

## Ben H. Lee

Research Scientist

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### **APPOINTMENTS**

**Research Associate/Scientist**

*University of Washington, Seattle*

Sept. 2014 – present

**NOAA C&GC Postdoctoral Fellow**

*University of Washington, Seattle*

Sept. 2012 – Sept. 2014

### **EDUCATION**

**PhD, Environmental Engineering**

*Harvard University*

Sept. 2005 – May 2012

**BS, Chemistry**

*University of California, Berkeley*

Sept. 2000 – May 2004

### **AWARDS**

NOAA Climate & Global Change Postdoctoral Fellowship

Sept. 2012

EMPA Postdoctoral Research Fellowship (declined)

Nov. 2011

Outstanding Student Paper Award, Fall Meeting 2010 AGU

Dec. 2010

Transportation Research Board Graduate Research Award

Nov. 2009

Distinguished Teaching Award

Jan. 2008 & May 2008

Korean-American Heritage Scholarship

Jan. 2008

Berkeley Atmospheric Sciences Center Student Scholarship

Jan. 2004

### **PROFESSIONAL AFFILIATIONS**

American Geophysical Union

Dec. 2004 – present

American Chemical Society

Aug. 2013 – present

### **TEACHING EXPERIENCE**

Head Teaching Fellow, Science A30 (*The Atmosphere*), Spring 2008

Teaching fellow, EPS 200 (*Atmospheric Chemistry and Physics*), Fall 2007

Teaching fellow, Science A30 (*The Atmosphere*), Spring 2007

## SELECT PUBLICATIONS

- Lee, B. H., *et al.* (2020), Resolving ambient organic aerosol formation and aging pathways with simultaneous molecular composition and volatility observations, *ACS Earth and Space Chem.*, doi: 10.1021/acsearthspacechem.9b00302.
- Lee, B. H., *et al.* (2018), Flight deployment of a high-resolution time-of-flight chemical ionization mass spectrometer: Observations of reactive halogen and nitrogen oxide species, *J. Geophys. Res. Atmos.*, doi:10.1029/2017JD028082.
- Lee, B. H., *et al.* (2018), Semi-volatile and highly oxygenated gaseous and particulate organic compounds observed above a boreal forest, *Atmos. Chem. & Phys.*, <https://doi.org/10.5194/acp-18-11547-2018>.
- Lee, B. H., *et al.* (2018), Airborne observations of reactive inorganic chlorine and bromine species in the exhaust of coal-fired power plants, *J. Geophys. Res. Atmos.*, doi:10.1029/2018JD029284.
- Lee, B. H., *et al.* (2016), Highly functionalized organic nitrates in the southeast United States: Contribution to secondary organic aerosol and reactive nitrogen budgets, *Proceedings of the National Academy of Sciences of the U.S.A.*, doi:10.1073/pnas.1508108113.
- Lee, B. H., *et al.* (2014), An Iodide-adduct high-resolution time-of-flight chemical-ionization mass spectrometer: Application to atmospheric inorganic and organic compounds, *Environ. Sci. & Technol.*, doi:10.1021/es500362a.
- Lee, B. H., *et al.* (2013), Urban measurements of nitrous acid: A caveat on the interpretation of HONO photostationary state, *J. Geophys. Res. Atmos.*, 118, doi:10.1002/2013JD020341.
- Lee, B. H., *et al.* (2012), Effective line strengths of *trans*-nitrous acid near 1275 cm<sup>-1</sup> and *cis*-nitrous acid at 1660 cm<sup>-1</sup>, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 113, pp. 1905-1912, doi:10.1016/j.jqsrt.2012.06.004.
- Lee, B. H., *et al.* (2011), Reactive chemistry in aircraft exhaust: Implications for air quality, *Transportation Research Record*, 2206, pp. 19-23, doi:10.3141/2206-03.
- Lee, B. H., *et al.* (2011), Measurements of nitrous acid in commercial aircraft exhaust at the Alternative Aviation Fuel Experiment, *Env. Sci. & Technol.*, 45(18), pp. 7648-7654, doi:10.1021/es200921t.
- Lee, B. H., *et al.* (2011), Simultaneous measurements of atmospheric HONO and NO<sub>2</sub> via absorption spectroscopy using tunable mid-infrared continuous-wave quantum cascade lasers, *Appl. Phys. B*, 102, pp. 417-423, doi:10.1007/s00340-010-4266-5.
- Lee, B. H., *et al.* (2006), Anthropogenic emissions of non-methane hydrocarbons in the northeastern United States: Measured seasonal variations from 1992-1996 and 1999-2001, *J. Geophys. Res.*, 111, D20307, doi:10.1029/2005JD006172.

## PRESENTATIONS / LECTURES

- Highly-functionalized organic nitrates in the Southeast U.S.: contribution to secondary organic aerosol and reactive nitrogen species, *presented at the Workshop on Nitrate Radicals and Biogenic Volatile Organic Compounds: Oxidation, Mechanisms and Organic Aerosol, Georgia Institute of Technology, Atlanta, GA., Jun. 22-24, 2015.*
- WINTER Air Quality Research, *co-presented at an undergraduate seminar at the University of Richmond with Alison Rockwell and Britt Stephens (NCAR), Richmond, VA., Feb. 10, 2015.*
- Atmosphere-Biosphere-Climate Interactions: Enhanced conversion of forest emissions to aerosols, *presented at the NOAA Summer Institute, Steamboat Springs, CO., Jul. 14-17, 2014.*
- Insights into NO<sub>3</sub>-driven alkyl nitrate formation from SENEX and SOAS, *presented at the SAS Data Workshop, Boulder, CO., Mar. 31-Apr. 2, 2014.*
- Simultaneous ground-based, airborne measurements of BVOC oxidation products using Iodide-adduct HRTof-CIMS in the Southeast U.S., Abstract A31I-07 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., **9-13 Dec., 2013.**
- Continuous, year-long measurement of HONO and NO<sub>2</sub> by direct absorption spectroscopy above a rural New England forest: absence of daytime HONO production, Abstract J2.5 presented at the 30<sup>th</sup> Conference on Agricultural and Forest Meteorology and First Conference on Atmospheric Biogeosciences, AMS, Boston, Mass., **18-21 May, 2012,** <https://ams.confex.com/ams/30AgFBioGeo/webprogram/Paper207508.html>.

Measurements of HONO, NO<sub>2</sub> by tunable infrared laser differential absorption spectrometer during SHARP 2009, Abstract A34C-06 presented at 2010 Fall Meeting, *AGU*, San Francisco, Calif., **13-17 Dec., 2010**.  
Direct measurements of HONO and NO<sub>2</sub> by tunable infrared laser differential absorption spectroscopy; Results from two field campaigns sampling aircraft exhaust and ambient urban air, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract A53E-04, **14-18 Dec., 2009**.