KARL M. SELTZER

Curriculum Vitae

karl.seltzer@duke.edu ◇ karlseltzer@gmail.com ◇ www.karlseltzer.com

EDUCATION

Duke University *Present*
In pursuit of a Ph.D. - Atmospheric Sciences

University of Florida *December 2011*
M.E. in Environmental Engineering & Sciences
Thesis: Phosphorus kinetics of urban source area partitioning and volumetric treatment of metals species in rainfall-runoff

University of Florida *December 2009*
B.S. in Environmental Engineering & Sciences

PROFESSIONAL EXPERIENCE

Graduate Research Assistant 2015 - Present
Duke University - Dr. Drew Shindell *Durham, NC*

Koogler and Associates, Inc. 2011 - 2015
Engineer III *Gainesville, FL*

Research Assistant 2013 - 2015
University of Florida - Dr. Barron Henderson *Gainesville, FL*

ORISE Grantee 2014
U.S. Environmental Protection Agency *Durham, NC*

Graduate Research Assistant 2010 - 2011
University of Florida - Dr. John Sansalone *Gainesville, FL*

Student Research Assistant 2008 - 2009
University of Florida - Dr. John Sansalone *Gainesville, FL*

PUBLICATIONS

Evaluation of CMAQ driven by historical downscaled meteorological fields. Seltzer, K.M., Nolte, C.G.,Spero, T.L., Appel, K.W., Xing, J. Atmospheric Environment. *in preparation.*

Evaluation of updated nitric acid chemistry on ozone precursors and radiative effects. Seltzer, K.M., Vizuete, W., Henderson, B.H., Atmospheric Chemistry and Physics. 15 (2015) 1-14 doi: 10.5194/acp-15-1-2015.

Retrofitting impervious urban infrastructure with green technology for rainfall-runoff restoration, indirect reuse and pollution load reduction. Sansalone, J., Raje, S., Kertesz, R., Maccarone, K., Seltzer, K., Siminari, M., Simms, P., Wood, B., Environmental Pollution. 183 (2013) 204-212.

PRESENTATIONS

Modeling of Speciated Fine Particulate Matter using CMAQ for Future Air Quality Purposes. Seltzer, K.M., Presentation for the Earth and Ocean Sciences Student Seminar at Duke University. September 23, 2015.

Sensitivity of Radiative Effect to Chemistry. Henderson, B.H., Seltzer, K.M., Presentation at the 7th International GEOS-Chem Meeting, Harvard University. May 4, 2015.

Historical Evaluation of CMAQ Using Downscaled Meteorology for Future Air Quality Purposes. Seltzer, K.M. Presentation at the UF Air Resources Seminar at the University of Florida in Gainesville, FL. January 22, 2015.

Nitric Acid Formation Rates Impact on Climate Forcing. Seltzer, K.M., Henderson, B.H., Presentation at the Spring 2014 Air Quality Workshop at the University of Florida in Gainesville, FL. March 26, 2014.

Alternative Fuels: An Opportunity for Beneficial Use & Federal Regulation Implications. Seltzer, K.M., Lee, M.R., Presentation at 2013 Waste Conversion Technology Conference in San Diego, CA. Sept. 16, 2013.

Reporting and Reducing Greenhouse Gas Emissions for PSD Purposed in the Portland Cement Industry Seltzer, K.M., Lee, M.R., Presentation at the Florida AWMA Conference in Crystal River, FL. October 16, 2012.

TECHNICAL SKILLS

Computational Modeling	GEOS-Chem, Community Multiscale Air Quality (CMAQ) model, Parallel Offline Radiative Transfer (PORT), AERMOD dispersion model, GAINS energy systems model
Visualization & Analysis	matplotlib, R, Panopoly, AMET
Programming Languages	Python, FORTRAN, HTML/CSS, LaTeX
Miscellaneous	Proficient in Linux, OS X, Windows, bash/c-shell scripting, NetCDF/CDO Operators, 7+ years of laboratory experience

AWARDS AND AFFILIATIONS

U.S. Environmental Protection Agency Fellowship (Fall 2014), Member of the Air and Waste Management Association (AWMA), WEFTEC national student design competition winner and team leader, FWRC statewide student design competition winner and team leader, University Scholars Recipient (Summer 2009), Outstanding Scholar Award (Summer 2009), Passed Fundamentals of Engineering Exam (Fall 2009), Florida Bright Futures Scholarship Recipient (2005-2009).