HANNAH S. KENAGY

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EDUCATION

University of California at Berkeley, Berkeley, CA 2021
PhD in Chemistry, Advisor: Ronald C. Cohen
Dissertation: Condensed phase and dark reactions of atmospheric nitrogen oxides

University of Chicago, Chicago, IL 2016
BS with Honors in Chemistry
Thesis: Estimating the stratospheric hydrogen isotope budget using satellite remote sensing data

AWARDS AND FELLOWSHIPS

NSF Atmospheric and Geospace Sciences Postdoctoral Research Fellow	2022-2024
Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS) XVII	2023
Caltech Young Investigators Lectureship	2023
MIT Civil and Environmental Engineering Rising Stars 2021	2021
NSF Graduate Research Fellow	2016-2021
NASA Group Achievement Award (FIREX-AQ airborne Earth science mission team)	2020
American Geophysical Union Outstanding Student Presentation Award	2018
Graduate Division Conference Travel Grant (UC Berkeley)	2017
Dean's List, Univ. of Chicago	2012-2016
Stamps Scholar at the Univ. of Chicago	2012-2016
Dean's Fund for Student Life Grant (Univ. of Chicago)	2016
F. Champion Ward Third Year International Travel Grant (Univ. of Chicago)	2014
Semi-finalist in Intel Science Talent Search	2012
Fourth place in Biochemistry at Intel International Science & Engineering Fair	2012
Semi-finalist in 2012 US Presidential Scholars Program	2012

RESEARCH EXPERIENCE

NSF Postdoctoral Research Fellow (Advisors: Jesse Kroll & Colette Heald), MIT	2022-present
Postdoctoral Researcher (Advisor: Kerri Pratt), Univ. of Michigan	2021-2022
NSF Graduate Research Fellow (Advisor: Ronald Cohen), UC Berkeley	2016-2021
Undergraduate Researcher (Advisor: Elisabeth Moyer), Univ. of Chicago	2014-2016
Undergraduate Researcher (Advisor: Mathew Heal), Univ. of Edinburgh	2014
High School Researcher (Advisor: Carlos Simmerling), Stony Brook Univ.	2010-2011

PUBLICATIONS

Kenagy, H.S., M.B. Goss, N. Tahsini, C. Heald, and J. Kroll. "Can we achieve atmospheric chemical environments in the laboratory? An integrated model-measurement approach to chamber SOA studies," *Science Advances, under revision.* https://doi.org/10.26434/chemrxiv-2024-82644

Jin, X., **H.S. Kenagy**, C. Li, Q. Zhu, A.M. Fiore, and R.C. Cohen. "Intersections between trends in NO_x and VOC and the impacts on chemistry of cities," *Urban & Regional Air Quality: Emissions, Chemistry, and Impacts*, Advances in Atmospheric Chemsitry - Vol. 4, World Scientific, *in press.*

Kulju, K.D., S.M. McNamara, Q. Chen, **H.S. Kenagy**, J. Edebeli, J.D. Fuentes, S.B. Bertman, and K.A. Pratt. "Urban inland wintertime N_2O_5 and $ClNO_2$ influenced by snow-covered ground, air turbulence, and precipitation," *Atmospheric Chemistry and Physics*, 2022. https://doi.org/10.5194/acp-22-2553-2022

Kenagy, H.S., P.S. Romer Present, P.J. Wooldridge, B.A. Nault, P. Campuzano-Jost, D.A. Day, J.L. Jimenez, and R.C. Cohen. "Contribution of organic nitrates to organic aerosol over South Korea during KORUS-AQ," *Environmental Science & Technology*, 2021. https://doi.org/10.1021/acs.est.1c05521

Kenagy, H.S., T.L. Sparks, P.J. Wooldridge, A.J. Weinheimer, T.B. Ryerson, D.R. Blake, R.S. Hornbrook, E.C. Apel, and R.C. Cohen. "Evidence of nighttime production of organic nitrates during SEAC^{4}RS, FRAPPÉ, and KORUS-AQ," *Geophysical Research Letters*, 2020.
https://doi.org/10.1029/2020GL087860

Kenagy, H.S., T.L. Sparks, C.J. Ebben, P.J.Wooldridge, F.D. Lopez-Hilfiker, B.H. Lee, J.A. Thornton, E.E. McDuffie, D.L. Fibiger, S.S. Brown, D.D. Montzka, A.J. Weinheimer, J.C. Schroder, P. Campuzano-Jost, D.A. Day, J.L. Jimenez, J.E. Dibb, E.C. Apel, T. Campos, V. Shah, L. Jaeglé, and R.C. Cohen. "NO_x lifetime and NO_y partitioning during WINTER," *Journal of Geophysical Research – Atmospheres*, 2018. https://doi.org/10.1029/2018JD028736

Jaeglé, L., V. Shah, J.A. Thornton, F.D. Lopez-Hilfiker, B.H. Lee, E.E. McDuffie, D.L. Fibiger, S.S. Brown, P. Veres, T.L. Sparks, C.J. Ebben, P.J. Wooldridge, **H.S. Kenagy,** R.C. Cohen, A.J. Weinheimer, T. Campos, D.D. Montzka, J. DiGangi, G. Wolfe, T. Hanisco, J.C. Schroder, P. Campuzano-Jost, D.A. Day, J.L. Jimenez, A. Sullivan, H. Guo, and R. Weber. "Nitrogen oxides emissions, chemistry, deposition, and export over the Northeast United States during the WINTER aircraft campaign," *Journal of Geophysical Research - Atmospheres*, 2018. https://doi.org/10.1029/2018JD029133

Kenagy, H.S., C. Lin, H. Wu, and M.R. Heal. "Greater nitrogen dioxide concentrations at child versus adult breathing heights close to urban main road kerbside." *Air Quality, Atmosphere, and Health*, 9:589, 2016. https://doi.org/10.1007/s11869-015-0370-3

INVITED TALKS AND SEMINARS

"Atmospheric organic aerosol production: the role of organic peroxy radicals." University of Minnesota Department of Chemistry, Minneapolis, MN, February 2024, *invited seminar.*

"Impacts of peroxy radical chemistry on atmospheric organic aerosol production." University of Chicago Department of Chemistry, Chicago, IL, January 2024, *invited seminar.*

"Atmospheric organic aerosol production: the role of organic peroxy radicals." York University Department of Chemistry, Toronto, Ontario, January 2024, *invited seminar.*

"Towards a better understanding of SOA formation: perspectives on model-informed approaches to laboratory studies." Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS) XVII, Brookhaven National Lab, Upton, NY, July 2023, *invited talk.*

"Using models to inform atmospherically relevant laboratory measurements of aerosol formation reactions." Caltech Young Investigators Lecture Series, Pasadena, CA, March 2023, *invited seminar.*

"Impacts of atmospheric organic peroxy radical chemistry on organic aerosol production." Oregon State University Department of Chemistry, Corvallis, OR, December 2022, *invited seminar.*

"Using measurements and modeling to understand atmospheric oxidation pathways with implications for air quality and climate." MIT Civil and Environmental Engineering Rising Stars Workshop, Cambridge, MA, October 2021, *invited talk.*

"NO_xthing good happens after midnight: the importance of nighttime chemistry for urban NO_x loss." Berkeley Atmospheric Science Center seminar, virtual, April 2021, *invited seminar.*

"Production and fate of alkyl nitrates during KORUS-AQ." American Geophysical Union Fall Meeting 2019, San Francisco, CA, December 2019, *invited talk.*

CONFERENCE PRESENTATIONS

"The spectrum of low-NO chemistry: RO_2 fates at low NO concentrations in environmental chambers and the atmosphere." American Geophysical Union Annual Meeting, December 2023, *poster*.

"How can we do better chamber experiments of SOA formation? A systematic, model-informed approach for laboratory studies of VOC oxidation with a focus on RO_2 chemistry." American Association for Aerosol Research Annual Conference, Portland, OR, October 2023, *oral presentation*.

"Can we achieve atmospheric chemical environments in chambers? Model-informed perspectives on RO_2 fate distributions in laboratory experiments of SOA formation." Atmospheric Chemistry Gordon Research Conference, August 2023, *poster*.

"Constraining RO_2 fate in environmental chambers: a systematic, model-informed approach for laboratory studies of VOC oxidation." American Chemical Society Spring 2023 Meeting, Indianapolis, IN, March 2023, *oral presentation*.

"Integrated laboratory and model approach to understanding the multiphase product distribution of Cl-initiated VOC oxidation." American Geophysical Union Fall Meeting, Chicago, IL, December 2022, *poster*.

"SOA production from mixtures of Cl- and OH-initiated isoprene oxidation." American Association for Aerosol Research Annual Conference, Raleigh, NC, October 2022, *poster*.

"Toward accurate satellite-based inferences of emissions of NO_2 from fires: insights from FIREX-AQ." FIREX-AQ ER-2 Science Team Meeting, May 2020, *oral presentation*.

"Gas-particle partitioning of total alkyl nitrates during KORUS-AQ." Berkeley Atmospheric Science Center Symposium, Berkeley, CA, April 2019, *poster*.

"Gas-particle partitioning of total alkyl nitrates during KORUS-AQ." American Geophysical Union Fall Meeting 2018, Washington, D.C., December 2018, *oral presentation*. (Outstanding Student Presentation Award winner)

"NO_x lifetime and NO_y partitioning during WINTER." Berkeley Atmospheric Science Center Symposium, Berkeley, CA, February 2018, *poster*.

"NO_x lifetime during WINTER." American Geophysical Union Fall Meeting 2017, New Orleans, LA, December 2017, *poster*.

"Isotopic signatures in the stratospheric hydrogen isotope budget." ACE Satellite Science Team Meeting, Waterloo, ON, Canada, May 2016, *oral presentation*.

"Estimating the stratospheric hydrogen isotope budget using satellite remote sensing data." Midstates Undergraduate Research Symposium, Chicago, IL, November 2015, *poster*.

"Greater NO_2 concentrations at child vs. adult breathing heights close to urban main road curbside." Univ. of Chicago Undergraduate Research Symposium, Chicago, IL, October 2015, *poster*.

TEACHING EXPERIENCE

Graduate Atmospheric Chemistry: Guest Lecturer, MIT, MA	2023
MIT Traveling Research Environmental Experiences (TREX): Teaching Assistant, HI	2023, 2024
Intersections of Data Science and Chemistry: Guest Lecturer, UC Berkeley, CA	2021
Analytical Chemistry: Graduate Student Instructor, UC Berkeley, CA	2018
General Chemistry: Graduate Student Instructor, UC Berkeley, CA	2016, 2017
Calculus: Undergraduate Teaching Assistant, Univ. of Chicago, IL	2013
English as a Second Language: Instructor, Tsinghua Univ., Beijing, China	2013

UNDERGRADUATE RESEARCH MENTORSHIP

Isabel Albores (2022, MIT Summer Research Program): *"Long term aging of methyl vinyl ketone"*
Next position: PhD student at MIT, starting Fall 2024

Evelyn Widmaier (2021-2022, Univ. of Michigan): *"Ozone depletion events in the Alaskan Arctic"*
Next position: PhD student at Univ. of Wisconsin-Madison

Jennifer Grant (2020-2021, UC Berkeley): *"Machine learning to improve satellite NO_2 retrieval efficiency"*
Next position: Data Scientist at Rappi

Lindsey Anderson (2018-2021, UC Berkeley): *"Ozone chemistry in Seoul during KORUS-AQ"*
Next position: PhD student and NSF Graduate Research Fellow at Univ. of Colorado Boulder

TEACHING, MENTORING, AND INCLUSIVITY TRAINING

Kaufman Teaching Certificate Program: MIT, MA	Spring 2023
Graduate Student Inclusivity Training: Restorative Justice Center, UC Berkeley, CA	Spring 2021
Certificate in Teaching and Learning in Higher Education: UC Berkeley, CA	completed 2021
Effective Mentoring in Higher Education: UC Berkeley, CA	Spring 2021
Teaching and Learning in Higher Education: UC Berkeley, CA	Spring 2020

OUTREACH

POWER-Bay Area: Co-founder, Coordinator & Workshop Leader	2019-2022
Women+ Excelling More in Math, Engineering, and the Sciences: Activity Leader	2021
Bay Area Scientists in Schools (BASIS): Volunteer & Team Coordinator	2017-2021
Expanding Your Horizons at Berkeley: Activity Leader	2019
Neighborhood Schools Program at UChicago: Volunteer Science & Math Tutor	2012-2013

SERVICE

Peer reviewer for *ACS Earth and Space Chemistry, Atmospheric Chemistry and Physics, Environmental Science and Technology, Geophysical Model Development, Physical Chemistry Chemical Physics*

MIT CEE Diversity, Equity, and Inclusion Committee: Postdoctoral Representative (2022-2023)

UC Berkeley College of Chemistry Junior Faculty Search: Student Committee Member (2020-2021)

University of California Leadership through Advanced DegreeS (LEADS): Symposium Judge (2021)