CURRICULUM VITAE

Sinan Sousan, Ph.D.

Associate Professor
Department of Public Health
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Department of Public Health – Sinan Sousan, PhD
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Education

- Postdoctoral Scholar, Occupational and Environmental Health, College of Public Health, The University of Iowa, Iowa City, IA, *July 2018*
- Doctor of Philosophy, Chemical and Biochemical Engineering, The University of Iowa, Iowa City, IA, *July 2012*
- Master of Science, Chemical Engineering, The University of Baghdad, Baghdad, Iraq, *June 2000*
- Bachelor of Science, Chemical Engineering, The University of Baghdad, Baghdad, Iraq, *June 1997*

Positions and Employment

2025-	*Associate Professor, East Carolina University, Department of Public Health, Greenville, NC*
2025-	*Associate Professor, North Carolina Agromedicine Institute, Greenville, NC*
2023-	*Co-lead Climate Change and Airborne Contaminants RIG, Center for Human Health and the Environment, North Carolina State University, Raleigh NC*
2021-	*Adjunct Faculty, East Carolina University, Health Education and Promotion, Greenville, NC*
2018-2025	*Assistant Professor, East Carolina University, Department of Public Health, Greenville, NC*
2018-2025	*Assistant Professor, North Carolina Agromedicine Institute, Greenville, NC*
2014-2018	Postdoctoral Research Scholar, The University of Iowa, Iowa City, IA
2012-2014	Scientific Programmer, Carnegie Institution for Science, Stanford, CA
2007-2012	Graduate Research Assistant, The University of Iowa, Iowa City, IA
2007-2008	Teaching Assistant, The University of Iowa, Iowa City, IA
2000-2007	Assistant Professor, The University of Baghdad, Baghdad, Iraq
2000-2003	Lecturer, The University of Technology, Iraq, Baghdad, Iraq

Awards

2025 -	ECU 2025 Research & Scholarship Awards Invention Recognition - Copyright Registration of “Temper”: A Wet Bulb Globe Temperature-based Heat Stress App.
2024 -	ECU Office of Licensing and Commercialization - Innovator of the Month Award - Wind tunnel for assessment of insecticides.
2024 -	I-Corps Blue Economy Pitch Competition - Third Prize - Stephanie Richards and **Sinan Sousan**. Portable wind tunnel for pesticide testing in wetlands and coastal communities. NSF I-Corps.
2024-	One graduate student a 2024 Association of Environmental Health Academic Programs (AEHAP) Student Research Competition (SRC) 1st Place Graduate Student winner for his individual research project.
2024 -	Two of my undergraduate Honors students received the Best Undergraduate Poster Award at ECU’s Research and Creative Activity Week (RCAW) in the Human Health category
2024 -	One student recognized by the department of Biology for her work in my laboratory

2023 - Friends of ECU Laupus Library for the 2022 Health Sciences Author Recognition Award
2022 - Friends of ECU Laupus Library for the 2021 Health Sciences Author Recognition Award
2022 - ECU Honors College Faculty Mentor Award
2021 - Friends of ECU Laupus Library for the 2020 Health Sciences Author Recognition Award
2016 - American Industrial Hygiene Association Poster Award
2009 - The American Association for Aerosol Research Annual Conference Student Poster Winner
2007 - Fulbright Scholarship Award, T.A./ Research Assistant, Master's in Chemical Engineering

Teaching

East Carolina University

Courses Taught

- PUBH 8005 Advanced Control of Occupational Hazards
- PUBH 8003 Issues and Case Studies in Occupational Medicine
- PUBH 8684 Field Practicum
- MPH 6010 Fundamentals of Environmental Health
- MPH 6991 Professional Paper
- MPH 6992 Professional Paper
- EHST 3600 Air Pollution
- EHST 3060 Environmental Issues in Construction
- EHST 2110 Introduction to Environmental Health Science
- EHST 6210 Topics in Environmental Health and Safety
- EHST 6220 Topics in Environmental Health and Safety
- EHST 6990 Directed Graduate Research Project
- EHST 3501 Problems in Environmental Health
- EHST 3502 Problems in Environmental Health
- EHST 7000 MSEH Thesis Option
- EHST 6990 Environmental Health Professional Paper
- HLTH 4500 Seniors Honors Independent Study – Project II
- HLTH 4501 Seniors Honors Independent Study – Project III
- HNRS 4550 Signature Honors Project II

Guest Lecturer

- PUBH 8110 Emerging Issues in Environmental and Occupational Health
- ENVE 3303 Air Quality Engineering

Course Creation

- PUBH 8003 - Issues and Case Studies in Occupational Medicine, Spring 2021
- PUBH 8005 - Advanced Control of Occupational Hazards, Fall 2019

Sinan Sousan (Summer 2025)

Courses Taught Before ECU

The University of Iowa

Teaching Assistant

- Thermodynamics for Engineers
- Fluid Flow for Chemical Engineers

The University of Baghdad

- Courses Taught
- Computer Programming for Chemical Engineers
- Thermodynamics for Chemical Engineers
- Mass Transfer Operations
- Unit Operations

The University of Technology

Courses Taught

- Computer Programming for Chemical Engineers
- Unit Operations
- Fluid Flow

Student Advising and Mentoring (Role in-between parentheses)

Graduate Students

DrPH Dissertation

1. Dekoda Murphy (Spring 2023 - Current, Advisor): Effects of Lockdown on the Air Quality of the Three Most Populated Cities in North Carolina During Covid-19 Pandemic.
2. Aaliysha Brown (Fall 2023 – Current, Advisor): Annual Evaluation and Machine Learning Calibration of Low-cost Sensors and Monitors.
3. Katinan Fangman (Fall 2024 – Current, Advisor): Overview and Analysis of The Lean Safety Concept and Its Impact on Occupational Health: A Comprehensive Analysis of Lean Safety Implementation in Occupational Settings.
4. Linda Sharpe (Fall 2024 – Spring 2025, Committee Member): Health Risk Assessment of Arsenic and Manganese Contamination in West Virginia's Public Water Systems

MPH ProPaper

1. Sarah Fresquez (Summer 2024- Fall 2024, Advisor): Pods effects on secondhand electronic cigarettes aerosol generation.
2. Will Murray (Summer 2024- Fall 2024, Advisor): Insecticide particulate matter characterization in small-scall wind tunnels.
3. Andrew Urbanyi (Fall 2024 – Summer 2024, Advisor): Electronic Cigarette Secondhand Aerosol Effects on Children: A Literature Review.
4. Nicole Bertges (Summer 2023 – Fall 2023, Advisor): Examination of Factors that Impact Respirator Purchase and Usage.
5. Jane Blackerby (Spring 2023 – Summer 2023, Advisor): Evaluation of the MiniWRAS spectrometer compared to the reference SMPS and APS aerosol monitors.

Sinan Sousan (Summer 2025)

6. Austin Close (Fall 2022 – Spring 2023, Advisor): Effects of E-Cigarette Liquid Ratios on the Gravimetric Filter Correction Factors and Real-Time Measurements.
7. Ashley Lewis (Fall 2022 – Spring 2023, Advisor): Benefits and Economical Impacts of Swine Lagoon Covers.
8. Justine Olegario (Fall 2019 – Spring 2020, Advisor): Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements.
9. Constantine Unanka (Fall 2019 – Fall 2020, Advisor): Determination of Breakthrough Time for Combination Respirator Filter/Cartridges with Dimethoate Pesticide: A Methodology Study.

Master's Thesis

1. Raven Slade (Fall 2024- Spring 2025, Committee Member): Droplet Distribution of Formulated Products on Mosquitoes Exposed Via Wind Tunnel: Determining Insecticide Application Using Fluorescent Tracer.
2. Will Murray (Spring 2024- Spring 2025, Committee Member): Efficacy of Water- and Oil-Based Mosquito Control Formulated Products Evaluated Against Mosquitoes in a Novel Compact Wind Tunnel.
3. Denise Bruce (Fall 2024- Spring 2025, Committee Member): Improving Multi-Variate Time Series Forecasting with Dynamic Multi-Head Attention Adjacency Matrix.
4. Abdulahi Opejin (Spring 2023- Current, Committee Co-Chair): Assessing Bias in Personal Exposure Levels When Indoor Air Quality and Human Mobility are Ignored: A Case Study of Eastern North Carolina
5. Bridget Angol (Fall 2022- Spring 2024, Committee Co-Chair): Comparison between WBGT App Prototype and WBGT Monitor to Assess Heat Stress Risk in Groundskeeping in an Eastern North Carolina University Setting.
6. Dillon Streuber (Fall 2020 – Fall 2021, Advisor, Chair): A user-friendly and low-cost portable air pollution sensor for community-engaged research on environmental health disparities.
7. Nana Owusu (Fall 2020- Spring 2022, Committee Co-Chair): Solar Ultraviolet (UV) Radiation Exposure in an Eastern North Carolina Outdoor Working Environment During Cold Months.
8. Swastika Regmi (Spring 2020- Fall 2020, Advisor, Chair): Evaluation of low-cost optical particle counters for environmental and occupational exposures.

Master's ProPaper

1. Kennedy Southern (Fall 2024- Spring 2025, Committee Co-Advisor): Noise Exposure in Textile Manufacturing Environments.
2. Ryan Mohansingh (Fall 2023- Current, Committee Co-Advisor)
3. Justin Kerbow (Spring 2021 – Fall 2021, Advisor): Industrial lead air pollution and its effects on child development.
4. Constantine Unanka (Spring 2019 – Spring 2020, Co-Advisor): Assessment of Breakthrough Occurrence in Respirator Filter Cartridge using Dimethoate.

Undergraduate Students

Signature Honors Project Thesis

1. Paul Jones (Fall 2024 - Spring 2025, Thesis Co-Advisor): Efficacy of Formulated Insecticide Product ReMoa Tri® Against Mosquitoes Exposed in a Field Trial.
2. Emma Rush (Fall 2024 - Spring 2025, Thesis Co-Advisor): Comparison of Field Trial and Wind Tunnel Exposure to Biomist®, Duet®, and ReMoa Tri.
3. Gabriela Perez and Emma Piner (Fall 2023 - Spring 2024, Thesis Advisor): The Effects of Power Settings and Liquid Flavors on the Gravimetric Filter Correction Factors and Real-Time Measurements

4. Daniel Walker and Amelia Tart (Fall 2023 - Spring 2024, Thesis Advisor): The Effects of Commercial Grade E-Cigarette Chemical Ratios and Nicotine Strength on the Gravimetric Filter Correction Factors and Real-Time Measurements
5. Michael Brannin (Fall 2023 - Spring 2024, Thesis Advisor): Spring Evaluation and Calibration of Low-Cost Aerosol Sensors.
6. Will Murray (Spring 2023, Thesis Advisor): Student Assessment of PM2.5 Concentration at ECU Transit Bus Stops Using a Low-Cost Aerosol Monitor.
7. Neha Joseph and Joanna Mathew (Fall 2022- Spring 2023, Thesis Advisor): Spring Evaluation and Calibration of Low-Cost Aerosol Sensors.
8. Trey Mooring and Sarah Fresquez (Fall 2021- Spring 2022, Thesis Advisor): Electronic cigarette use inside of vehicles and associated secondhand and thirdhand exposures.
9. Marina Boatman and Lauren Johansen (Fall 2021- Spring 2022, Thesis Advisor): Fall HVAC Sampling and Detection of COVID-19.
10. Omar Chaaban (Fall 2021- Spring 2022, Thesis Advisor): Measuring the Filtration Efficiency of the Best-Selling Alternative Masks on Amazon.com.

Engineering Capstone Project

Jacob Sanders, David Massey, Shane Rouse, Matthew Stengrim (Fall 2022-Spring 2023, Mentor) RGB Based Aerosol Monitor

Research Assistant

1. Talia Chavis (Summer 2024, Mentor): Secondhand Exposure Effects Involving Vaping Using Nicotine Type and Wattage Variables.
2. Karrington O'Rourke (Summer 2023, Mentor): Summer Evaluation and Calibration of Low-Cost Aerosol Sensors.
3. Sarah Fresquez and Nathaniel Batts (Summer 2022, Mentor) Electronic cigarette use inside of vehicles and associated secondhand and thirdhand exposures.
4. Vivien Coombs (Spring 2022, Mentor): Electronic cigarette use inside of vehicles and associated secondhand and thirdhand exposures.
5. Will Shingleton and Meaghan Haley (Fall 2020- Spring 2021, Mentor): Electronic cigarette use inside of vehicles and associated secondhand and thirdhand exposures.
6. Kathryn Outlaw and Sydney Williams (Fall 2020- Spring 2021, Mentor): Spring HVAC Sampling and Detection of COVID-19.
7. Jessica McKoy (Fall 2020- Spring 2021, Mentor): Evaluating low-cost sensors in environmental settings.

Patents, Peer-Review Publications, Book Chapters and Reports

Patents and Intellectual Property (IP)

2024

1. **Sinan Sousan**, Rui Wu, Ciprian Popoviciu, Artificial Intelligence Enabled Data Accuracy Optimization for Low-cost Sensors. Provisional Patent US Application TT2416 / 190412-00032PR. Spring 2024
2. Stephanie Richards and **Sinan Sousan**, Wind Tunnel for Assessment of Insecticides. International Patent Application PCT/US2024/049971. Fall 2024.
3. Jo Anne Balanay and **Sinan Sousan**, "Temper": A WBGT-Based Heat Stress App. United States Register of Copyrights and Director: copyright registration number of TX 9-376-326. Summer 2024.

2023

1. Stephanie Richards and **Sinan Sousan**, Wind Tunnel for Assessment of Insecticides. Provisional Patent US Application 5218.259PR. Fall 2023
2. Jo Anne Balanay and **Sinan Sousan**, "Temper": A WBGT-Based Heat Stress App. ECU invention ID IP2402 and technology ID TT2402. Summer 2023.

Peer-Review Publications

(*Published at ECU = 28***) (***Student led publication-senior author, total at ECU = 6**)***

2025

1. **Sousan, S.**, Wu, R., Popoviciu, C., Fresquez, S., Park, Y.M., 2025. Advancing low-cost air quality monitor calibration with machine learning methods. Environmental Pollution 374, 126191. DOI: https://doi.org/10.1016/j.envpol.2025.126191.
2. Angol, B., **Sousan, S.**, & Balanay, J. A. G. (2024). Comparison between WBGT app prototype and WBGT monitor to assess heat stress risk in an eastern North Carolina outdoor setting. Journal of Occupational and Environmental Hygiene, 1-14.

2024

1. Bertges, N., Shearman, S., Imai, S., Balanay, J. A. G., & **Sousan, S.** (2024). Examination of factors that impact mask or respirator purchase and usage during the COVID-19 pandemic. PLoS One, 19(9), e0308841.
2. Murray, W., Wu, Q., Balanay, J. A. G., & **Sousan, S**. (2024). Assessment of PM2. 5 Concentration at University Transit Bus Stops Using Low-Cost Aerosol Monitors by Student Commuters. Sensors, 24(14), 4520.
3. Richards, S. L., **Sousan, S.**, Murray, W., White, A., Peyton, K., & Slade, R. Development of novel compact wind tunnel for testing efficacy of insecticide formulated products in mosquitoes. Pest Management Science, 2024. https://doi.org/https://doi.org/10.1002/ps.8018.
4. **Sousan, S.**, Boatman, M., Johansen, L., Fan, M., & Roper, R. L. (2024). Comparing and validating air sampling methods for SARS-CoV-2 detection in HVAC ducts of student dorms. Environmental Pollution, 343, 123164. https://doi.org/https://doi.org/10.1016/j.envpol.2023.123164

2023

1. Owusu, N.-O., S. **Sousan, S.** L. Richards, J. A. G. Balanay. Occupational exposure to solar ultraviolet radiation in an eastern North Carolina university outdoor setting during the four seasons. Journal of Occupational and Environmental Hygiene:1-9. doi: 10.1080/15459624.2023.2264331

2. **Sousan, S.**, Mooring, R., Fresquez, S., Park, Y. M., Coombs, V., Bertges, N., Soule, E. K. (2023). Use of real-time monitors to evaluate the potential exposure of secondhand electronic cigarette particulate matter inside vehicles. Environmental Pollution, 122480. doi:https://doi.org/10.1016/j.envpol.2023.122480
3. **Sousan S**, Anthony TR, Altmaier R, Gibbs J, Nonnenmann M. Use of prototype side stream filtration system to control dust levels in a commercial swine farrowing building. Journal of Occupational and Environmental Hygiene. 2023 Aug 15:1-16. https://doi: 10.1080/15459624.2023.2247457
4. *Close, A., Blackerby, J., Tunnell, H., Pender, J., Soule, E., & **Sousan, S.** (2023). Effects of E-Cigarette Liquid Ratios on the Gravimetric Filter Correction Factors and Real-Time Measurements. Aerosol and Air Quality Research, 23, 230011. https://doi.org/10.4209/aaqr.230011
5. Soule, E. K., **Sousan, S.**, Pender, J., Thomas, A., & Patel, N. (2023). Electronic cigarette use and cigarette smoking in vehicles among adults who use electronic cigarettes and cigarettes in the USA. Tobacco Control. http://dx.doi.org/10.1136/tc-2022-057898
6. Soule EK, **Sousan S**, Pender J, Thomas L, Gold E, Fresquez S, et al. Secondhand electronic cigarette aerosol in vehicles impacts indoor air quality. Drug and Alcohol Dependence. 2023:110889. https://doi: https://doi.org/10.1016/j.drugalcdep.2023.110889.
7. **Sousan S**, Wu Q, Park YM, et al. 2023. Laboratory Determination of Gravimetric Correction Factors for Real-time Area Measurements of Electronic Cigarette Aerosols: Part 2. Journal of Aerosol Science and Technology. https://doi.org/10.1080/02786826.2022.2047152
8. **Sousan S**, Streuber D, Park YM, Coombs V, Pender JE, Soule EK. (2022). Evaluation of low-cost aerosol and gas sensors for real-time measurements of electronic cigarette exposure. Aerosol Science and Technology. 2023;57:153-164. https://doi.org/10.1080/02786826.2022.2154192
9. Park YM, Chavez D, **Sousan S**, Figueroa-Bernal N, Alvarez JR, Rocha-Peralta J. 2022. Personal Exposure Monitoring Using GPS-Enabled Portable Air Pollution Sensors: A Strategy to Promote Citizen Awareness and Behavioral Changes Regarding Indoor and Outdoor Air Pollution. Journal of Exposure Science and Environmental Epidemiology. https://doi.org/10.1038/s41370-022-00515-9
10. *Chaaban O, Balanay JAG, **Sousan S**. 2022. Assessment of best-selling respirators and masks: Do we have acceptable respiratory protection for the next pandemic? American Journal of Infection Control. 2022:1-8. https://doi.org/10.1016/j.ajic.2022.06.024

2022

1. *Streuber D, Park YM, **Sousan S**. 2002. Laboratory and Field Evaluations of the GeoAir2 Air Quality Monitor for Use in Indoor Environments. Aerosol and Air Quality Research. 2022;22:220119. https://doi.org/10.4209/aaqr.220119
2. Soule, E.K., **Sousan, S**., Streuber, D., Fresquez, S.E., Mooring, R., Salman, R., Talih, S., Pender, J. (2022). Increased JUUL Emissions from Initial Puffs after Removing and Reinserting Pod. Chemical Research in Toxicology. https://doi.org/10.1021/acs.chemrestox.2c00017
3. **Sousan, S**., Pender, J., Streuber, D., Haley, M., Shingleton, W., Soule, E. (2022). Laboratory Determination of Gravimetric Correction Factors for Real-time Area Measurements of Electronic Cigarette Aerosols. Aerosol Science and Technology, 1-17. https://doi.org/10.1080/02786826.2022.2047152
4. **Sousan, S**., Fan, M., Outlaw, K., Williams, S., Roper, R.L. (2022). SARS-CoV-2 Detection in air samples from inside heating, ventilation, and air conditioning (HVAC) systems- COVID surveillance in student dorms. American Journal of Infection Control 50, 330-335. https://doi.org/https://doi.org/10.1016/j.ajic.2021.10.009

2021

1. **Sousan, S**., G. Iverson, C. Humphrey, A. Lewis, D. Streuber and L. Richardson (2021). "High-frequency assessment of air and water quality at a concentration animal feeding operation during wastewater application to spray fields." Environ Pollut 288: 117801. https://doi.org/10.1016/j.envpol.2021.117801

2. **Sousan, S**., S. Regmi and Y. M. Park (2021). "Laboratory Evaluation of Low-Cost Optical Particle Counters for Environmental and Occupational Exposures." Sensors 21(12): 4146. https://doi.org/10.3390/s21124146
3. Park, Y. M., **Sousan S**, D. Streuber and K. Zhao (2021). "GeoAir—A Novel Portable, GPS-Enabled, Low-Cost Air-Pollution Sensor: Design Strategies to Facilitate Citizen Science Research and Geospatial Assessments of Personal Exposure." Sensors 21(11): 3761. https://doi.org/10.3390/s21113761
4. *Olegario JM, Regmi S, **Sousan S**. Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements. Applied Engineering in Agriculture. 2021;37(1):113-122. doi:https://doi.org/10.13031/aea.14091
5. **Sousan S**, Garcia N, White A, Balanay JA. Filtration efficiency of surgical sterilization fabric for respiratory protection during COVID-19 pandemic. American Journal of Infection Control. 2021;49(1):1-7. doi:10.1016/j.ajic.2020.11.005

2020

*Zuidema C, Stebounova LV, **Sousan S**, et al. Estimating personal exposures from a multi-hazard sensor network. Journal of Exposure Science & Environmental Epidemiology. 2020/11/01 2020;30(6):1013-1022. doi:10.1038/s41370-019-0146-1*

2019

1. Zuidema C, **Sousan S**, Stebounova LV, et al. Mapping occupational hazards with a multi-sensor network in a heavy-vehicle manufacturing facility. Annals of work exposures and health. 2019;63(3):280-293. doi:10.1093/annweh/wxy111
2. Zuidema C, Stebounova LV, **Sousan S**, Thomas G, Koehler K, Peters TM. Sources of error and variability in particulate matter sensor network measurements. Journal of Occupational and Environmental Hygiene. 2019/08/03 2019;16(8):564-574. doi:10.1080/15459624.2019.1628965

2018

***Sousan S**, Gray A, Zuidema C, et al. Sensor Selection to Improve Estimates of Particulate Matter Concentration from a Low-Cost Network. Sensors. 2018;18(9):3008. https://doi.org/10.3390/s18093008*

Before ECU

1. Afshar-Mohajer N, Zuidema C, **Sousan S**, et al. Evaluation of low-cost electro-chemical sensors for environmental monitoring of ozone, nitrogen dioxide, and carbon monoxide. Journal of Occupational and Environmental Hygiene. 2018/02/01 2018;15(2):87-98. doi:10.1080/15459624.2017.1388918
2. Hallett L, Tatum M, Thomas G, **Sousan S**, Koehler K, Peters T. An inexpensive sensor for noise. Journal of Occupational and Environmental Hygiene. 2018:0-0. doi:10.1080/15459624.2018.1438614
3. Thomas GW, **Sousan S**, Tatum M, et al. Low-Cost, Distributed Environmental Monitors for Factory Worker Health. Sensors (Basel). 2018;18(5):1411. doi:10.3390/s18051411

2017

1. **Sousan S**, Koehler K, Hallett L, Peters TM. Evaluation of consumer monitors to measure particulate matter. Journal of Aerosol Science. 2017/05/01/ 2017;107(Supplement C):123-133. doi:https://doi.org/10.1016/j.jaerosci.2017.02.013
2. Halterman A, **Sousan S**, Peters TM. Comparison of Respirable Mass Concentrations Measured by a Personal Dust Monitor and a Personal DataRAM to Gravimetric Measurements. Annals of Work Exposures and Health. 2017;62(1):62-71. doi:10.1093/annweh/wxx083

3. Peters TM, O'Shaughnessy PT, Grant R, **Sousan S** et al. Community airborne particulate matter from mining for sand used as hydraulic fracturing proppant. Sci Total Environ. 2017;609:1475-1482. doi:10.1016/j.scitotenv.2017.08.006

2016

1. Jones S, Anthony TR, **Sousan S**, Altmaier R, Park JH, Peters TM. Evaluation of a Low-Cost Aerosol Sensor to Assess Dust Concentrations in a Swine Building. The Annals of occupational hygiene. 03/04 2016;60(5):597-607. doi:10.1093/annhyg/mew009
2. **Sousan S**, Koehler K, Hallett L, Peters TM. Evaluation of the Alphasense optical particle counter (OPC-N2) and the Grimm portable aerosol spectrometer (PAS-1.108). Aerosol Science and Technology. 2016/12/01 2016;50(12):1352-1365. doi:10.1080/02786826.2016.1232859
3. Asner GP, **Sousan S**, Knapp DE, et al. Rapid forest carbon assessments of oceanic islands: a case study of the Hawaiian archipelago. journal article. Carbon Balance and Management. January 08 2016;11(1):1. doi:10.1186/s13021-015-0043-4
4. **Sousan S**, Koehler K, Thomas G, et al. Inter-comparison of low-cost sensors for measuring the mass concentration of occupational aerosols. Aerosol Science and Technology. 2016/05/03 2016;50(5):462-473. doi:10.1080/02786826.2016.1162901

2012

Stanier C, Singh A, Adamski W, **Sousan S** et al. Overview of the LADCO winter nitrate study: hourly ammonia, nitric acid and PM2.5 composition at an urban and rural site pair during PM2.5 episodes in the US Great Lakes region. Atmos Chem Phys. 2012;12(22):11037-11056.

Book Chapter

2017

Selmants PC, Giardina CP, **Sousan S**, et al. Baseline carbon storage and carbon fluxes in terrestrial ecosystems of Hawai ‘i. Baseline and projected future carbon storage and carbon fluxes in ecosystems of Hawai'i US Geological Survey Professional Paper 1834 Reston, VA: US Department of the Interior, US Geological Survey: 75-87 Chapter 6. 2017;1834:75-87.

Reports

2004

The High-Resolution Carbon Geography of Peru Carnegie Airborne Observatory and The Ministry of Environment of Perú. Asner, Greg; Roberta, E. Martin; Raul Tupayachi; Christopher B. Anderson; Joseph Mascaro; **Sinan Sousan**; Mark Higgins; William Farfan; Miles R. Silman; William Augusto Llactayo León; Adrian Fernando Neyra Palomino. A Collaborative Report of the Carnegie Airborne Observatory and the Ministry of Environment of Perú, 2014.

2009

1. Episodic Air Pollution in Wisconsin (LADCO Winter Nitrate Study) and Georgia (SEARCH Network) During Jan.-Mar., 2009. Report Prepared for the Lake Michigan Air Directors Consortium. Baek, J.; Carmichael, G.; Lee, S.; Oleson, J.; Riemer, N.; Rohlf, T.; **Sousan, S**.; Spak, S.; Stanier, C., Lake Michigan Air Directors Consortium, 2009, 15
2. Understanding Episodes of High Airborne Particulate Matter in Iowa. Bender, A., Carmichael, G., Beranek-Collins, A., Brown, M., Holloway, T., Jamroensan, A., Lee, S.-R., Marrapu, P.,Pettibone, A., **Sousan, S**., Spak, S., Stanier, C., A report commissioned by the Bi-State Regional Commission, 2009

Research Funding

Ongoing Funding Support (total = 4)

1. **Miniature wind tunnel for the testing of pesticides; will lead to creation of a CRO in eastern NC Summer 2025 – Current.**
   Grantor: NCInnovation (https://ncinnovation.org)
   Amount: **$497,882**
   Role: Co-I
2. **Insecticide Resistance Testing of Formulated Products in North Carolina Mosquitoes Spring 2025 – Current**
   Grantor: North Carolina Department of Health and Human Services
   Amount: **$110,000**
   Role: Co-PI
3. **Estimating core body temperature using physiological and environmental factors, Fall 2024 – Current**
   Grantor: National Institute of Environmental Health Sciences (P30), Sub-Award from North Carolina State University
   Amount: **$ 22,650**
   Role: PI
4. **Center for Human Health and the Environment (Co-Lead of Research Interest Group), Fall 2024 – Current**
   Grantor: National Institute of Environmental Health Sciences (P30), Sub-Award from North Carolina State University
   Amount: **$12,512**
   Role: PI

Previous Funding Support (total = 16)

1. **Methods to Assess Mosquito Insecticide Resistance, Fall 2024 – Spring 2025**
   Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
   Amount: **$1,895**
   Role: Mentor
2. **Development of a novel compact wind tunnel for testing formulated products against mosquitoes and other insects, Spring 2024 – Spring 2025**
   Grantor: North Carolina Biotechnology Center
   Amount: **$27,500**
   Role: Co-PI
3. **Establishing Airborne Contaminant Exposure Laboratory at Brody School of Medicine, Fall 2023- Spring 2025**
   Grantor: Brody School of Medicine, ECU
   Amount: **$321,151**
   Role: PI
4. **WBGT-based Heat Stress Assessment Mobile Application, Fall 2023- Fall 2024**
   Grantor: The American Industrial Hygiene Association
   Amount: **$26,834**
   Role: Co-PI
5. **Wind tunnel development for pesticide applications, Fall 2023-Spring 2024**
   Grantor: ECU Office of Technology Transfer - NSF-funded
   Amount: **$5,000**
   Role: Co-PI

Sinan Sousan (Summer 2025)

6. **The Effects of Power Settings and Liquid Flavors on the Gravimetric Filter Correction Factors and Real-Time Measurements, Fall 2023-Current**
   Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
   Amount: **$1,724**
   Role: Mentor
7. **The Effects of Commercial Grade E-Cigarette Chemical Ratios and Nicotine Strength on the Gravimetric Filter Correction Factors and Real-Time Measurements, Fall 2023-Current**
   Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
   Amount: **$1,954**
   Role: Mentor
8. **Insecticide resistance in NC mosquitoes, Fall 2022 -Summer 2023**
   Grantor: North Carolina Department of Health and Human Services
   Amount: **$30,000**
   Role: Co-I
9. **Environmental Assessment of $PM_{2.5}$ Concentration at ECU Transit Bus Stops using a Low-Cost Aerosol Monitor, Spring 2023**
   Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
   Amount: **$1,768**
   Role: Mentor
10. **Environmental Evaluation and Calibration of Low-Cost Aerosol Sensors, Fall 2022-Spring 2023**
    Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
    Amount: **$2,111**
    Role: Mentor
11. **Detecting SARS-CoV-2 in Occupational Settings, Fall 2021-Spring 2022**
    Grantor: ECU Undergraduate Research & Creative Activity (URCA) Award
    Amount: **$2,500**
    Role: Co-Mentor
    Electronic cigarette use inside of vehicles and associated secondhand and thirdhand exposures (Soule), 8/20-8/23
    Grantor: National Institute of Environmental Health Sciences (R15)
    Amount: **$439,844**
    Role: Co-I
12. **A user-friendly and low-cost portable air pollution sensor for community-engaged research on environmental health disparities, 8/20-8/21**
    Grantor: NCSU Center for Human Health and the Environment
    Amount: **$31,000**
    Role: Co-I
13. **WBGT Heat Stress Risk App, Spring 2021**
    Grantor: ECU Office of Technology Transfer - NSF-funded
    Amount: **$3,000**
    Role: Co-PI
14. **HVAC Sampling and detection of COVID-19, Spring 2021**
    Grantor: CARES Act Funding
    Amount: **$29,877**
    Role: PI
15. **Team Science to Support Sustainable Animal Agriculture in North Carolina, 8/19-5/21**
    Grantor: UNC System Interdisciplinary Project Grant program
    Amount: **$55,000**
    Role: Co-Investigator
    PPE Innovation N95 Project, Spring 2020 – Fall 2020
    Grantor: CARES Act Funding

Amount: **$202,200**
Role: PI

16. **Nex-CaFi, Fall 2018**
    Grantor: ECU Office of Technology Transfer - NSF-funded
    Amount: **$3,000**
    Role: PI
17. **Low-cost Sensors in Agricultural Settings, Fall 2018 - Fall 2021**
    Grantor: Start-up proposal for new faculty funded by ECU
    Amount: **$141,067**
    Role: PI

Before ECU

1. **Air Quality Improvements in Livestock Production Buildings, 9/17-8/18**
   Grantor: CDC/NIOSH Grant U54 OH007548
   Amount: **$1,372,500**
2. Role: Researcher
3. **An Inexpensive Monitoring Network to Assess Workplace Exposure, 8/14-12/17**
   Grantor: US DHHS/CDC/NIOSH (R01 OH010533)
   Amount: **$1,111,000**
   Role: Researcher
4. **A Low-Cost Aerosol Sensing Estimator for Assessing Aerosol Exposure, 7/15-6/16**
   Grantor: CHEEC Seed Grant, (18018211)
   Amount: **$30,000** (2015.07.01-2016.06.30)
   Role: PI

Conferences- Local/National:

Invited Speaker (total at ECU = 5)

2024

1. **Sinan Sousan**, Student assessment of $PM_{2.5}$ concentration at ECU Transit bus stops using a low-cost aerosol monitor. September 2024. National Academy of Sciences (NAS) Transit Cooperative Research Program (TCRP). Virtual.
2. **Sinan Sousan**, Emerging Real-time Low-cost Sensors for Occupational Exposure Monitoring. April 2024. The New York and New Jersey Education and Research Center 44th Annual Scientific Meeting, New York, NY.
3. Stephanie Richards and **Sinan Sousan,** Novel Compact Wind Tunnel for Assessment of Insecticides in Mosquito Control. April 2024. Blue Economy Pitch Program, Washington, NC.
4. **Sinan Sousan,** T. Renée Anthony, Ralph Altmaier, Jenna Gibbs, Matthew Nonnenmann. Use of prototype side stream filtration system to control dust levels in a commercial swine farrowing building. March 2024**.** North Carolina Agricultural Health and Safety Symposium, Greensboro, NC.
5. **Sinan Sousan**, The Rise of Real-Time Low-cost Sensors for Air Quality Monitoring, Feb 2024. Fifth Annual Love Data Week 2024. Greenville, NC.

Sinan Sousan (Summer 2025)

Participated Conferences

(total at ECU = 78) (*Student led presentation-senior author, total at ECU = 27**)**

2025

1. Sinan Sousan, Bridget Angol, Jo Anne G. Balanay. Comparison between WBGT app prototype and WBGT monitor to assess heat stress risk in an eastern North Carolina outdoor setting. June 2025; International Society for Agricultural Safety and Health Annual Conference, Portland, ME.
2. Will Murray, Stephanie Richards, **Sinan Sousan**, Avian White, Emma Rush, Raven Slade. Oil- and Water-Based Mosquito Control Formulated Products Evaluated Against Mosquitoes in a Wind Tunnel. April 2025. ECU Research and Creative Achievement Week. Greenville, NC.
3. Emma Rush, Stephanie Richards, **Sinan Sousan**, Will Murray, Paul Jones, Raven Slade, Avian White. Comparison of Field Trial and Wind Tunnel Exposure to Biomist®, Duet®, and ReMoa Tri. April 2025. ECU Research and Creative Achievement Week. Greenville, NC.
4. Raven Slade, Stephanie Richards, Avian White, **Sinan Sousan**, Will Murray. Droplet Characterization of Formulated Products on Mosquitoes Exposed via Wind Tunnel. April 2025. ECU Research and Creative Achievement Week. Greenville, NC.
5. **Sinan Sousan**, Stephanie Richards, Will Murray, Emma Rush, Raven Slade, Paul Jones, Avian White, Naia Braxton. Wind Tunnel and Field Trial Assessment of Formulated Insecticide Products in Mosquitoes. March 2025. North Carolina Biotechnology Center Flash Grant Impacts Showcase. Raleigh, NC.
6. Stephanie Richards, **Sinan Sousan**, Will Murray, Emma Rush, Paul Jones, Avian White. Field Trial and Wind Tunnel Exposure of Mosquitoes to Formulated Products. January 2025. Mid-Atlantic Mosquito Control Association conference. Newport News, VA.

2024

1. Will Murray, Stephanie Richards, **Sinan Sousan**, Avian White, Emma Rush, Raven Slade. Oil- and Water-Based Mosquito Control Formulated Products Evaluated Against Mosquitoes in a Wind Tunnel. November 2024. North Carolina Mosquito and Vector Control Association. Atlantic Beach, NC.
2. Emma Rush, Stephanie Richards, **Sinan Sousan**, Will Murray, Paul Jones, Raven Slade, Avian White. Comparison of Field Trial and Wind Tunnel Exposure to Biomist®, Duet®, and ReMoa Tri. November 2024. North Carolina Mosquito and Vector Control Association. Atlantic Beach, NC.
3. Raven Slade, Stephanie Richards, Avian White, **Sinan Sousan**, Will Murray. Droplet Characterization of Formulated Products on Mosquitoes Exposed via Wind Tunnel. November 2024. North Carolina Mosquito and Vector Control Association. Atlantic Beach, NC.
4. **Sinan Sousan**, Rui Wu, Ciprian Popoviciu, Sarah Fresquez, Yoo Min Park. Advancing Low-cost Air Quality Monitor Calibration with Artificial Intelligence. October 2024. Annual Meeting of American Association for Aerosol Research. Albuquerque, NM.
5. *Talia Chavis, Sarah Fresquez, **Sinan Sousan**. Secondhand Exposure Effects Involving Vaping Using Nicotine Type and Wattage Variables. July 2024. North Carolina GlaxoSmithKline Foundation STEM Research Program Undergraduate Research Poster Symposium. Greenville, NC.
6. Naia Braxton, Avian White, Raven Slade, Will Murray, **Sinan Sousan**, Stephanie Richards. Droplet Dispersal of Aerosolized Insecticide Formulated Product on Culex pipiens/quinquefasciatus Using Fluorescent Dye in a Wind Tunnel. July 2024. North Carolina GlaxoSmithKline Foundation STEM Research Program Undergraduate Research Poster Symposium. Greenville, NC.
7. Will Murray, Sinan Sousan, Avian White, Kaya Peyton, Raven Slade, Stephanie Richards. Development of novel compact wind tunnel for testing efficacy of insecticide formulated products in mosquitoes. July 2024. National Environmental Health Association. Pittsburgh, PA.
8. Jo Anne Balanay and **Sinan Sousan**. “Temper” A WBGT-Based Heat Stress App. May 2024. i-Corps @ ECU Conference. Greenville, NC.
9. **Sinan Sousan**, Will Murray, Avian White, Kaya Peyton, Raven Slade, and Stephanie Richards. Development of Novel Compact Wind Tunnel for Testing Efficacy of Insecticide Formulated Products in

Mosquitoes. June 2024; International Society for Agricultural Safety and Health Annual Conference, Portland, OR.

10. Stephanie Richards and **Sinan Sousan**. Compact Wind Tunnel for Testing Efficacy of Insecticide Formulated Products in Mosquitoes. May 2024. i-Corps @ ECU Conference. Greenville, NC.
11. Will Murray, **Sinan Sousan**, Avian White, Kaya Peyton, Slade R, Stephanie Richards. Development of novel compact wind tunnel for testing efficacy of insecticide formulated products in mosquitoes. July 2024. National Environmental Health Association, Pittsburgh, PA.
12. *Gabriela Perez, Emma Piner, **Sinan Sousan**. The Effects of Power Settings and Liquid Flavors on the Gravimetric Filter Correction Factors and Real-Time Measurements. April 2024. ECU Research and Creative Achievement Week. Greenville, NC.
13. *Daniel Walker, Amelia Tart, **Sinan Sousan**. The Effects of Commercial Grade E-Cigarette Chemical Ratios and Nicotine Strength on the Gravimetric Filter Correction Factors and Real-Time Measurements. April 2024. ECU Research and Creative Achievement Week. Greenville, NC.
14. *Michael Brannin, Sarah Fresquez, Colby Sawyer, Ciprian Popoviciu, and **Sinan Sousan.** Spring Evaluation and Calibration of Low-Cost Aerosol Sensors. April 2024. ECU Research and Creative Achievement Week. Greenville, NC.
15. Bridget Angol, Sinan Sousan, Stephanie Richards and Jo Ann Balanay. April 2024. Comparison between WBGT App Prototype and WBGT Monitor to Assess Heat Stress Risk in Groundskeeping in an Eastern North Carolina University Setting. ECU Research & Creative Achievement Week. Greenville, NC. Greenville, NC.
16. Will Murray, Sinan Sousan, Avian White, Kaya Peyton, Raven Slade, and Stephanie Richards. Development of novel compact wind tunnel for testing efficacy of insecticide formulated products in mosquitoes. April 2023. ECU Research & Creative Achievement Week. Greenville, NC. Greenville, NC.
17. *Gabriela Perez, Emma Piner, **Sinan Sousan**. The Effects of Power Settings and Liquid Flavors on the Gravimetric Filter Correction Factors and Real-Time Measurements. March 2024. Annual TriBeta Research Symposium. Greenville, NC.
18. *Daniel Walker, Amelia Tart, **Sinan Sousan**. The Effects of Commercial Grade E-Cigarette Chemical Ratios and Nicotine Strength on the Gravimetric Filter Correction Factors and Real-Time Measurements. March 2024. Annual TriBeta Research Symposium. Greenville, NC.
19. *Michael Brannin, Sarah Fresquez, Colby Sawyer, Ciprian Popoviciu, and **Sinan Sousan.** Spring Evaluation and Calibration of Low-Cost Aerosol Sensors. March 2024. Annual TriBeta Research Symposium. Greenville, NC.
20. Kaya Peyton, Avian White, **Sinan Sousan**, Will Murray, Stephanie Richards. Evaluation of wind tunnel for exposure of Aedes albopictus and Culex pipiens/quinquefasciatus mosquitoes to Biomist. March 2024. Emerging Researchers National Conference in STEM, Washington, D.C.
21. Will Murray, **Sinan Sousan**, Avian White, Kaya Peyton, Raven Slade, and Stephanie Richards. Development of novel compact wind tunnel for testing efficacy of insecticide formulated products in mosquitoes. February 2024. Center for Human Health and the Environment 8th Annual Symposium. Raleigh, NC.
22. **Sinan Sousan**, Marina Boatman, Lauren Johansen, Ming Fan and Rachel L Roper, Validation of SARS-CoV-2 detection and air sampling methods inside the Heating, Ventilation, and Air Conditioning (HVAC) duct in student dorms. Feb 2024, Center for Human Health and the Environment 8th Annual Symposium. Raleigh, NC.
23. **Sinan Sousan**, Ronald Mooring, Sarah Fresquez, Yoo Min Park, Vivien Coombs, Nicole Bertges, Luke Thomas, Emily Gold, Anish Gogineni, Alex Tiet, Jack Pender, Eric K. Soule. Use of Real-Time Monitors to Evaluate the Potential Exposure of Secondhand Electronic Cigarette Particulate Matter Inside Vehicles. Feb 2024, Center for Human Health and the Environment 8th Annual Symposium. Raleigh, NC.
24. Eric K. Soule, Jack Pender, **Sinan Sousan**, Heather Tunnell, Luke Thomas, Emily Gold, Alex Tiet, Anish Gogineni, Sarah Fresquez, Ronald Mooring, Vivien Coombs. Chemical depositions associated with electronic cigarette use in vehicles. Feb 2024; Society for Research on Nicotine and Tobacco Annual Meeting, Edinburg, Scotland.

Sinan Sousan (Summer 2025)

2023

1. Will Murray, Stephanie Richards, **Sinan Sousan**, Avian White, Kaya Peyton, Raven Slade. Compact wind tunnel for testing formulated products against mosquitoes. November 2023. 58th Annual North Carolina Mosquito and Vector Control Association. Carolina Beach, NC.
2. **Sinan Sousan**, Ronald Mooring, Sarah Fresquez, Yoo Min Park, Vivien Coombs, Nicole Bertges, Luke Thomas, Emily Gold, Anish Gogineni, Alex Tiet, Jack Pender, Eric K. Soule. Use of Real-Time Monitors to Evaluate the Potential Exposure of Secondhand Electronic Cigarette Particulate Matter Inside Vehicles. October 2023. Annual Meeting of American Association for Aerosol Research. Portland, OR.
3. *Austin Close, Jane Blackerby, Heather Tunnell, Jack Pender, Eric Soule, and **Sinan Sousan**. Effects of E-Cigarette Liquid Ratios on the Gravimetric Filter Correction Factors and Real-Time Measurements. October 2023. Annual Meeting of American Association for Aerosol Research. Portland, OR.
4. *Will Murray, Jo Anne G. Balanay and **Sinan Sousan**, Student assessment of PM2.5 concentration at ECU Transit bus stops using a low-cost aerosol monitor. October 2023. Annual Meeting of American Association for Aerosol Research. Portland, OR.
5. Eric K. Soule, **Sinan Sousan**, Jack Pender, Emily Gold, Luke Thomas, Anish Gogineni, Alex Tiet, Sarah Fresquez, Ronald Mooring, Vivien Coombs. Secondhand electronic cigarette aerosol in vehicles impacts indoor air quality. October 2023. Annual Meeting of American Association for Aerosol Research. Portland, OR.
6. **Sinan Sousan**, Marina Boatman, Lauren Johansen, Ming Fan and Rachel L Roper, Validation of SARS-CoV-2 detection and air sampling methods inside the Heating, Ventilation, and Air Conditioning (HVAC) duct in student dorms. October 2023. Annual Meeting of American Association for Aerosol Research. Portland, OR.
7. Kaya Peyton, Avian White, **Sinan Sousan**, Will Murray, Stephanie Richards. Evaluation of wind tunnel for exposure of Aedes albopictus and Culex pipiens/quinquefasciatus mosquitoes to Biomist®. August 2023. North Carolina GlaxoSmithKline Foundation STEM Research Program Undergraduate Research Poster Symposium, Greenville, NC.
8. *Will Murray, Jo Anne G. Balanay, and **Sinan Sousan**, Student assessment of PM2.5 concentration at ECU Transit bus stops using a low-cost aerosol monitor. April (2023), CHHE Pulmonary Research Interest Group Mini-Symposium. April 2023. Raleigh, NC.
9. *Neha Joseph, Joanna Mathew, Colby Sawyer, Ciprian Popoviciu, and **Sinan Sousan**, Spring evaluation and calibration of low-cost aerosol sensors. April 2023. North Carolina Academy of Science Conference. Greenville, NC.
10. *Will Murray, Jo Anne G. Balanay, and **Sinan Sousan**, Student assessment of PM2.5 concentration at ECU Transit bus stops using a low-cost aerosol monitor. April 2023, North Carolina Academy of Science Conference. Greenville, NC.
11. *Neha Joseph, Joanna Mathew, Colby Sawyer, Ciprian Popoviciu, and **Sinan Sousan**, Spring evaluation and calibration of low-cost aerosol sensors. April 2023, ECU Research and Creative Achievement Week. Greenville, NC.
12. *Will Murray, Jo Anne G. Balanay, and **Sinan Sousan**, Student assessment of PM2.5 concentration at ECU Transit bus stops using a low-cost aerosol monitor. April 2023, ECU Research and Creative Achievement Week. Greenville, NC.
13. Eric K. Soule, **Sinan Sousan**, Jack Pender, Emily Gold, Luke Thomas, Anish Gogineni, Alex Tiet, Sarah Fresquez, Ronald Mooring, Vivien Coombs. February 2023. Impact of electronic cigarette use on indoor air quality inside of vehicles. Society for Research on Nicotine and Tobacco Annual Meeting, San Antonio, TX.

2022

1. **Sinan Sousan**, Dillon Streuber, Yoo Min Park, Vivien Coombs, Jack Pender, Eric Soule. Evaluation of Low-cost Aerosol and Gas Sensors for Real-time Measurements of Electronic Cigarette Exposure. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC.

2. *Dillon Streuber, Yoo Min Park, **Sinan Sousan**. Laboratory and Field Evaluations of the GeoAir2 Air Quality Monitor for use in Indoor Environments. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC. Presented by Sinan Sousan
3. **Sinan Sousan**, Ming Fan, Kathryn Outlaw, Sydney Williams, and Rachel Roper. SARS-CoV-2 Detection in Air Samples from Inside Heating, Ventilation, and Air Conditioning (HVAC) Systems-COVID Surveillance in Student Dorms. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC
4. *Omar Chaaban, Jo Anne Balanay, **Sinan Sousan**; Filtration Efficiency of Top 10 Best-Selling Adult Masks Compared to the N95 Respirator. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC. Presented by Sinan Sousan
5. **Sinan Sousan**, Pender, J., Streuber, D., Haley, M. Shingleton, W., Soule, E. (2022). Laboratory quantification of gravimetric correction factors for real-time measurements of electronic cigarette aerosol exposure. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC
6. Eric K. Soule, **Sinan Sousan**, Dillon Streuber, Sarah Fresquez, Trey Mooring, Rola Salman, Soha Talih, Jack Pender. Increased JUUL emissions from initial puffs after device activation. October 2022; Annual Meeting of American Association for Aerosol Research. Raleigh, NC. Presented by Sinan Sousan.
7. R. Roper, **Sinan Sousan**, M Fan, K Outlaw, S Williams, L Johansen, and M Boatman. SARS-CoV-2 Detection in Air Samples from Inside Heating, Ventilation, and Air Conditioning (HVAC) Systems-COVID Surveillance in Student Dorms. June 2022; American Society for Microbiology Conference, Washington, DC
8. Nanaobaayaa Owusu, **Sinan Sousan**, Stephanie Richards, Jo Anne Balanay. April 2022. Solar Ultraviolet (UV) Radiation Exposure in Outdoor Working Environment During Cold Months. ECU Research and Creative Achievement Week. Greenville, NC.
9. *Lauren Johansen, Marina Boatman, **Sinan Sousan**, Ming Fan, Rachel Roper; Detection of SARS-CoV-2 in Dorms Through HVAC System. April 2022; Research & Creative Achievement Week, ECU. Greenville, NC.
10. *Omar Chaaban, Jo Anne Balanay, **Sinan Sousan**; Filtration Efficiency of Top 10 Best-Selling Adult Masks Compared to the N95 Respirator. April 2022; Research & Creative Achievement Week, ECU. Greenville, NC
11. Eric K. Soule, **Sinan Sousan**, Dillon Streuber, Sarah Fresquez, Trey Mooring, Rola Salman, Soha Talih, Jack Pender. Increased JUUL emissions from initial puffs after device activation. April 2022; Research & Creative Achievement Week, ECU. Greenville, NC.
12. **Sinan Sousan**, Pender, J., Streuber, D., Haley, M. Shingleton, W., Soule, E. (2022). Laboratory quantification of gravimetric correction factors for real-time measurements of electronic cigarette aerosol exposure. Society for Research on Nicotine and Tobacco Annual Meeting, Baltimore, MD.
13. Tiet, A., Gogineni, A., Gold, E., **Sinan Sousan**, Pender, J., & Soule, E. (2022). Associations between electronic cigarette use behaviors inside of vehicles, age, and harm perceptions. Society for Research on Nicotine and Tobacco Annual Meeting, Baltimore, MD.
14. Gogineni, A., Tiet, A., Gold, E., **Sinan Sousan**, Pender, J., & Soule, E. (2022). Electronic cigarette users' harm perceptions of secondhand exposure and electronic cigarette use in vehicles with adults and children. Society for Research on Nicotine and Tobacco Annual Meeting, Baltimore, MD.
15. Soule, E., **Sinan Sousan**, Pender, J., Patel, N., Thomas, A. (2022). Electronic cigarette use and combustible tobacco use behaviors inside of vehicles. Research on Nicotine and Tobacco Annual Meeting, Baltimore, MD.
16. Soule, E. **Sinan Sousan**, Streuber, D., Salman, R., Talih, S., Pender, J. (2022). "Real-world" JUUL emissions likely exceed laboratory generated emissions. Society for Research on Nicotine and Tobacco Annual Meeting, Baltimore, MD.
17. Park, Y.M. **Sinan Sousan**, Chavez, D. Streuber, D., Zhao, K., Figueroa-Bernal, N., & Alvarez, J. A novel portable, GPS-enabled, low-cost air-pollution sensor to facilitate citizen science research and

geospatial assessments of personal exposure. February 2022; American Association of Geographers Annual Meeting, New York, NY.
18. *Marina Boatman, Lauren Johansen, Ming Fan, **Sinan Sousan**, and Rachel Roper. Detection of SARS-CoV-2 in Dorm HVAC Systems. February 2022; ECU School of Dental Medicine 7th Annual Celebration of Research and Scholarship. Greenville, NC
19. Eric K. Soule, **Sinan Sousan**, Dillon Streuber, Sarah Fresquez, Trey Mooring, Rola Salman, Soha Talih, Jack Pender. Increased JUUL emissions from initial puffs after device activation. February 2022; ECU School of Dental Medicine 7th Annual Celebration of Research and Scholarship. Greenville, NC.
20. **Sinan Sousan**, Regmi S, Park YM. Laboratory Evaluation of Low-cost Optical Particle Counters for Environmental and Occupational Exposures. October 2021; Annual Meeting of American Association for Aerosol Research. Albuquerque NM.
21. **Sinan Sousan** and Jo Anne Balanay. Mobile App to Assess WBGT-Heat Stress Risk of Outdoor Workers. June 2022; International Society for Agricultural Safety and Health Annual Conference, Fort Collins, CO.

2021

1. **Sinan Sousan**, Regmi S, Park YM. Laboratory Evaluation of Low-cost Optical Particle Counters for Environmental and Occupational Exposures/ 2021. Annual Meeting of American Association for Aerosol Research. Albuquerque NM.
2. **Sinan Sousan**, Iverson G, Humphrey C, Lewis A, Streuber D, Richardson L. Environmental Assessment of Air and Water Quality at a Swine Farm using a Capped Lagoon. 2021; International Society for Agricultural Safety and Health Annual Conference, Virtual.
3. Balanay J, **Sinan Sousan**. Mobile App to Assess WBGT-Heat Stress Risk of Outdoor Workers. 2021; Research & Creative Achievement Week, ECU, Virtual.
4. *Streuber D, **Sinan Sousan**, Park YM. Calibration and Correction of the SPS30 Low Cost Optical Particle Counter as Part of the GeoAir 2 Platform for Measuring Personal Exposure. 2021; Research & Creative Achievement Week, ECU, Virtual.

2020

1. *Olegario J, Regmi S, **Sinan Sousan**. Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements. 2020; Research & Creative Achievement Week, ECU, Virtual.
2. *Regmi S, **Sinan Sousan**. Evaluation of low-cost optical particle counters for environmental and occupational exposure 2020; Research & Creative Achievement Week, ECU, Virtual.
3. *Unanka C, **Sinan Sousan**, Balanay JA. Determination of Breakthrough Time for Combination Respirator Filter/Cartridges with Dimethoate Pesticide: A Methodology Study. 2020; Research & Creative Achievement Week, ECU, Virtual.
4. *Olegario J, Regmi S, **Sinan Sousan**. Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements. 2020; International Society for Agricultural Safety and Health Annual Conference, Virtual.
5. *Olegario J, Regmi S, **Sinan Sousan**. Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements. 2020; Annual Meeting of American Association for Aerosol Research, Virtual.
6. *Olegario J, Regmi S, **Sinan Sousan**. Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements. 2020; MPH Poster Presentation, Virtual.

2019

1. *Constantine Unanka, **Sinan Sousan**, Jo Anne Balanay. Determination of Breakthrough Time for Combination Respirator Filter/Cartridges w/ Dimethoate Pesticide: A Methodology Study 2019. MPH Poster Presentation.
2. **Sinan Sousan**, Hallett L, Koehler K, Peters TM. Evaluation of Consumer-based Photometers for Measuring Environmental and Occupational Aerosols. 2016; American Industrial Hygiene Conference & Exposition, Baltimore, MD.

3. Nonnenmann M, Anthony T, **Sinan Sousan**, Altmaier R, Gibbs J, Ramirez A. Air Quality in Livestock Production Buildings: Evaluating a Prototype Aerosol Control Technology to Reduce Dust Concentrations in Commercial Swine Farrowing. 2019; International Society for Agricultural Safety and Health Annual Conference, Des Moines, IA.
4. **Sinan Sousan**. Advancements in Exposure Measurements and Low-cost Sensors in Agriculture. 2019; North Carolina Agromedicine Institute - Agricultural Health and Safety Symposium, Raleigh, NC.

Before ECU

2017

Hallett L, **Sinan Sousan**, Tatum M, Thomas GW, Peters TM. Laboratory Evaluation of a Noise Sensor for use in an Inexpensive Sensor Network. 2017; Occupational and Environmental Health Research Week, Iowa City, IA.

2016

Sinan Sousan, Koehler K, Hallett L, Peters TM. Evaluation of the Alphasense Optical Particle Counter (OPC-N2) and the Grimm Portable Aerosol Spectrometer (PAS-1.108). 2016; Annual Meeting of American Association for Aerosol Research, Portland, OR.

2015

Sinan Sousan, Koehler K, Thomas G, Park JH, Hillman M, Peters TM. Evaluation of a low-cost direct reading instrument for fine and coarse aerosol particles 2015; Annual Meeting of American Association for Aerosol Research; Minneapolis, MN.

2011

1. **Sinan Sousan**, Baek J, Spak S, et al. Optimizing Data Assimilation Parameters for Improved CMAQ PM2.5 Estimates Over the United States to Inform Epidemiological Studies. presented at: American Geophysical Union; 2011; San Francisco, CA.
2. **Sinan Sousan**, Baek J, Spak S, et al. Optimizing Data Assimilation Parameters for Improved CMAQ PM2.5 Estimates Over the United States to Inform Epidemiological Studies 2011; Annual Meeting of American Association for Aerosol Research; Orland, FL.
3. **Sinan Sousan**, Baek J, Spak S, et al. Optimizing Data Assimilation Parameters for Improved CMAQ PM2.5 Estimates Over the United States to Inform Epidemiological Studies 2011; American Institute of Chemical Engineers; Minneapolis, MN.

2010

1. **Sinan Sousan**, Baek J, Kumar N, et al. Use of Surface Measurements and MODIS Aerosol Optical Depth for Improved Model Based PM2.5 Prediction in the United States. 2010; Community Modeling and Analysis System, Raleigh, NC.
2. **Sinan Sousan**, Baek J, Kumar N, et al. Use of Surface Measurements and MODIS Aerosol Optical Depth for Improved Model Based PM2.5 Prediction in the United States. 2010; American Institute of Chemical Engineers, Salt Lake City, UT.

2009

1. **Sinan Sousan**, Kumar N, Spak S, Beranek-Collins A, Carmichael G, Stanier C. Use of Surface Measurements and Modis Aerosol Optical Depth for Improved Model Based PM2.5 Prediction in the United States. 2009; American Institute of Chemical Engineers, Nashville, TN.
2. Stanier C, Bender A, Carmichael G, **Sinan Sousan** et al. Understanding Episodes of High Airborne Particulate Matter in the Upper Midwest. 2009; Annual Meeting of American Association for Aerosol Research; Minneapolis, MN.

3. **Sinan Sousan**, Kumar N, Spak S, Beranek-Collins A, Carmichael G, Stanier C. Use of Surface Measurements and Modis Aerosol Optical Depth for Improved Model Based PM2.5 Prediction in the United States. 2009; Annual Meeting of American Association for Aerosol Research, Minneapolis, MN.

Service

Committee Service

Fall 2023-	DPH Personnel Committee
Fall 2018-	Doctor of Public Health-Environmental and Occupational Health Committee, ECU
Fall 2018-	North Carolina Agromedicine Institute Board of Partners
Spring 2021- Spring 2024	Graduate Council Member at ECU
Fall 2018- Spring 2023	Vice-Chairs of Diversity and Inclusion Committee, Brody School of Medicine ECU

Other Institutional Service Activities:

Fall 2021-present:	Manage DPH Social Media Accounts (Facebook, Instagram, Twitter, LinkedIn) Administrator
Fall 2019 – present:	Provided Recommendations for Undergraduate and Graduate Student
Fall 2018 – present:	Doctorate in Public Health Admissions Reviewer
Fall 2018 – Fall 2020:	Master of Science in Environmental Health Admissions Reviewer
Judge Fall 2020:	Judged Student Poster Competition at AAAR Conference
Spring 2019	Environmental Health Hiring Committee, ECU

Honors and Awards

2025	ECU 2025 Research & Scholarship Awards Invention Recognition
2024	The Innovator of the Month/ECU Office of Licensing and Commercialization
2022	ECU Honors College/The Faculty Mentor Award
2016	American Industrial Hygiene Association Poster Award
2009	The American Association for Aerosol Research, 28th Annual Conference, Student Poster Competition Winner
2007	Fulbright Scholarship Award - Teaching Assistant/ Research Assistant (University of Iowa)

Professional Membership

January 2023- Ongoing:	Water Resource Center
January 2022- Ongoing:	Center for Human Health and the Environment
January 2022- Ongoing:	Center for IoT Engineering and Innovation
Spring 2020- Ongoing:	North Carolina Public Health Association
Spring 2019 – Ongoing:	International Society for Agricultural Safety and Health (ISASH)
Fall 2008 – Ongoing:	American Association for Aerosol Research (AAAR)

Service to Profession

- JOEH Journal of Occupational and Environmental Hygiene Reviewer Board
- Guest Editor of a Special Issue of the Journal Atmosphere (Ended)
- MDPI Journal of Sensors Reviewer Board

Sinan Sousan (Summer 2025)

Proposal Review

Proposals reviewed (2024-2025):

Journal	No. of Reviews
National Science Foundation (NSF)	1
Center for Human Health and the Environment – NC State	3

Journal manuscripts reviewed (2016-2024):

Journal	No. of Reviews
Aerosol and Air Quality Research	21
Journal of Occupational & Environmental Hygiene	26
MDPI Sensors	14
Aerosol Science & Technology	15
Applied Sciences	7
International Journal of Environmental Research and Public Health	3
International Journal of Mining Science and Technology	3
Remote Sensing	2
Environmental Science & Technology Letters	2
Tobacco Prevention and Cessation	2
Annals of Occupational Hygiene	2
Occupational and Environmental Hygiene	2
PLOS ONE	4
Environmental Science & Technology - Air	2
Atmospheric Environment	1
Sustainable Cities and Society	1
Environmental Engineering	1
Science of the Total Environment	1
Environmental Management	1
Environmental Research	1
Aerosol Science	2
Environmental Science & Technology	4
Atmosphere	1
Environmental Management	1

Selected Recognitions and Media Coverage

1. I was featured in East (East Carolina University) magazine summer edition on page 16
2. I was mentioned on the American Industrial Hygiene Association website:
3. COVID-19 Airborne Detection Research:
   During Spring 2021, my interdisciplinary project with Dr. Rachel Roper from the department of Microbiology & Immunology was published in the American Journal of Infection Control. Our project was the first to show the possibility of SARS-COV-2 detection by sampling from the HVAC system inside student dorms. The publication was featured in several local and international media outlets. Interviews were conducted and broadcasted over television and radio media outlets. In addition to our very own ECU news outlet. The following is a list of media coverage:
4. WRIC 8 local news (November 10, 2021): Researchers discover new way to detect coronavirus through building ventilation systems
5. WCNC Charlotte local news (October 28, 2021): ECU researchers use HVAC systems to detect the presence of COVID-19 in campus dorms
6. WRAL local news (October 27, 2021): New research could help detect COVID-19 in closed, indoor settings