

James Ricky Hite, Jr.

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Education - Georgia Institute of Technology

Ph.D. Earth and Atmospheric Sciences (Expected: 2016)
M.S. Earth and Atmospheric Sciences (Dec. 2012)
B.S. Earth and Atmospheric Sciences with Highest Honor (May 2011)

Research Experience - Atmospheric Science, Aerosols & Climate

Undergraduate/Graduate Research – Georgia Tech – Athanasios Nenes (Spring 2011 – Present)

- Developed thermodynamic (TD) data acquisition software using LabVIEW
- Experienced with differential mobility analyzer, condensation particle counter (scanning mobility particle sizer) and data analysis of aerosol size distributions
- Extensive programming experience in Matlab, Fortran 77/90, and LabVIEW
- Ongoing development and use of a Fortran instrument model to infer thermodynamic and kinetic parameters from aerosol volatilization experiments

Hampton University REU – Center for Atmospheric Sciences – John Anderson (Summer 2010)

- Investigated stratospheric water vapor and methane cycling due to the quasi-biennial oscillation
- Performed principle component analysis on in-situ wind velocity measurements
- Constructed a multiple linear regression model of satellite data from the halogen occultation experiment to create temporal animations of stratospheric trace gas concentrations

Awards/Designations

Air & Waste Management Association, Southern Section Scholarship (Aug. 2015)
2015 A&WMA Southern Section Conference – Pine Mountain, GA

NASA Earth and Space Science Fellowship (NESSF) – NASA (May 2015)

Certified LabVIEW Associate Developer – National Instruments (June 2013)

Glen Cass Award – Georgia Tech/EAS (April 2013)
Departmental award for creativity and independence in research

Student Poster Competition Winner (October 2012)
American Association for Aerosol Research - 31st Annual Conference, Minneapolis, MN

Teaching Experience

Undergraduate/Graduate Teaching Assistant – Georgia Tech/EAS (Aug. 2010 – Dec. 2013)
Monitored guided lab activities, proctored exams, graded homework, held review sessions, developed homework/exam questions*; substitute lecturer†. Courses:

- Introduction to Environmental Science (EAS 1600, Dr. Greg Huey – Fall 2010)
- Introduction to Environmental Science (Dr. Jim St. John – Spring 2011, Spring/Summer 2012)
- Thermodynamics of the Earth System** (EAS 3603, Dr. Sally Ng – Fall 2012)

- Thermodynamics of the Earth System* (Dr. Ellery Ingall – Fall 2013)
- Environmental Data Analysis* (EAS 4480/CEE 4803, Dr. Yuhang Wang – Spring 2013)
- Earth Systems Modeling* (EAS 4610/6130, Drs. Chris Huber, Carlos Cardelino – Fall 2011)

Tech to Teaching: PT-SURE Program – Georgia Tech – Baabak Ashuri (Summer 2011)

- Calculated statistics for energy benchmark study of residential building efficiency
- Worked with a local high school educator in developing course curricula pertaining to environmentally friendly construction and design

Academic Services Tutor – Georgia Tech Athletic Association (Atlanta, Ga.) (Jan. 2009 – Aug. 2011)

- Provided one-on-one tutoring to student athletes throughout the year
- Responsible for coordinating with academic advisors to fit the needs of individual students
- Courses: EAS 1600, 2600 (Earth Processes)

Professional Activities

- *Graduate Student Government* (Jan. 2015 – Present)
Served as EAS department senator as well as Graduate SGA Secretary.
- *Alumni Secretary – Alpha Chi Sigma, Professional Chemistry Fraternity* (Jan. 2015 – May 2015)
Coordinating events for professional and collegiate members of the Alpha Omega chapter.
- *Reviewer for President's Undergraduate Research Awards (PURA)* (Summer 2013 – Present)
Reviewed proposals written by Ga. Tech undergraduates during each semester's application cycle.
- *Mentored Undergraduate Researchers: Chang (Jae) Pyo* (2013-14), *Tianyu Shi* (2014-present), *Shitian Liu* (2014-present).
- *Chaired EAS Graduate Student Symposium Committee* (Apr. 2013 – Dec. 2014)
Responsible for coordinating a one-day series of oral and poster presentations for graduate students in the department.
- *Poster Judge at the Fulton County Regional Science and Engineering Fair* (8 Feb. 2014)
Judged presentations by high school students in the Environmental Science/Management categories.
- *Served on EAS Graduate Recruitment Committee* (Spring 2013, 2014)
Contacted prospective students, coordinated portions of visit (e.g. campus tour).

Professional Memberships

- American Association for Aerosol Research (AAAR)
- American Geophysical Union (AGU)
- American Meteorological Society (AMS)
- Air & Waste Management Association (A&WMA)

Publications/Presentations

Hite Jr., J. R., Moore, R. H., Martin, R. F., Thornhill, K. L., Winstead, E. L., Anderson, B. E., Nenes, A.,
Reconciling Organic Aerosol Volatility, Hygroscopicity, and Oxidation State During the

Colorado DISCOVER-AQ Deployment. American Geophysical Union 47th Fall Meeting. San Francisco, California. December 16, 2014. (Poster Presentation)

Xu, L., Guo, H., Boyd, C., Bougiatioti, A., Cerully, K., **Hite, J.**, Isaacman, G., Olson, K., Goldstein, A., Kosse, A., Gouw, J.D., Baumann, K., Knote, C., Lee, S., Weber, R., Nenes, A., Ng, N.L. (2014) Effects of Anthropogenic Emissions on Aerosol Formation from Isoprene and Monoterpenes in the Southeastern United States: Insights from SOAS and Beyond, *Proc.Nat.Acad.Sci.*, doi: 10.1073/pnas.1417609112

Guo, H., Xu, L., Bougiatioti, A., Cerully, K. M., Capps, S. L., **Hite, J. R.**, Carlton, A. G., Lee, S.-H., Bergin, M. H., Ng, N. L., Nenes, A., and Weber, R. J.: Particle water and pH in the southeastern United States, *Atmos. Chem. Phys. Discuss.*, 14, 27143-27193, doi:10.5194/acpd-14-27143-2014, 2014.

Cerully, K. M., Bougiatioti, A., **Hite Jr., J. R.**, Guo, H., Xu, L., Ng, N. L., Weber, R., and Nenes, A.: On the link between hygroscopicity, volatility, and oxidation state of ambient and water-soluble aerosol in the Southeastern United States, *Atmos. Chem. Phys. Discuss.*, 14, 30835-30877, doi:10.5194/acpd-14-30835-2014, 2014.

Kate M. Cerully, **James R. Hite, Jr.**, Molly McLaughlin, and Athanasios Nenes (2014) *Toward the Determination of Joint Volatility-Hygroscopicity Distributions: Development and Response Characterization for Single-Component Aerosol*, *Aerosol Science and Technology*, 48:3, 295-311, DOI: 10.1080/02786826.2013.870326

James R. Hite, Jr., Kate M. Cerully, and Athanasios Nenes. *A Sensitivity Analysis of Organic Aerosol Retrieved Volatility Distributions to Kinetic Parameters*. American Association of Aerosol Research 32nd Annual Conference. Portland, Oregon. October 2, 2013. (Platform presentation)

James R. Hite, Jr., Kate M. Cerully, Athanasios Nenes. *Interpreting thermodenuder data with an optimizing comprehensive instrument model*. Georgia Tech Research and Innovation Conference. Atlanta, Georgia. February 12, 2013. (Poster presentation)

James Hite, Kate Cerully, Athanasios Nenes. *Interpreting thermodenuder data with an optimizing comprehensive instrument model*. American Association of Aerosol Research 31st Annual Conference. Minneapolis, Minnesota. October 11, 2012. (Poster presentation)

Kate M. Cerully, Molly McLaughlin, David Tanner, **James R. Hite, Jr.**, Richard H. Moore, Athanasios Nenes. *Characterizing the response of a thermodenuder to laboratory-generated aerosol*. American Association of Aerosol Research 30th Annual Conference. Orlando, Florida. October 4, 2011. (Platform presentation – supporting data analysis)