Chante' D. Vines

Department of Civil, Environmental and Geodetic Engineering
The Ohio State University
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EDUCATION

PhD in Civil Engineering, The Ohio State University, Columbus, OH
Supervisor: Gil Bohrer, Ph.D.
The Measurement of Methane Emissions from Hydrofracking using the Parallelized Large Eddy Simulation Model for Atmospheric and Oceanic flows (PALM) model
GPA **3.45/4.0**, Anticipated Graduation: **Aug 2021**

B.S. in Civil Engineering, Morgan State University, Baltimore, MD
GPA **3.5/4.0**, Graduation: May 2015, cum laude

RESEARCH EXPERIENCE

Graduate Research Associate, The Ohio State University   2015 - present
Eddy Covariance Methods to measure fugitive methane emissions near a hydrofracking site
-Used Artificial Neural Network modeling to simulate methane emissions
-Predicted methane concentration using baseline data and environmental variables to determine values throughout drilling
 activity
-Examined plume dispersion using a large eddy simulation model

Undergraduate Intern, National Centers for Environmental Information Intern   2014
National Oceanic and Atmospheric Administration
Asheville, NC
Supervisor: Michael Palecki, PhD
Evaluation of the 2012 US drought through comparison of modeled and observed data for soil moisture and precipitation variables

Undergraduate Intern National Ocean Service Intern   2013
National Oceanic and Atmospheric Administration
Silver Spring, MD
Supervisor: Kimani Kimbrough, PhD
Assessment of contaminant concentrations in dressenid mussels in the Great Lakes using population and land-use variables

Undergraduate Researcher, Minority Opportunities in Biomedical Research Programs
Research Initiative for Scientific Enhancement (MBRS RISE) Participant   2014 –2015
Morgan State University
Baltimore, MD
Supervisor: Richard Damoah, PhD

Related the amount of Dengue virus cases to rainfall accumulation and amount of mosquito eggs in a Kenyan city

TEACHING EXPERIENCE

Graduate Teaching Assistant, Department of Civil Engineering, The Ohio State University, 2019- 2020
- Assisted two professors within the Civil Engineering department with an undergraduate Numerical Methods course
  -Developed homework and quiz questions and solutions – 10 hours/week
  -Taught classes during professor absences and conducted office hours throughout the semester
  -Managed Carmen course page, proficient with TopHat, oversaw undergraduate graders and helped grade midterms and finals

Graduate Teaching Assistant, Department of Engineering Education, The Ohio State University , 2020-2021
- Intro to Engineering Lab teacher
  -Taught weekly lab material to three sections of 72 students virtually using Zoom, conducted office hours throughout the semester
  -Managed Carmen course page, oversaw undergraduate teaching assistants and helped grade midterms and finals

- Graphics course teacher
  -Taught Solidworks and isometric drawing to three sections of 72 students virtually using Zoom, conducted office hours throughout the semester
  -Managed Carmen course page, facilitate quizzes and exams, oversaw undergraduate teaching assistants and helped grade midterms and finals

PUBLICATIONS AND PRESENTATIONS

Russell, S.J., **Vines, C.D**., Bohrer, G., Johnson, D.R., Villa, J.A., Heltzel, R., Rey-Sanchez, Matthes, J.H. 2020. Quantifying CH_4 concentration spikes above baseline and attributing CH_4 sources to hydraulic fracturing activities by continuous monitoring at an off-site tower.*Atmospheric Environment*. 228.

Villa, J.A., Ju, Y., **Vines, C.**, Rey-Sanchez, C., Morin, T.H., Wrighton, K.C.2019. Relationships Between Methane and Carbon Dioxide Fluxes in a Temperate Cattail-Dominated Freshwater Wetland, *Journal of Geophysical Research: Biogeosciences*. 124. 7.

Vines, C., Rey-Sanchez, AC, Johnson, D., Hatala-Matthes, J., Russell, S., Bohrer, G., 2019. Evaluating Fugitive Methane Emissions from Hydraulic Fracturing using an Artificial Neural Network, American Ecological Engineering Society Meeting, Asheville, NC

Vines, C., Rey-Sanchez, AC, Johnson, D., Hatala-Matthes, J., Russell, S., Bohrer, G., 2019. Evaluating Baseline Methane Concentrations using Eddy Covariance Methods near a Hydraulic Fracturing Site, <u>Byrd Center Symposium</u>, Columbus, OH

Vines, C., Rey-Sanchez, AC, Johnson, D., Hatala-Matthes, J., Russell, S., Bohrer, G., 2018. Baseline Methane Concentrations using Eddy Covariance Methods near a Hydraulic Fracturing Site, <u>American Geophysical Union Fall Meeting</u>, Washington DC

Leeper R and Bell, J., **Vines, C.**, Palecki, M. 2017. An Evaluation of the North American Regional Reanalysis Simulated Soil Moisture Conditions during the 2011-13 Drought Period. Amer. Metero. Soc. 18. 2.

FELLOWSHIPS AND AWARDS

Graduate Teaching Assistant, Department of Civil, Environmental, and Geodetic Engineering, The Ohio State University   2019– 2020

Graduate Teaching Assistant, Department of Engineering Education, The Ohio State University   2020– 2021

Best Graduate Student Poster, American Ecological Engineering Society Annual Meeting   2019

Mechanisms and Interactions of Climate Change in Mountain Regions Fellow, Karlsruhe Institute of Technology   2015 – 2020

Vice President, Women in Engineering Graduate Council, The Ohio State University,   2018 – 2019

Secretary, The Black Graduate and Professional Student Caucus   2017

Scholar, NOAA Educational Partnership Program   2013 - 2015

PROFESSIONAL ORGANIZATIONS AFFILIATION

National Society of Black Engineers
American Society of Civil Engineers

COMMUNITY OUTREACH EXPERIENCE

- Founding Member/ Coordinator – The Ohio State University's Women in Engineering Graduate Council   Jan 2016 - Present
- Engineering Graduate Ambassador –   2015 - Present
- Member – New Salem Baptist Church Young Adult Choir   2016 - 2018
- Secretary – The Black Graduate and Professional Student Caucus   Apr 2016 - Present
- Mentored middle school girls – Young Women's Summer Institute   July 2016