciated NOy Collection Method for Nitrogen and Oxygen Stable Isotope Analysis ($\delta^{15}N$, $\Delta^{17}O$, $\delta^{18}O$), Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

†Walters, W.W., °M. Karod, *D.E. Blum, °E. Le Roy, *E. Joyce, *S.C. Clark, M.G. Hastings (2018), Investigation of Atmospheric Ammonia and Ammonium Dynamics in Providence, Rhode Island, Washington DC, 2018 Fall Meeting, AGU, 10-14 Dec.

*Joyce, E., †W.W Walters, °E. Le Roy, **M.G. Hastings** (2018), Increased vulnerability of urban areas from atmospheric nitrogen deposition, Boston, MA, 2018 Goldschmidt International Geochemistry Conference, Geochemical Society, 12-17 Aug.

Hastings, **M.G.**, †W.W. Walters, †J. Chai, †D.J. Miller (2018), Investigating the N and O isotopic composition of NOx (Keynote), Boston, MA, 2018 Goldschmidt International Geochemistry Conference, Geochemical Society, 12-17 Aug.

†Chai, J., †D.J. Miller, °F. Guo, C. Dell, H. Karsten, **M.G. Hastings** (2018), Investigating atmospheric nitrous acid (HONO) emissions from various sources via nitrogen and oxygen isotopic composition, Baton Rouge, LA, International Symposium on Isotopomers, 25-28 Mar.

*Clark, S.C., °A. Mastorakis, J. Granger, A. Aguilar-Islas and **M. G. Hastings** (2018), Arctic Sea Ice: an investigation into the origin of nitrate using $\delta^{15}N$, $\delta^{18}O$ and $\Delta^{17}O$, Baton Rouge, LA, International Symposium on Isotopomers, 25-28 Mar.

*Li, Z., **M.G. Hastings**, †W.W. Walters, Y. Fang (2018), Seasonal variations of nitrogen and oxygen isotopic ratios of nitrate from precipitation in a Northeastern Chinese polluted mega city, Baton Rouge, LA, International Symposium on Isotopomers, 25-28 Mar.

†Walters, W.W., °N. Colombi, and **M.G. Hastings** (2018), Fingerprinting Vehicle Derived Ammonia Utilizing Nitrogen Stable Isotopes, Baton Rouge, LA, International Symposium on Isotopomers, 25-28 Mar.

Marin-Spiotta, E., R. Barnes, A. Morris, M. Burt, A. Adams, **M.G. Hastings** (2018), Peer mentor networks to build more inclusive scientific communities: Lessons from the Earth Science Women's Network (ESWN), Vienna, Austria, General Assembly Meeting 2018, European Geosciences Union, 8-13 Apr.

Hastings, **M.G.,** *S.C. Clark, †J. Chai, *E. Joyce, †D.J. Miller, †H. Schiebel, †W.W. Walters (2017), Tracking Reactive Nitrogen Sources, Chemistry and Deposition in Urban Environments with Stable Isotopes (Invited), New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

*Clark, S.C., †R.A. Ryals, †D.J. Miller, C.A. Mullen, D. Pan, M.A. Zondlo, A.A. Boateng, and **M.G. Hastings** (2017), Effluent gas flux characterization during pyrolysis of chicken manure, New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

†Miller, D.J., †J. Chai, °F. Guo, C. Dell, H. Karsten, and **M.G. Hastings** (2017), Characterizing agricultural soil nitrous acid (HONO) and nitric oxide (NO) emissions with their nitrogen isotopic composition, New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

†Walters, W.W., °N. Colombi, **M.G. Hastings**, "Fingerprinting" Vehicle Derived Ammonia Utilizing Nitrogen Stable Isotopes (2017), New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

†Chai J., †D.J. Miller, E. Scheuer, J.E. Dibb, **M.G. Hastings** (2017), Tracking nitrogen oxides, nitrous acid, and nitric acid from biomass burning, New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

Q.Z. Rasool, †D.J. Miller, J.O. Bash, R.T. Venterea, E.J. Cooter, **M.G. Hastings** and D.S. Cohan (2017), Mechanistic modeling of Reactive Soil Nitrogen emissions across agricultural management practices, New Orleans, LA, 2017 Fall Meeting, AGU, 11-15 Dec.

†Chai, J., †D.J. Miller, and **M.G. Hastings** (2017), Tracking nitrogen oxides, nitrous acid, and nitric acid from biomass burning, 2017 Conference on Fire Prediction Across Scales, Columbia University, New York, NY, 23-25 Oct.

†Walters, W.W. and **M.G. Hastings** (2017), Constraining Ammonia Emission Sources in Urban Areas Utilizing Nitrogen Stable Isotopes, presented at the 2017 Atmospheric Chemistry Gordon Research Conference, Newry, ME, 30 Jul - 4 Aug.

†Miller, D., †J. Chai, A. Ponce de Leon, °F. Guo, C. Dell, H. Karsten, **M.G. Hastings** (2017), Tracking agricultural soil nitric oxide emissions across manure management strategies, presented at the 2017 Atmospheric Chemistry Gordon Research Conference, Newry, ME, 30 Jul - 4 Aug.

†Chai, J. and **M.G. Hastings** (2017), A method for quantifying isotopic signatures of atmospheric nitrous acid (HONO), presented at the 2017 Atmospheric Chemistry Gordon Research Conference, Newry, ME, 30 Jul - 4 Aug.

Hastings, M.G., †D.J. Miller, and †J. Chai (2017), Can NO_x be quantitatively tracked using isotopes?, presented at Atmospheric Chemistry in the Anthropocene: Faraday Discussions, York, England, 22-25 May.

*S.C. Clark, °A. Mastorakis, J. Granger, A. Aguilar-Islas and **M. G. Hastings**, Arctic Sea Ice: Nitrate is Derived From the Atmosphere and Biological Activity, presented at the Ocean Sciences Meeting, ASLO, Honolulu, HI, 26 Feb-3 Mar.

M.G. Hastings, The isotopic composition of atmospheric nitrate from GEOTRACES Sections, presented at the Ocean Sciences Meeting, ASLO, Honolulu, HI, 26 Feb-3 Mar.

*S.C. Clark, °A. Mastorakis, J. Granger, A. Aguilar-Islas and **M. G. Hastings**, Arctic Sea Ice: an investigation into the origin of nitrate using $\delta^{15}N$, $\delta^{18}O$ and $\Delta^{17}O$, presented at the 2016 Fall Meeting, AGU, San Francisco, Calif., 11-16 Dec.

†Miller, D., †J. Chai, °F. Guo, °Sami Overby, C. Dell, H. Karsten, **M.G. Hastings**, Tracking agricultural soil nitric oxide emission variations with novel isotopic measurements, presented at the 2016 Fall Meeting, AGU, San Francisco, Calif., 11-16 Dec.

†Chai, J., †Miller, D., **M.G. Hastings**, Investigating isotopic signatures of atmospheric nitrous acid (HONO), presented at the 2016 Fall Meeting, AGU, San Francisco, Calif., 11-16 Dec.

M.J. Lafrenière, J. Fouché, J. Wang, M. Simpson, **M. Hastings**, S.F. Lamoureux, A synthesis of collaborative integrated studies of permafrost disturbance impacts on the composition of carbon and nitrogen export, presented at the 2016 Fall Meeting, AGU, San Francisco, Calif., 11-16 Dec.

†Miller, D., †J. Chai, D. Pan, °F. Guo[3], °Sami Overby, C. Dell, S. Del Grosso, J. Tang, M. Zondlo, **M.G. Hastings** (2016), Tracking agricultural soil NO_x and NH_3 emissions variability with novel methodologies, Abstract ID 2.036, presented at the 2016 IGAC Science Conference, Breckenridge, Colo., 24-30 Sep.

Hastings, M.G., †D.J. Miller, °P. Wojtal, *D. Fibiger, Quantifying isotopic signatures of atmospheric NO_x emissions, Abstract ID 6.106, presented at the 2016 IGAC Science Conference, Breckenridge, Colo., 24-30 Sep.

Shi, G., **M.G. Hastings**, Y. Li, S. Jiang, H. Ma, and C. An (2016), Isotopic compositions of nitrate in the surface snow layer from the coast to Dome Argus, East Antarctica, presented at the 2016 Goldschmidt Conference, 26 Jun–Jul 1, *Goldschmidt Abstracts*.

Hastings, **M.G.,** °T. Carter, K. Casciotti (2016), Isotopes of atmospheric nitrate from the GEOTRACES Atlantic and Pacific Sections, presented at 2016 Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb.

Hastings, **M.G.,** †D. Miller, °P. Wojtal, °M. O'Conner (2015), A new method and application for determining the nitrogen isotopic composition of NOx (Invited), Abstract A32A-01, presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 13-18 Dec.

Shi, G., **M.G. Hastings**, Y. Li (2015), Preservation of nitrate in the snowpack across the East Antarctic Ice Sheet: results from snowpit observations, presented at the 2015 Goldschmidt Conference, Prague, Czech Republic, 16-21 August 2015, *Goldschmidt Abstracts* 2868.

°Castner, E. et al. (2015), The Nitrogen Footprint Tool for Institutions: Comparison Results for a Diverse Group of Institutions, Abstract B13G-0701, presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 13-18 Dec.

†Miller, D., °P. Wojtal, °M. O'Conner, *S. Clark, **M.G. Hastings** (2015), Spatio-temporal variability in isotopic signatures of atmospheric NOx emissions from vehicles, Abstract B13G-0721, presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 13-18 Dec.

†Miller, D., °P. Wojtal, °M. O'Conner, *S. Clark, **M.G. Hastings** (2015), Spatio-temporal variability in isotopic signatures of atmospheric NOx emissions from vehicles, presented at 2015 Acid Rain Meeting, AGU, Rochester, NY, 19-23 Oct.

†Ryals, R. et al. (2015) Can biochar reduce nitrogen pollution from poultry manure? Assessing biochar's biogeochemical fate and policy opportunities in the Chesapeake Bay Watershed, Abstract OOS42-7, presented at Ecological Society of America, Baltimore, MD, 9-14 Aug.

M.G. Hastings, †K.A. Altieri, A. Peters, D.M. Sigman (2015), Atmospheric Nitrogen in the North Atlantic Region, presented at the Atmospheric Chemistry Gordon Research Conference, Waterville Valley, NH, 3-7 Aug.

†Miller, D., °P. Wojtal, °M. O'Conner, *S. Clark, **M.G. Hastings** (2015), Spatio-temporal variability in isotopic signatures of atmospheric NOx emissions from vehicles, presented at American Chemical Society Regional Meeting, AGU, Ithaca, NY, 11-15 June.

IV. Invited Lectures/Workshops (since 2014)

American Meteorological Society Annual Meeting, Speaker, "Working towards closing the gender equality gap,", January 2023.

American Meteorological Society Annual Meeting, Panelist, Informing Cultural Change Through Data, January 2023.

ADVANCEGeo Workshops (11), "Improving workplace climate: empowering individuals to become active bystanders"; "Implicit Biases: Why we have them and how they impact STEM", "Improving work climate: developing effective codes of conduct," led workshops for University of Massachusetts, American Meteorological Society Board for Early Career Professionals, American Meteorological Society Council, Arizona State University, Iowa State University, Interface Geochemistry Group, CSUN, NGEE Arctic LTER, North Temperate Lakes LTER, University of California Riverside, 2022.

National Oceanic and Atmospheric Administration Climate Sciences Laboratory, "Fingerprinting Reactive Nitrogen Sources and Chemistry," October 2022.

Telluride Science Research Center, New Insights into Gas Phase Atmospheric Chemistry Workshop, "Predicting Nitrate in the Northeast U.S.: Phase Differences in Chemistry and Too Much N_2O_5!," July 2022.

Massachusetts Institute of Technology, "Fingerprinting Reactive Nitrogen Sources and Chemistry" and "The ADVANCEGeo Partnership: Empowering (Geo)Scientists to Transform Workplace Climate", May 2022.

Colorado State University, "Fingerprinting Reactive Nitrogen Sources and Chemistry" and "The ADVANCEGeo Partnership: Empowering (Geo)Scientists to Transform Workplace Climate", March 2022.

American Lung Association, *Unbreathable: The Fight for Healthy Air*, Panel Discussion, January 2022.

American Meteorological Society, "Improving workplace climate: empowering individuals to become active bystanders", AMS Annual Meeting, January 2022.

ADVANCEGeo Workshops (16), "Improving workplace climate: empowering individuals to become active bystanders"; "Implicit Biases: Why we have them and how they impact STEM", "Improving work climate: developing effective codes of conduct," led workshops for UC Boulder, Oregon State University, Colorado State University, University of Wisconsin Women in Science Program, Virginia Tech, NASA/DCOTSS, UWKA Field Campaign, Michigan State University, Montana State University, Woods Hole Oceanographic Institute, Brookhaven National Laboratory, Duke University, UT-Austin, Harvard Forest Biological Station, AGU Hydrogrology Section, WINTRE-MIX Field Campaign, 2021.

Carnegie Mellon University, "Fingerprinting Reactive Nitrogen Sources and Chemistry", November 2021.

Cryosphere and ATmospheric Chemistry (CATCH) Science Seminar Series, "The case for preservation of nitrate in snow and ice at Summit, Greenland", October 2021.

Drexel University, "Fingerprinting Reactive Nitrogen Sources and Chemistry", May 2021.

Geological Society of America, Research Grant and Honors Committees, Implicit Bias Workshop, January 2021.

American Geophysical Union Meeting, "Atmospheric Nitrogen Deposition to the North Pacific Ocean" (Invited), Virtual Presentation, AGU 2020 Fall Meeting, December 2020.

American Geophysical Union, Panelist, Picture a Scientist Panel II, AGU 2020 Fall Meeting, December 2020.

American Geophysical Union, Panelist, Town Hall: How Are We Doing and What Comes Next? Results from the ADVANCEGeo Survey of Work Experiences Across Earth and Space Sciences, AGU 2020 Fall Meeting, December 2020.

Geochemical Society, Society Membership, Improving Work Climate: Responding to Hostile Behaviors Workshop, November 2020.

University of Virginia, Department of Environmental Sciences, Improving Work Climate: Responding to Hostile Behaviors Workshop, November 2020.

Geological Society of America, GSA RISE Facilitators and Student Leaders, Improving Work Climate: Responding to Hostile Behaviors Workshop, October 2020.

University of Wisconsin-Madison, Women & Gender Studies Consortium, Improving Work Climate: Responding to Hostile Behaviors Workshop, October 2020.

Brown University, Improving Work Climate: Responding to Harassment Workshop, Department of Ecology and Evolutionary Biology, January 2020.

American Meteorological Society, Improving Work Climate: Responding to Harassment Workshop, AMS Annual Meeting, January 2020.

American Meteorological Society, Bystander Training, AMS Student Conference, January 2020.

AGU Heads and Chairs of Earth and Space Science Departments, "Creating Safe and Inclusive Field Experiences: Responding to Bullying and Harassment," December 2019.

Gordon Research Conference on Atmospheric Chemistry, New Science in Air Quality and Climate from Charney to AR6, "Novel Constraints on Reactive Nitrogen Sources and Chemistry: New Isotopic Methods and Applications", August 2019.

National Oceanic and Atmospheric Administration and National Aeronautics and Space Administration, Fire Influence on Regional to Global Environments and Air Quality (FIREX-AQ) Safety Trainings, Improving Work Climate: Preventing Harassment Workshop, Armstrong Flight Research Center, June and July 2019.

North Carolina State University, Improving Work Climate: Responding to Harassment Workshop, Department of Marine, Earth and Atmospheric Science, March 2019.

University of Kansas, Sexual Harassment Prevention Workshop for STEM Disciplines, January 2019.

National Symposium on Stable Isotope Ecology in China, Investigating the isotopic composition of reactive nitrogen compounds in the atmosphere: new methods and applications, September 2018.

National Center for Atmospheric Research, Research Aviation Facility, Preventing and Responding to Sexual Harassment Workshop for the Western Wildfire Experiment for Cloud Chemistry, Aerosol Absorption and Nitrogen Team, July 2018.

Goldschmidt International Geochemistry Conference, Investigating the N and O isotopic composition of NO_x, August 2018.

Telluride Science Research Center, New Insights into Gas Phase Atmospheric Chemistry Workshop, "Reactive Nitrogen: New Methods for Tracing Chemical Pathways," July 2018.

University of Delaware, "It's not just fossil fuel: New insights into N deposition to the Oceans", April 2018.

American Geophysical Union Fall Meeting, "Tracking Reactive Nitrogen Sources, Chemistry and Deposition in Urban Environments with Stable Isotopes, December 2017.

University of New Hampshire, Natural Resources & Earth Systems Science Program, "Fingerprinting Reactive Nitrogen Sources and Chemistry", December 2017.

Stanford University, School of Earth, Energy and Environmental Sciences, "It's not just fossil fuel: New insights into N deposition to the North Atlantic", May 2017.

Columbia University, "New Insights into Nitrogen Deposition to the North Atlantic Region," March 2017.

University of Toronto, Department of Chemistry, "Interpreting records of nitrate in snow and ice: Making the case for preservation at Summit, Greenland," September 2016.

Telluride Science Research Center, New Insights into Gas Phase Atmospheric Chemistry Workshop, "Using isotopes to track NO_x and nitrate in that atmosphere," July 2016.

Dartmouth University, Department of Earth Sciences, "Interpreting records of nitrate in snow and ice: Making the case for preservation at Summit, Greenland," April 2016.

University of Maine, Keynote Speaker, NSF ADVANCE Rising Tide Center, Spring 2016 Anniversary Celebration, "From Ice Core to Cities to Oceans: Fingerprinting Reactive Nitrogen Sources and Chemistry," March 2016.

American Geophysical Union Fall Meeting, "A new method and application for determining the nitrogen isotopic composition of NOx," December 2015.

Wood Hole Oceanographic Institution, Ocean Carbon Biogeochemistry Workshop, **"**Stable isotopes as tracers of anthropogenic nitrogen sources, deposition, and impacts," July 2015.

Harvard University, "New Insights into Nitrogen Deposition to the North Atlantic Region," February 2015.

AGU Heads and Chairs of Earth and Space Science Departments, "Mentoring Your Faculty," December 2014.

University of Wisconsin-Madison, "Building Communities to Build Careers – Lessons from the Earth Science Women's Network (ESWN)," Westin Roundtable Lecture Series, November 2014.

Princeton University, a series of roundtable discussions: Recognizing and Coping with Unconscious Bias, Balancing Personal and Professional Responsibilities in Academia, Career and Job Negotiation, Princeton Women in Geosciences, June 2014.

6. Research Grants

I. Current

Co-PI, National Science Foundation (NSF), Collaborative Research: ADVANCE Partnership: Empowering scientists to transform workplace climate through the ADVANCEGeo community-based intervention program, $136, 315, Current (10/22-9/25). *Lead PI: Erika Marin-Spiotta (University of Wisconsin-Madison)*

Lead PI, Clean Air Fund, Breathe Providence: A Hyperlocal Air Monitoring Project, $1M, Current (12/21-12/24).

Subcontractor, National Science Foundation (NSF), Center for OLDest Ice Exploration (COLDEX), $259, 414, Current (10/21-9/26). *Lead PI: Ed Brook (Oregon State Univ)*

Co-PI, National Science Foundation (NSF), Tracking Urban Nitrous Acid (HONO) Emissions and Secondary Production in the Great Lakes Region during Michigan-Ontario Ozone Source Experiment (MOOSE), $814,811, Current (6/21-5/24), *Lead PI: Jiajue Chai (Brown Univ)*

Co-PI, National Science Foundation, Evaluating the atmospheric dynamics of nitrate and sulfate in southern New England in response to emission regulations, $456,888, Current (5/20-4/23). *Lead PI: Wendell Walters (Brown Univ)*

Lead PI, National Science Foundation (NSF), Environmental Chemical Sciences, Characterizing chemical production and loss of HONO via stable isotopes, $597,424, Current (8/19-7/22).

Lead, PI, National Science Foundation (NSF), Ocean Sciences, Collaborative Research: Characterization of Reactive Nitrogen in the North Pacific Atmosphere, $591,259, Current (5/19-4/22). *Co-PI: Hayley Scheibel (Suffolk Univ)*

II. Pending

Co-PI, National Science Foundation (NSF), Environmental Chemical Sciences, Collaborative Research: Characterizing isotopic composition as a tracer of atmospheric peroxyacetyl nitrate (PAN) sources and chemistry, $499,699, Pending (4/23-7/26). *Lead PI: Jiaju Chai (Brown Univ)*

Co-PI GOLD-GEO Opportunities for Leadership in Diversity, Collaborative Research: FieldSafe - Changing the Culture of Fieldwork in the Geosciences, $60,135, Pending (4/23-7/26). *Lead PI: Anne Gold (Colorado State Univ/CIRES)*

III. Recently completed (since 2014)

Co-PI, National Science Foundation (NSF), ADVANCE, Collaborative Research: ADVANCE Partnership: From the Classroom to the Field - Intervention Training to Address Sexual Harassment in the Geosciences, $144,143, Current (8/17-9/22). *Lead PI: Erika Marin-Spiotta (University of Wisconsin-Madison)*

Co-PI, NOAA Earth System Science (AC4), Constraining NOx-BVOC Interactions and evaluating future changes in oxidation chemistry using oxygen stable isotopes, $386,343, Current (7/18-6/21). *Lead PI: Wendell Walters (Brown University)*

Subcontractor, National Science Foundation (NSF), Ocean Sciences, US GEOTRACES PMT: Geochemical tracers of the Pacific Nitrogen Cycle, $29,445, Current (1/18-12/21). *Lead PI: Karen Casciotti (Stanford University)*

Co-PI, Institute at Brown for Environment and Society, Novel Characterization of Particulate Matter (PM) at an Urban Background Site, $10,000, Current (4/18-6/20). *Lead PI: Wendell Walters (Brown University)*

Lead PI, Rhode Island Research Alliance, Quantifying wet and dry deposition of ammonium to Narragansett Bay, $76,659, Current (1/19-6/21). *Co-PI: Brian Heikes (Univ of Rhode Island)*

Lead PI, NOAA Earth System Science (AC4), Tracking Nitrogen Oxides Emissions and Nitrate Formation in Biomass Burning Plumes, $328,213, Current (7/16-6/20). *Co-PI: J. Dibb (University of New Hampshire)*

Lead PI, National Science Foundation, CAREER: Quantifying the Isotopic Signatures of Nitrogen Oxides Emissions Sources, $647,654, Current (6/14-6/20).

7. Service

I. University

Task Force on the Status of Women Faculty at Brown, 2021-2023
Diversity and Inclusion Action Plan (DIAP) Committee, Institute at Brown for Environment and Society, 2019-2022
Voss Environmental Fellows Committee, Institute at Brown for Environment and Society, 2019-2020
Committee on Faculty Equity and Diversity (CFED), 2018-2021.
Voss Postdoctoral Fellowship Committee, Institute at Brown for Environment and Society, 2018-2019
Voss Environmental Fellows Committee, Institute at Brown for Environment and Society, 2018-2019
Faculty Search Committee, Institute at Brown for Environment and Society, 2018-2019.
Faculty Search Committee, Dept. of Earth, Environmental and Planetary Sciences, 2018-2019.
Director of Graduate Studies, Dept. of Earth, Environmental and Planetary Sciences, 2014-2019.
Faculty Search Committee, Dept. of Earth, Environmental and Planetary Sciences, 2017-2018.
Brown International Advanced Research Institute (BIARI), Organizer and Facilitator, 2016; 2017.
Faculty Search Committee, Institute at Brown for Environment and Society, 2015-2016.
Faculty Search Committee, Dept. of Earth, Environmental and Planetary Sciences, 2015-2016.
Research Advisory Board, Brown University, 2013-2016
Facilities Committee, Dept. of Geological Sciences, 2013-2014; 2011-2012; 2010-2011 (Chair).
Faculty Search Committee, Environmental Change Init/Center for Environmental Studies, 2010-2011.
Facilitator, Brown Ethical and Responsible Conduct of Research Education (BEARCORE) Program, Sept 2010; June 2010.
Lecturer, Brown GK-12 Science Conference, Vartan-Gregorian Elementary School, June 2010; June 2013-present.
Lecturer, Brown Education Link-Lecture Series (BELLS) at the Rhode Island Adult Correctional Institution, Spring 2010.
Panelist, Brown's Career Development Center, Fall 2008; Summer 2009; Fall 2009.
Facilitator, Leadership in the Global Environment, Brown's Leadership Institute, Summer 2009.
Lecturer, Brown's GK-12 Professional Development Series for Providence K-12 Teachers and Brown Graduate Fellows, Spring 2009.
Committee to appoint Zoe Cardon to joint Brown-MBL program, Dept. of Geological Sciences.

II. Profession

Roger Revelle Medal Committee, American Geophysical Union, 2020-2022
Co-founder and President, Earth Science Women's Network (www.eswnonline.org), 2002-present.
American Geophysical Union Ethics Committee, American Geophysical Union
American Geosciences Institute, Diversity, Equity and Inclusion Advisory Board, 2019-2020.
Electorate Nominating Committee, American Association for the Advancement of Science (AAAS), 2018-2021.
Local Organizing Committee, Goldschmidt International Geochemistry Conference 2018, Geochemical Society, 2018.
Co-convener of special session entitled "Advocates and Allies" at American Meteorological Society Annual Meeting, 2022.
Co-convener of special session entitled "The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition at the American Geophysical Union Fall Meeting, 2010-present.
Co-convener of special session entitled "Atmospheric deposition and ocean biogeochemistry" at the Ocean Sciences Meeting, 2016.

Co-convener of special session entitled "Current Thinking on the Value and Best Practices of Mentoring" at the American Geophysical Union Fall Meeting, 2015.
Reviewer, Environmental Protection Agency, Workshop to obtain peer input on draft materials for the Integrated Assessment for Nitrogen Oxides (NOx) and Sulfur Oxides (SOx), August 2015.
National Ocean and Atmospheric Administration, Proposal Review Panel, 2014.
Co-convener of special session entitled "Measurement and Modeling of N_2O Fluxes and the Coupling with CO_2 and CH_4 Fluxes" at the American Geophysical Union Fall Meeting, 2011.
Co-convener of special session entitled "Investigation of Atmospheric Processes Using Stable Isotopes" at the American Geophysical Union Fall Meeting, 2010.
National Science Foundation Review Panel, Antarctic Glaciology Panel, 2013; 2010.
Co-editor of focus issue in *Environmental Research Letters* journal on "Connections between Atmospheric Chemistry and Ice and Snow," 2008.
Co-convener of special session entitled "Atmospheric Chemistry of Ice and Snow" at the American Geophysical Union Fall Meeting, 2007.
Journal Reviewer, Tellus, 2018-present.
Journal Reviewer, Nature Geosciences, 2016-present.
Journal Reviewer, Environmental Research Letters, 2013-present.
Journal Reviewer, Polar Research, 2013-present.
Journal Reviewer, Global Biogeochemical Cycles, 2013-present.
Proposal Reviewer, National Oceanic and Atmospheric Administration, 2012-present.
Proposal Reviewer, National Science Foundation, 2009-present.
Proposal Reviewer, French Polar Institute, 2009-present.
Journal Reviewer, Journal of Geophysical Research-Atmospheres, 2000-present.
Journal Reviewer, Rapid Communications in Mass Spectrometry, 2003-present.
Journal Reviewer, Geophysical Research Letters, 2004-present.
Journal Reviewer, Soil Science Society of America Journal, 2006-present.
Journal Reviewer, Environmental Science & Technology, 2007-present.
Journal Reviewer, Journal of Atmospheric Chemistry, 2007-present.
Journal Reviewer, Journal of Atmospheric Chemistry and Physics, 2008-present.
Journal Reviewer, Journal of Marine Chemistry, 2008-present.
Journal Reviewer, International Journal of Environmental Analytical Chemistry, 2008-present.
Journal Reviewer, Atmospheric Environment, 2011-present.
Journal Reviewer, Journal of Glaciology, 2013-present.
Member, American Geophysical Union, 1998-present.
Member, American Association for the Advancement of Science, 2015-present
Member, Sigma Xi, 2019-present
Co-convener of special session entitled "Policy-Relevant Versus Policy-Driven Atmospheric Chemistry Research: What Role Do Policy Applications Play in Determining Questions, Methods, and Funding?" at the American Geophysical Union Spring Meeting, 2002.

III. Community
President and Leadership Board Member, Earth Science Women's Network, 2002-present (President since 2018).
Environmental Public Health Technical Advisory Group, RI Dept of Health, 2022-present.
Providence Climate Justice Plan Zoning Study, Providence Office of Sustainability, 2022-2023.
RI Health Air Collaborative, American Lung Association, 2022-present
Volunteer, Singing out Against Hunger, Tiverton, RI, 2008-2010.

8. Honors

I. Academic Honors/Fellowships
Graduate School Faculty Award for Advising & Mentoring (2022)

Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring 2018 (PAESMEM; Earth Science Women's Network)
American Meteorological Society Special Award 2017 (Earth Science Women's Network)
Editors' Citation for Excellence in Refereeing (2016, *Journal of Geophysical Research-Atmospheres*)
Insight into Diversity's 100 Inspiring Women in STEM (2015)
American Geophysical Union Atmospheric Sciences Ascent Award (2014)
NSF CAREER grant awardee (2014)
Joukowsky Family Assistant Professor of Geological Sciences (2011-2015)
Joint Institute for the Study of the Atmosphere and Ocean Postdoctoral Fellowship (2005-2008)
Department of Energy Graduate Research Education Fellowship recipient (2002-2004)
National Science Foundation Graduate Research Fellowship recipient (1999-2002)
Dean's Fund for Scholarly Travel Award (2001)
Phi Beta Kappa (1998)
Henry King Stanford Scholarship Recipient (1994-1998)
Florida Scholar's Award Recipient (1994-1998)
Florida Resident Access Grant Recipient (1994-1998)

II. Media coverage

Researchers Say Science Skewed by Racism is Increasing the Threat of Global Warming to People of Color: https://insideclimatenews.org/news/22022022/racism-climate-change-research/

Nitrogen Pollution in Rhode Island:
https://www.ecori.org/pollution-contamination/2021/6/30/industrial-agriculture-to-blame-for-ammonium-deposition-in-narragansett-bay-study-shows-1

Radio interview for Heritage Radio Hour:
https://www.facebook.com/114631625358026/posts/2058132551007914/?d=n

Air Pollution Decreases as Pandemic Slows Emissions:
https://www.ecori.org/pollution-contamination/2020/4/17/air-pollution-improves-as-health-crisis

Women and minorities in weather and climate fields confront harassment, lack of inclusion:
https://www.washingtonpost.com/weather/2021/01/09/women-minorities-harassment-weather-climate/

Anti-sexual harassment initiative funded by NSF:
https://www.sciencemag.org/news/2017/10/disturbing-allegations-sexual-harassment-antarctica-leveled-noted-scientist
https://www.theatlantic.com/science/archive/2017/10/sexual-harassment-fieldwork-science/542559/
https://news.brown.edu/articles/2017/09/harassment
http://www.golocalprov.com/live/live-brown-professor-hastings-working-to-eliminate-sexual-harassment-in-geo

Human impact on the marine N cycle:
https://eos.org/articles/human-activities-account-for-less-than-a-third-of-ocean-nitrogen

A marine source of organic nitrogen depositon:
http://www.sciencedaily.com/releases/2016/01/160106215853.htm

Institutional Nitrogen Footprint Project:
http://www.brown.edu/academics/institute-environment-society/news/2015-07/brown-university-researchers-among-first-participate-nitrogen-footprint-project

Influence of marine emissions on ammonium deposition:
http://www.sciencedaily.com/releases/2014/10/141029145642.htm

Anthropogenic changes to the nitrogen cycle:
Interview coverage by Science in Action (BBC World Service), The Providence Journal and Environmental Research Web
Print coverage by Scientific American, Nature Reports on Climate Change and a variety of environmental websites:
http://www.sciencedaily.com/releases/2009/06/090604144322.htm
http://www.nature.com/climate/2009/0907/full/climate.2009.55.html
http://environmentalresearchweb.org/cws/article/research/39428
http://www.techno-science.net/?onglet=news&news=6700
http://www.futurity.org/tag/meredith-hastings/
http://news.mongabay.com/2009/0604-hance_nitrogen.html
http://esciencenews.com/articles/2009/06/04/new.proxy.reveals.how.humans.have.disrupted.nitrogen.cycle
http://newsguide.us/index.php?path=/education/science/New-proxy-reveals-how-humans-have-disrupted-the-nitrogen-cycle/&date=hqqetroyk

An NSF award to support *the Earth Science Women's Network (ESWN)*:
http://today.brown.edu/articles/2009/09/eswn
http://www.noaaworld.noaa.gov/aroundnoaa/apr2008_around_3.html

The *Earth Science Women's Network (ESWN)* becomes a non-profit:
Interview coverage by YWCA of Rhode Island and Providence Business News
http://pbn.com/Five-Questions-With-Meredith-Hastings,101075?search_filter=meredith+hastings&sub_type=stories,packages
https://news.brown.edu/articles/2014/10/eswn
http://www.browndailyherald.com/2014/10/20/science-network-expands-nonprofit/

Earth Science Women's Network is recognized with Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring Program (PAESMEM):
https://www.brown.edu/academics/institute-environment-society/news/story/womens-mentoring-network-strong-brown-ties-receives-national-award

9. Teaching

Based on my joint position with the Environmental Change Initiative (now the Institute for Study of the Environment and Society) my expected teaching load is 2 courses per year offered through the Department of Earth, Environmental and Planetary Sciences. I was on teaching relief (parental leave) in Fall 2011 and Fall 2012; junior sabbatical in Spring 2012; and post-tenure sabbatical in 2016-2017. For 2020-2022, I received a 1 class teaching release while serving as IBES Deputy Director.

2022-2023, Semester II, Independent Study (ENVS 1971; GEOL 1971), Enrollment: 2.

2022-2023, Semester I, Clearing the Air (ENVS 1247), Enrollment: 17
Independent Study (ENVS 1970; GEOL 1970), Enrollment: 3.

2021-2022, Semester II, Weather and Climate (EEPS 0850), Enrollment: 49
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2021-2022, Semester I, Independent Study (EEPS 1970), Enrollment: 1.

2020-2021, Semester III, Weather and Climate (EEPS 0850), Enrollment: 15

2020-2021, Semester II, Clearing the Air (ENVS 1247), Enrollment: 17
Independent Study (ENVS 1971; EEPS 1970), Enrollment: 2.

2020-2021, Semester I, Independent Study (EEPS 1970), Enrollment: 3.

2019-2020, Semester II, Weather and Climate (EEPS 0850), Enrollment: 50
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2019-2020, Semester I, Air Pollution & Chemistry (ENVS 1245), Enrollment: 8
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.
Guest Lecturer, Methods for Interdisciplinary Environ. Research (ENVS 1920)

2018-2019, Semester II, Weather and Climate (GEOL 0850), Enrollment: 58
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2018-2019, Semester I, Atmospheric Chemistry (GEOL 1950B), Enrollment: 11
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2017-2018, Semester II, Weather and Climate (GEOL 0850), Enrollment: 29
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2017-2018, Semester I, Special Topics in Geological Sciences: Geoengineering Or, The Unnatural World (GEOL 1950M), Enrollment: 18.

2016-2017, Semester II, Sabbatical (post-tenure).
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2016-2017, Semester I, Sabbatical (post-tenure).
Independent Study (ENVS 1970; GEOL 1970), Enrollment: 3.

2015-2016, Semester II, Weather and Climate (GEOL 1350), Enrollment: 29.
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2015-2016, Semester I, Climate and Climate Change (GEOL 0030), Enrollment: 24
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2014-2015, Semester II, Weather and Climate (GEOL 1350), Enrollment: 25.
Weather for Sailors (GISP 0006), Enrollment: 7.
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2014-2015, Semester I, Climate and Climate Change (GEOL 0030), Enrollment: 24
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2013-2014, Semester II, Weather and Climate (GEOL 1350), Enrollment: 29.
Terrestrial Nitrogen and Carbon Cycling (GEOL 2920V), Enrollment: 4
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 4.

2013-2014, Semester I, Independent Study (ENVS 1971; GEOL 1970), Enrollment: 2.

2012-2013, Semester II, Junior Sabbatical

2012-2013, Semester I, Teaching Relief (parental leave)
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2011-2012, Semester II, Weather and Climate (GEOL 1350), Enrollment: 19.
Independent Study (ENVS 1971; GEOL 1970), Enrollment: 3.

2011-2012, Semester I, Teaching Relief (parental leave)

2010-2011, Semester II, Weather and Climate (GEOL 1350), Spring 2011 Enrollment: 27.
Terrestrial Nitrogen and Carbon Cycling (GEOL 2920V), Enrollment: 13.
Independent Study (GEOL 1970), Enrollment: 2.

2010-2011, Semester I, Independent Study of Geologic Problems (GEOL 1970), Enrollment: 2.

2009-2010, Semester II, Weather and Climate (GEOL 1350), Enrollment: 19.
Independent Study (GEOL 1970), Enrollment: 2.

2009-2010, Semester I, The Global Nitrogen Cycle (GEOL 2910), Enrollment: 8.
Independent Study (GEOL 1970), Enrollment: 2.

2008-2009, Semester II, Weather and Climate (GEOL 1350), Enrollment: 28.
Independent Study (GEOL 1970), Enrollment: 1.

Ph.D. research advisor:
Alexandra MacFarland (Ph.D. Earth, Environmental and Planetary Sciences, exp 2025)
Heejeong Kim (Ph.D. Earth, Environmental and Planetary Sciences, exp 2025)
Emily Joyce (Ph.D. Earth, Environmental and Planetary Sciences, 2022) Thesis title: *From the Atmosphere to the Sea: Atmospheric Nitrogen Deposition to Aquatic Ecosystems*
Danielle Blum (Ph.D., Chemistry, 2022) Thesis title: *Development and Evaluation for the Capture, Speciation, and Isotopic Determination of Reactive Nitrogen Compounds in the Environment*
Sydney Clark (Ph.D. Earth, Environmental and Planetary Sciences, 2020) Thesis title: *Investigating the role of atmospheric nitrogen deposition and biogeochemical changes in remote cryospheric environments*
Bigyan Dahal (M.Sc. Chemistry, 2016) Thesis title: *Evaluating the use of passive samplers to quantify the isotopic composition of NO_x and NO_2 using the denitrifier method*
Aron Buffen (Ph.D. Geological Sciences, 2015) Thesis title: *On the Isotopic Composition of Nitrate in Andean and Antarctic Ice Cores as a Tracer of Climate and Atmospheric Chemistry Through Time*
Dorothy Fibiger (Ph.D. Chemistry, 2014) Thesis title: *Investigating Post-Depositional Processing of Nitrate in Snow and Constraining NO_x Emission Sources Using the Isotopes of Nitrate*
Rebecca Fahringer (M.Sc. Geological Sciences, 2013) Thesis title: *Analysis of the Use of Nitrogen Isotopes as Tracers of NO_x Sources*
Mengdi Cui (M.Sc. Geological Sciences-Marine Biological Laboratory, 2013) Thesis title: *Greenhouse Gas Fluxes from an Agriculture System in Massachusetts*

Undergraduate thesis advising:
2021
Claire Bekker, *Oxidation Pathways as Drivers of Seasonal Trends in Atmospheric Nitrate Deposition in the Northeastern U.S.*
Grace Berg, *Understanding Urban Air: The Case for Hyperlocal Air Quality Monitoring*

2020

Sawyer Balint, *Investigation of the Importance of Atmospheric Nitrogen Deposition on Nutrient Cycling in Narragansett Bay, RI*

2019

Felix Guo, *Development of a field-deployable NOy collection system to quantify oxidation of nitrogen oxides in an urban atmospheric environment using oxygen isotope signatures*

Sophia Hibben, *An Analysis of Stormwater-Derived Nutrient Loading and Nitrate Sources to the Upper Narragansett Bay*

Emmie Le Roy, *Controls on the Nitrogen Isotopic Variability of Ammonium in Precipitation*

Helen Situ, *Evaluating Polar WRF Simulations of the November 2013 Barents Sea Polar Low*

2017

Andrea Mastorakis, *Characterizing Atmospheric Nitrate in the Arctic: Investigations of a Concentration Method for Constraining Isotopic End-members*

Alan Gorchov Negron, *Development of a Fuel-Based Inventory of Emissions from Oil and Natural Gas Field Activities*

Lovinia Reynolds, *Using Nitrous Oxide Fluxes to Assess the Recuperation of the Nitrogen Cycle in Tropical Secondary Forests in Bahia, Brazil*

2016

Therese Carter*, The Isotopic Composition of Atmospheric Nitrate in the Equatorial Pacific: Results from the GEOTRACES Peru to Tahiti Cruise*

Paul Wojtal, *Spatial and Temporal Variations in Nitrogen Isotopes of Vehicle NOx Emissions*

2015

Mahalia Clark, *Effects of biochar amendments on nitrogen release and storage in agricultural soils*

Connor Hilton, *Preferential Leaching of $^{234}U/^{238}U$ Measured in Nevada Soil*

2014

Audrey Lew, *Characterizing the $\delta^{15}N$ of NO_x from Vehicle-Related Emissions: Field Application of a New Method*

Elizabeth Castner, *Agricultural Nitrogen Leaching Losses from Poultry Manure-Derived Soil Amendments*

Adam Bouche, *Contribution of Cranberry Bog Agriculture and the Fall Harvest Flood to Nutrient Loading in the Weweantic Watershed*

2012

Nathan Chellman, *Anthropogenic impacts on nitrate deposition at Summit, Greenland from 1760-2002*

Harmony Lu, *The effects of topography, rock type and community composition on the sources and availability of nutrients in the rainforests of Luquillo, Puerto Rico*

Sherman Selix, *Siting School Near Freeways: Investigating Air Pollution Issues in Providence, RI*

2011

Samantha Adelberg, *Coupled Biogeochemistry: How Do Nitrogen Fixing Trees Affect the Phosphorous Cycle?*

Michaeline Nelson, *Influence of Carbon and Nitrate Availability on Net Nitrite Accumulation Rates in Coastal Rhode Island Sediments*

2010

Jon Wang, *Analysis of Atmospheric Nitrate Isotopes from the Study of Houston Atmospheric Radical Precursors (SHARP)*

Jesse Bateman, *A bioassay for the devil's element: Understanding phosphorus availability in soils.*

Mana Tang, *Species differences in nitrate reductase activity in a northeastern temperate forest*

Ruth Heindel, *Identifying the aeolian component of fjord sediments: A grain size analysis of Adventfjorden, Svalbard*

2009

Baird Langenbrunner, *Is there a quantifiable relationship between lightning and nitrate deposition in the subtropics?*

Ph.D./Master's advisory committee: Sarah Cooley (Earth, Environmental and Planetary Sciences), Ethan Kyzivat (Earth, Environmental and Planetary Sciences), Keith Spangler (Earth, Environmental and Planetary Sciences), Richard Vachula (Earth, Environmental and Planetary Sciences), Zachary Bischoff-Matson (Earth, Environmental and Planetary Sciences), Alexandria Tzanova (Geological Sciences), Xi Yang (Geological Sciences/MBL), Jeff Salacup (Geological Sciences), Suzy Mage (Environmental Studies), Shuimin Yao (Chemistry), Amanda Getsinger (Geological Sciences), Shannon Loomis (Geological Sciences), Mark Salvatore (Geological Sciences), Bronwen Konecky (Geological Sciences)

Postdoctoral research advisor:
Jiajue Chai (2016-2019), now an Assistant Professor, SUNY College of Environmental Science and Forestry
Wendell Walters (2016-2018), now an Assistant Professor of Research, Brown University
Hayley Scheibel (2016-2017), now an Assistant Professor, Suffolk University
David Miller (2014-2018), now a Project Portfolio Manager, Environmental Defense Fund
Rebecca Ryals (2012-2015), now an Assistant Professor, University of California Merced
Katye Altieri (2010-2013), now a Senior Lecturer, University of Cape Town, South Africa