

Curriculum Vitae

CASSANDRA R. O'LENICK
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EDUCATION

- 2015** **Doctor of Philosophy, Environmental Health Science**
Emory University
- 2008** **Master of Science, Environmental Science and Engineering**
University of North Carolina at Chapel Hill, School of Public Health
- 2001** **Bachelor of Science, Biology and Environmental Science**
University of North Carolina at Wilmington
Double Major: Biology and Environmental Science; Minor: Chemistry

PROFESSIONAL EXPERIENCE

- 2019-Present** **Project Scientist I**
National Center for Atmospheric Research
Supervisor – Rebecca Haacker
- Program Coordinator for the [Early Career Faculty Innovator Program](#), a multi-million dollar fellowship program at NCAR, funded by the NSF
 - Epidemiologist on multiple projects, including studying the impacts of extreme heat and COVID-19 on health risks
- 2016-2019** **Postdoctoral Fellow II**
National Center for Atmospheric Research
Supervisor – Olga Wilhelmi, PhD
- Performed epidemiological analyses to characterize current and future health risks of ozone and extreme heat among the elderly in Houston, Texas
 - Designed a population-based survey to better understand individual and social factors associated with vulnerability
 - Acquired, cleaned, and managed diverse types of data (e.g. spatially resolved ambient air pollution and meteorological data, individual level mortality and emergency department visit data, population survey data)
- 2013-2016** **Research Assistant – Doctoral Student**
Emory University – Department of Environmental Health
Faculty Advisor – Stefanie Ebel Sarnat, ScD
- Designed and executed epidemiological analyses to evaluate air pollution–health associations and social determinants of childhood respiratory disease
 - Integrated spatio-temporal data and chemical transport model output in epidemiologic models
 - Managed large health databases with over a million patient records
 - Utilized Geographical Information Systems (GIS) to visualize spatial patterns of disease, air pollution exposure, and socioeconomic conditions
- 2010-2012** **Laboratory Services Associate – Student Contractor**
US EPA – Human Exposure and Atmospheric Sciences Division (HEASD)
Supervisor – Joachim Dieter Pleil, PhD
- Operated air-sampling devices during human chamber exposure studies to air pollutants; evaluated air quality/participant exposure in controlled experiments
 - Investigated biomarkers of environmental exposure by characterizing endogenous volatile compounds in urine; method utilizes passive diffusion transfer and Gas Chromatography/Mass Spectroscopy (GC/MS)
 - Used GC/MS to characterize trace levels of polycyclic aromatic hydrocarbons (PAHs) collected on ambient air filters in collaboration with the NC Department of Environment and Natural Resources

- 2008-2009 **Fulbright Scholar**
U.S.-Polish Fulbright Commission
- Awarded research fellowship to participate in United Nations, European Union, and Polish environmental protection policy with a focus on climate change adaptation and mitigation
 - Participated in the 14th Conference of the Parties (COP 14) to the United Nations Framework Convention on Climate Change (UNFCCC) in Poland, December 2008 – US State Department delegation member
 - Coordinated UNICEF–Poland’s involvement in a UNICEF and UNFCCC workshop entitled ‘The Children’s Climate Forum’; symposium took place during COP 15 in Copenhagen, Denmark, 2009
- 2006-2008 **Research Assistant: Air Pollution and Inhalation Toxicology**
UNC-Chapel Hill – Dept. of Environmental Sciences and Engineering
- Operated UNC-Chapel Hill’s 120,000L outdoor atmosphere chamber to study chemical reactions in ambient air and the toxicological impacts of various air pollution mixtures
 - Utilized a novel *in vitro* system to expose cultured epithelial lung cells to various gaseous pollutants
 - Investigated the toxic potential of inhaled pollutants and the immunological responses of cultured lung cells; endpoints of interest were the release of LDH (cell death) and IL-8/IL-6 (inflammation)
- 2002-2006 **Assistant Scientist II: Microbiology**
AAI Pharma, Wilmington, NC
- Performed microbial limits, particulate matter, and sterility testing of pharmaceutical products
 - Extensive experience in a class 100, “clean room” testing environment

TEACHING

Graduate Courses

- Fall 2015 **Co-Facilitator**, Emory University, School of Public Health, Translational Public Health Research: Discovery to Practice (Doctoral students only)
- Fall 2014 **Teaching Associate**, Emory University, Department of Global Health, Monitoring and Evaluating Global Health Programs
- Fall 2013 **Teaching Assistant**, Emory University, Department of Global Health, Monitoring and Evaluating Global Health Programs
- Fall 2012 **Teaching Assistant**, Emory University, Department of Environmental Health, Perspectives in Environmental Health

ACADEMIC AND COMMUNITY SERVICE

- 2019-Present **Member, Air Pollution, Climate, and Health Working-Group**, Consortium for Climate Change and Health, University of Colorado. Lead by Dr. James Crooks
- 2015-2016 **Workshop Coordinator**, Environmental Health Science (EHS) Program, Emory University
- 2014-2016 **Member, EHS student curriculum committee**, EHS Program, Emory University
- 2013-2016 **Student Leader**, [Climate@Emory](#) Initiative, Emory University
- 2013 **Co-organizer**, Climate@Emory’s application as an observer party to the United Nations Framework Convention on Climate Change (UNFCCC), Emory University
- 2009-2012 **Liaison officer (volunteer)**, Pan African Climate Justice Alliance (PACJA); Nairobi, Kenya
- 2010-2011 **In-classroom culture kit presenter**, Carolina Navigators; Chapel Hill, NC
- 2009-2011 **Member, Fundraising committee**, Bonjour Africa Malaria Project (BAMP); Durham, NC
- 2009-2011 **Member, Fundraising committee**, UNC Hospitals’ Beacon Child and Family Program; Chapel Hill, NC
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PROFESSIONAL MEMBERSHIP

2020-present	Member of the MIDAS network (Models of Infectious Disease Agent Study)
2016- present	American Public Health Association (APHA)
2016- present	International Society of Environmental Epidemiology (ISEE)
2016- present	Society for Epidemiologic Research (SER)
2009- present	Department of State, International Exchange Alumni

EDITORIAL ACTIVITIES

2016- Present	Reviewer: <i>Atmosphere; Biomarkers; BMC Public Health; Earths Future; Environmental Pollution; Environmental Research; Epidemiology; International Journal of Environmental Research and Public Health; Journal of Breath Research; Journal of Toxicology and Environmental Health</i>
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FELLOWSHIPS, HONORS, & AWARDS

2016-2019	Postdoctoral Fellow, National Center for Atmospheric Research (NCAR)
2013-2016	Doctoral Student, U.S. EPA Grant (RD834799); PI: Paige Tolbert, Emory University
2011-2013	Trainee, NIH Institutional Training grant (T32), NIEHS: Graduate Training in Environmental Health Science and Toxicology; PI: Gary Miller, Emory University
2009	Delta Omega, Honorary Society in Public Health, Theta Chapter, University of North Carolina at Chapel Hill
2008-2009	Fulbright Research Fellow, University of Warsaw, Poland
2008	US State Department Foreign Language and Area Studies Fellowship (FLAS), Polish Language, Catholic University of Lublin, Poland
2001	Magna Cum Laude, 2001 (GPA: 3.89/4.0), University of North Carolina at Wilmington
2001	William S. DeLoach Award for outstanding performance in Chemistry, University of North Carolina at Wilmington
1997-2001	Golden Seahawk Academic Award, Varsity athletes \geq 3.5 GPA, Women's Soccer, University of North Carolina at Wilmington (every semester)

PUBLICATIONS AND ABSTRACTS**Peer-Reviewed Publications**

1. **O'Lenick C.R.**, Baniassadi A., Michael R., Monaghan A., Boehnert J., Yu X., Hayden M.H., Wiedinmyer C., Zhang K., Crank P.J., Heusinger J., Hoel P., Sailor D.J., Olga V. Wilhelmi O. "A case-crossover analysis of indoor heat exposure on mortality and hospitalizations among the elderly in Houston, Texas". *Environmental Health Perspectives*. 2020 Dec;128(12):127007. doi: 10.1289/EHP6340. Epub 2020 Dec 10. PubMed PMID: 33300819.
2. Baniassadi A, Sailor DJ, O'Lenick CR, Wilhelmi OV, Crank PJ, Chester MV, Reddy AT. Effectiveness of Mechanical Air Conditioning as a Protective Factor Against Indoor Exposure to Heat Among the Elderly. *J. Eng. Sustain. Bldgs. Cities*. 2020 February; 1(1):011005. doi: <https://doi.org/10.1115/1.4045678>.
3. Sailor D., Baniassadi A. **O'Lenick C**, Wilhelmi O. The Growing Threat of Heat Disasters. *Environmental Research Letters*. V 14; 5, May 2019.
4. Heaton M., **O'Lenick C.R.**, Wilhelmi O., Age-specific Distributed Lag Models for Heat-related Mortality. Accepted. *Environmetrics*.
5. **O'Lenick C**, Wilhelmi O, Michael R, Hayden M, Baniassadi A, Wiedinmyer C, Monaghan A, Crank P, Sailor D. 2019. Urban heat and air pollution: a framework for integrating vulnerability and indoor exposure in health risk analyses. *Society of the Total Environment*. 660, pp. 715-723. DOI: <https://doi.org/10.1016/j.scitotenv.2019.01.002>

6. **O'Lenick C**, Pleil J, Stiegel M, Sobus J, Wallace MA. Detection and Analysis of Endogenous Polar Volatile Organic Compounds (PVOCs) in Urine for Human Exposome Research. Published online: 09 Dec 2018. DOI: <https://doi.org/10.1080/1354750X.2018.1548031>
7. Michael R., **O'Lenick C.R.**, Monaghan A., Wilhelmi O., Wiedinmyer C., Hayden M., Estes M., Application of geostatistical approaches to predict the spatio-temporal distribution of ozone in Houston, Texas. Nov. 2018. *Journal of Exposure Science and Epidemiology*. DOI: 10.1038/s41370-018-0091-4
8. **O' Lenick, CR**, Chang, HH Kramer MR, Winquist A, Mulholland JA, Friberg MD, Sarnat SE. 2017. Ozone and childhood respiratory disease in three US cities: evaluation of effect measure modification by neighborhood socioeconomic status using a Bayesian hierarchical approach. *Environmental Health*. 16:36. DOI: 10.1186/s12940-017-0244-2
9. **O' Lenick CR**, Winquist A, Chang HH, Kramer MR, Mulholland JA, Grunstein A, Sarnat SE. 2017. Evaluation of individual and area-level factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA. *Environmental Research*. 156, pp. 132-144. DOI: 10.1016/j.envres.2017.03.021
10. **O'Lenick CR**, Winquist A, Mulholland JA, Friberg MD, Chang HH, Kramer MR, Darrow L, Sarnat SE. 2017. Assessment of neighborhood-level socioeconomic status as a modifier of air pollution-asthma associations among children in Atlanta. *Journal of Epidemiology and Community Health*. 71:129-136.
11. Heidari L, Winquist A, Klein M, **O'Lenick C.R.**, Grundstein A, Sarnat SE. Susceptibility to Heat-Related Fluid and Electrolyte Imbalance Emergency Department Visits in Atlanta, Georgia, USA. *International Journal of Environmental Research and Public Health*. 2016 Oct;13(10): 982
12. Pleil J, Sobus J, Stiegel M, Hu D, Oliver K, **O'Lenick C.R.**, Strynar M, Clark M, Madden M, Funk W. 2014. Estimating Common Parameters of Lognormally Distributed Environmental and Biomonitoring Data: Harmonizing Disparate Statistics From Publications, *Journal of Toxicology and Environmental Health, Part B: Critical Reviews*, 17:6, 341-368. <http://www.ncbi.nlm.nih.gov/pubmed/25333994>

Manuscripts in progress

1. **O'Lenick C.R.**, Michael R, Monaghan A., Wiedinmyer C., Yu X., Hayden M.H., Zhang K., Sailor D.J., Olga V. Wilhelmi O. Ozone and extreme temperature: Health risks among the elderly in Houston, Texas. In preparation. *Environmental Epidemiology*.
2. Wilhelmi O., **O'Lenick C.R.**, Hayden M., Michael R., Sailor D.J. Baniassadi A. Vulnerability to heat and ozone among older adults: Results from a household survey in Houston, TX. In preparation

Oral Presentations & Published Abstracts

1. O'Lenick CR., Haacker R, Eriksson S, Early Career Faculty Innovator Program: Coordination, Management, and Evaluation of an Interdisciplinary Science Program at the National Center for Atmospheric Science. American Meteorological Society. Jan 16, 2020. Boston, MA
2. Haacker R, O'Lenick CR., Eriksson S., Advancing convergence research at the National Center for Atmospheric Research through investment in early career innovators. American Geophysical Union. Dec 11, 2019. San Francisco, CA
3. Amir Baniassadi, Holly W Samuelson, David J Sailor, **Cassandra R O'lenick**, Olga V Wilhelmi, Anne N Lin. Indoor Exposure to Heat in the Age of Mechanical Air Conditioning. Presented at the 2019 Building Performance Analysis Conference, Denver, Colorado, September 25-27, 2019.
4. **O'Lenick C.R.**, Baniassadi A., Michael R., Monaghan A., Boehnert J., Yu X., Hayden M.H., Wiedinmyer C., Zhang K., Crank P.J., Heusinger J., Hoel P., Sailor D.J., Olga V. Wilhelmi O. A case-crossover analysis of indoor heat exposure on mortality and hospitalizations among the elderly in Houston, Texas. Poster Presentation. International Society for Environmental Epidemiology. August 27, 2019.
5. A. Baniassadi, D. J. Sailor, **C. R. O'Lenick**. Indoor air quality and thermal comfort for elderly residents in Houston TX—a case study, Proceedings of International Building Physics Conference, 2018, Syracuse, NY. (Oral)

6. A. Baniassadi, D. J. Sailor, **C. R. O'Lenick**, O. V. Wilhelmi. The Growing Threat of Heat Disasters, Syracuse Center of Excellence Student Poster Competition, 2018, Syracuse, NY. (Poster)
7. **O'Lenick C**, Wilhelmi O, Michael R, Hayden M, Baniassadi A, Wiedinmyer C, Monaghan A, Crank P, Sailor D. "Indoor and outdoor air pollution and extreme heat: an integrated framework for evaluating population risk". Poster Presentation, American Association of Geographers (AAG). April 11, 2018. New Orleans, LA.
8. **O'Lenick C**, Winquist A, Chang HH, Kramer M, Mulholland J, Grundstein A, Sarnat SE. "Evaluation of individual and neighborhood factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA". Oral Presentation, American Public Health Association (APHA) Annual Meeting. November 2, 2016. Denver, CO.
9. **O'Lenick C**, Chang HH, Kramer M, Winquist A, Mulholland J, Friberg M, Sarnat SE. "Ozone and childhood respiratory disease in three US cities: Evaluation of effect measure modification by neighborhood socioeconomic status using a Bayesian hierarchical approach". Oral Presentation, American Public Health Association (APHA) Annual Meeting. November 1, 2016. Denver, CO.
10. **O'Lenick C**, Winquist A, Chang HH, Kramer M, Mulholland J, Grundstein A, Sarnat SE. "Evaluation of individual and neighborhood factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA". Poster Presentation, International Society of Environmental Epidemiology (ISEE) Annual Conference. Sept. 3, 2016. Rome, Italy
11. **O'Lenick C**, Chang HH, Kramer M, Winquist A, Mulholland J, Friberg M, Sarnat SE. "Ozone and childhood respiratory disease in three US cities: Evaluation of effect measure modification by neighborhood socioeconomic status using a Bayesian hierarchical approach". Poster Presentation, International Society of Environmental Epidemiology (ISEE) Annual Conference. Sept. 1, 2016. Rome, Italy
12. **O'Lenick C**, Winquist A, Mulholland J, Friberg M, Chang HH, Kramer M, Sarnat SE (2015). "Neighborhood-level socioeconomic status modifies air pollution-asthma associations in Atlanta". Oral Presentation, Society for Epidemiology Research (SER) 48th Annual Meeting. June 19th, 2015. Denver, CO
13. **O'Lenick C**, Winquist A, Mulholland J, Friberg M, Chang HH, Kramer M, Sarnat SE (2014). "An Evaluation of Neighborhood-Level Socioeconomic Influences on Air Pollution-Asthma Associations in Atlanta." Poster Presentation, International Society of Environmental Epidemiology (ISEE) Annual Conference. Aug. 27th, 2014. Seattle, WA
14. **O'Lenick C**, Levy K. "Climate Change, Social Vulnerability, and Health: A Proposal for Integrating Social Variables into Climate-Health Analyses. Poster Presentation, UNC Water Institute: Water and Health Conference. Oct. 30, 2012. Chapel Hill, NC.
15. **O'Lenick C**, Kaminska A. "A Voice for Children in a Changing Climate". March 28, 2009. Oral Presentation. US-Polish Fulbright Conference, Jagiellonian University. Krakow, Poland.
16. **O'Lenick C**, Ebersviller S, De Bruijne K. "Atmospheric Aging of Gases and Particulate Matter from Air Pollution and the Potential Respiratory Health Implications." Invited Oral Presentation. UNC Center for Slavic, Eurasian, and Eastern European Studies (CSEES). April 10th, 2008.
17. **O'Lenick C**, De Bruijne K, Sexton KG, Ebersviller S, Casper S, Jaspers I, Jeffries HE. "Effects of in vitro Exposure of Human Respiratory Epithelial Cells to Formaldehyde". *The Toxicologist: Supplement to Tox Sci.* March 2008; 102(1):224. Poster Presentation, Society of Toxicology. Seattle, WA
18. Ebersviller S, De Bruijne K, Sexton KG, **O'Lenick C**, Jaspers I, Jeffries HE. "Rapid Shift in Toxicity Due to Gas-Particle Interactions in the Atmosphere". In: 2008 American Association for Aerosol Research (AAAR) 27th Annual Conference Abstracts. Poster Abstract 3H.11. Orlando, FL. Oct 2008.
19. Sexton KG, De Bruijne K, Ebersviller S, **O'Lenick C**, Woodside R, Jaspers I, Jeffries HE. "Carbonyls in Biodiesel and Diesel Exhaust in Gas and Particulate Phases and Effects of Photochemical Oxidation". In: 2008 American Association for Aerosol Research (AAAR) 27th Annual Conference Abstracts. Poster Abstract 9A.05. Orlando, FL. Oct 2008.

20. De Bruijne K, Ebersviller S, Sexton KG, **O'Lenick C**, Woodside R, Casper S, Jaspers I, Jeffries HE. "Comparing the Toxicity of Fresh and Aged Diesel Exhaust using Separate Particle and Gaseous Exposure Systems". *The Toxicologist: Supplement to Tox. Sci.* March 2008; 102(1):224. Poster, Society of Toxicology. Seattle, WA
21. Ebersviller S, Sexton KG, de Bruijne K, Woodside R, **O'Lenick C**, Jaspers I, Jeffries HE. "Gas-Particle Partitioning in Urban Air Mixtures and its Effect on Human Epithelial Lung Cells". *The Toxicologist: Supplement to Tox. Sci.* March 2008; 102(1):60. Poster, Society of Toxicology. Seattle, WA