

# HANNAH S. KENAGY

hskenagy@mit.edu ◇ hannahskenagy.com ◇ she/hers

## EDUCATION

---

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

**University of Chicago**, Chicago, IL June 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

MIT Civil and Environmental Engineering Rising Stars 2021 2021

Alternate, NOAA Climate & Global Change Postdoctoral Fellowship 2021

NSF Graduate Research Fellow 2016-2021

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 Research Fellow (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

---

Kulju, K.D., S.M. McNamara, Q. Chen, **H.S. Kenagy**, J. Edebeli, J.D. Fuentes, S.B. Bertman, K.A. Pratt. "Urban inland wintertime  $\text{N}_2\text{O}_5$  and  $\text{ClNO}_2$  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<sup>4</sup>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<sub>x</sub> lifetime and NO<sub>y</sub> 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>

## PRESENTATIONS

---

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

“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<sub>x</sub> thing good happens after midnight: the importance of nighttime chemistry for urban NO<sub>x</sub> loss.” Berkeley Atmospheric Science Center seminar, virtual, April 2021, *invited seminar*.

“Toward accurate satellite-based inferences of emissions of NO<sub>2</sub> from fires: insights from FIREX-AQ.” FIREX-AQ ER-2 Science Team Meeting, May 2020, *oral presentation*.

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

“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<sub>x</sub> lifetime and NO<sub>y</sub> partitioning during WINTER.” Berkeley Atmospheric Science Center Symposium, Berkeley, CA, February 2018, *poster*.

“NO<sub>x</sub> 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 nitrogen dioxide concentrations at child versus adult breathing heights close to urban main road curbside.” Univ. of Chicago Undergraduate Research Symposium, Chicago, IL, October 2015, *poster*.

## TEACHING EXPERIENCE

---

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*”

Evelyn Widmaier (2021-2022, Univ. of Michigan): “*Atmospheric ozone depletion events in the Alaskan Arctic*”

Lindsey Anderson (2018-2021, UC Berkeley): “*Ozone chemistry in Seoul during KORUS-AQ*”

Next position: PhD student and NSF Graduate Research Fellow at CU Boulder

Jennifer Grant (2020-2021, UC Berkeley): “*Using machine learning to improve computational efficiency of satellite NO<sub>2</sub> retrievals*”

Next position: Data Scientist at Rappi

## TEACHING, MENTORING, AND INCLUSIVITY TRAINING

---

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

---

<b>Women+ Excelling More in Math, Engineering, and the Sciences</b>	2021-2022
<i>Activity Leader</i>	<i>Ann Arbor, MI</i>

- Program for 4<sup>th</sup> - 6<sup>th</sup> grade girls from low income families and/or from groups historically underrepresented in STEM
- Co-lead development of and organized volunteers for capstone activity

<b>POWER-Bay Area</b>	2019-present
<i>Co-founder, Coordinator &amp; Workshop Leader</i>	<i>Berkeley, CA</i>

- Physical science Opportunities for Women in Education and Research - Bay Area
- Organize and lead mentoring program for Bay Area community college women in the physical sciences

<b>Bay Area Scientists in Schools (BASIS)</b>	2017-2021
<i>Volunteer &amp; Team Coordinator</i>	<i>Berkeley, CA</i>

- Coordinate team of student and post-doc volunteers to bring science lessons to local elementary school classrooms
- Adapted lessons to virtual format for 2020-2021

**Neighborhood Schools Program**

*Volunteer Science & Math Tutor*

2012-2013

*Chicago, IL*

- Tutored Kenwood Academy (Chicago Public Schools) high school students in science and math

## SERVICE

---

**MIT CEE Diversity, Equity, and Inclusion Committee**

*Postdoctoral Representative*

2022-2023

*Cambridge, MA*

**UC Berkeley College of Chemistry Junior Faculty Hiring Committee**

*Student Committee Member*

2020 - 2021

*Berkeley, CA*

**Univ. of California Leadership through Advanced DegreeS (UC LEADS)**

*Symposium Judge*

2021

*Berkeley, CA*