

Professor of Mechanical Engineering
Professor of Environmental and Occupational Health
Colorado State University
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Education

Ph.D., Environmental Engineering	<i>University of North Carolina at Chapel Hill (2003)</i>
M.S., Environmental Engineering	<i>University of North Carolina at Chapel Hill (1999)</i>
B.S., Civil Engineering	<i>University of Vermont (1996)</i>

Professional Experience

(current appointments in bold)

Professor 2016-present	Department of Mechanical Engineering Colorado State University (primary appointment)
Associate Department Head for Graduate Studies, 2016-2019	<i>Department of Mechanical Engineering</i> <i>Colorado State University</i>
Professor 2010-present	Department of Environmental and Radiological Health Sciences Colorado State University (affiliate appointment)
Director 2013-present	Center for Energy Development and Health <i>The Energy Institute at Colorado State University</i>
Professor 2011-present	Department of Environmental and Occupational Health Colorado School of Public Health (affiliate appointment)
Associate Faculty 2007-present	School of Biomedical Engineering Colorado State University
Principal Investigator 2006-present	<i>Engines and Energy Conversion Laboratory</i> <i>Dept. of Mechanical Engineering, Colorado State University</i>
Associate Professor 2014-2016	<i>Department of Mechanical Engineering</i> <i>Colorado State University</i>
Associate Department Head 2011 - 2013	<i>Department of Environmental and Radiological Health Sciences</i> <i>Colorado State University</i>
Assistant Professor 2004 - 2010	<i>Department of Environmental and Radiological Health Sciences</i> <i>Colorado State University</i>
Assistant Professor	<i>Department of Environmental and Occupational Health</i>

Professional Experience*(continued; current appointments in bold)*

2009-2011	Colorado School of Public Health
Visiting Scientist 2006-2009	Clinical Research Branch National Health and Environmental Effects Research Lab, U.S. EPA
Postdoctoral Research Fellow January 2003 – July 2004	Environmental Characterization and Apportionment Branch National Exposure Research Laboratory, U.S. EPA
Special Appointment August 2003 – August 2004	Department of Environmental Sciences and Engineering University of North Carolina at Chapel Hill
Environmental Engineer June – September 1999, 2000	Atmospheric Methods and Monitoring Branch U.S. EPA
Water Resources Engineer July 1996 – January 1997	The Pitometer Associates Boston, MA

Honors and Awards

Finalist, NASA Earth Space Air Prize, 2018
George T. Abell Outstanding Faculty Researcher Award, Walter Scott Jr. College of Engineering, Colorado State University, 2017
Swift Award for Best Paper of 2016, AIHA Aerosol Technology Committee, 'Sampling Efficiency of Modified 37-mm Sampling Cassettes using Computational Fluid Dynamics' 2017
Top 25 Most Accessed Paper, Analyst, 'Paper Based Analytical Devices for Environmental Analysis' 2016
Best Paper, Indoor Air, 'Pro-inflammatory Effects of Cookstove Emissions on Human Bronchial Epithelial Cells' 2014
Cover Issue, Annals of Occupational Hygiene, 58(4), 2014
Outstanding Project Team, Inhalable Particles Roundtable, AIHA 2011
Cover Issue, Annals of Occupational Hygiene, 54(4) 2010
Best of Session Poster, AIHce, Denver, CO, May 2010, 2011
Cover Issue, Journal of Environmental Monitoring, 11(7) 2009
Best of Session Presentation, presented by the Aerosol Technology Committee, AIHce, Toronto, CA, June 2009
Leadership Award, American Industrial Hygiene Association, 2009
Best Teacher Award Nomination, CSU, 2006
K25 Career Development Award, NIEHS 2006
'S' Award for Special Research Contribution, U.S. EPA, 2003
Best paper, AIHA Journal, 'Oil Mist Concentration: A Comparison of Sampling Methods', 1999
Bunker Award for Most Promising Masters Student, UNC, 1999
American Industrial Hygiene Fellowship Award, 1998
Tau Beta Pi, Chi Epsilon Honor Societies (University of Vermont)
Dean's List, University of Vermont, 1992, 1999

Grants and Contracts

(as principal investigator; total costs shown)

'Advancing Sustainable Household Energy Solutions (ASHES)' 2020-2023. EPA Cooperative Agreement. PI: Volckens. 83998701. (\$125,000)

'Sustainable Household Energy Adoption in Rwanda (SHEAR): Promoting Rural Health with Solar and Gas.' 2019-2024. NIH/NIEHS PIs: Clark, Volckens. R01ES029995 (\$3,277,813)

'A Citizen-Science Approach to Occupational Hazard Assessment.' 2019-2023; CDC/NIOSH, PIs: Volckens, Carter. R01OH011660 (\$2,164,528)

'A Direct-Reading Inhalable Particle Sizer with Elemental Composition Analyzer.' 2018-2020; CDC/NIOSH, PIs: Yalin, Volckens. R21OH011287 (\$381,152)

Implementation Phase: 'Citizen-Enabled Aerosol Measurements for Satellites (CEAMS): A Network for High-Resolution Monitoring of PM2.5 and Aerosol Optical Depth' 2017-2021; NASA, PI: Volckens. 80NSSC18M0120 (\$1,606,896)

Prototype Phase: 'Citizen-Enabled Aerosol Measurements for Satellites (CEAMS): A Network for High-Resolution Monitoring of PM2.5 and Aerosol Optical Depth' 2017-2018; NASA, PI: Volckens. NNX17AF94A (\$161,000)

'Air Quality Monitoring for the 21st Century: A Crowdsourced, Satellite-Enabled, Low-Cost Sampler' 2017-2018; Colorado Office of Economic Development, PI: Volckens (\$125,000)

'A low-cost sensor network for wildfire smoke detection and monitoring' 2016-2017; Joint Fire Science Program Graduate Research Innovation Fellowship, PI: Volckens, Kelleher. 16-2-01-3 (\$25,000)

'A New Paradigm for Workplace Air Sampling and Cost-Effective Exposure Assessment' 2015-2019; CDC/NIOSH, PIs: Volckens, Henry. R01OH010662 (\$1,994,886)

'Wearable, Low-Cost Air Sampler'; 2015-2016; Colorado Office of Economic Development, PI: Volckens (\$69,644)

'Low-Cost, Versatile Sampler for Personal PM Exposure by Microenvironment'; 2015-2020; NIH/NIEHS, PIs: Volckens, Henry. R33ES24719 (\$2,068,218)

'Cookstove air pollution: Emission profiles and subclinical effects of exposure'; 2014-2019; NIH/NIEHS, PIs: Volckens, Peel. R01ES023688 (\$2,800,124)

'Measuring Aqueous Metals Concentrations with the Chemometer'; 2014-2015; Colorado Office of Economic Development, PIs: Henry, Volckens. (\$80,000)

'Quantifying the climate, air quality and health benefits of improved cookstoves: An integrated laboratory, field and modeling study' 2013-2016; U.S. EPA Star Grant, PI: Volckens. RD83543801 (\$1,500,000)

'Evaluation of A Personal Sampler for Quantitative Identification of Engineered Nanoparticles in Air' 2013-2014; U.S. EPA, PI: Volckens. EP-13-H-000188 (\$150,000)

'Design, evaluation, and validation of a next-generation inhalable aerosol sampler'; 2012-2016; CDC/NIOSH, PIs: Volckens, Anthony, Sleeth. R01OH010295 (\$2,094,398)

'A Portable Spectrometer for Inhalable Aerosol Size Distributions'; 2012-2014; CDC/NIOSH R21OH010117 (\$390,400)

- 'The Commuter Exposure Study: Linking Exposure, Source-Receptor Models, and Health'; 2012-2017; NIH/NIEHS, PIs: Volckens, Peel R01ES020017 (\$2,072,576)
- 'Development of a Microfluidic Paper Analytic Device (μ PAD) for Airborne Metals'; 2011-2014; CDC/NIOSH, PIs: Volckens, Henry R21OH010050 (\$405,895)
- 'Pilot Research Program (High Plains Intermountain Center for Agricultural Health and Safety)'; 2011-2016; CDC/NIOSH (MPI) U54OH008085 (\$501,351)
- 'Development of Personal Sampling Technology for Nanoparticle Exposure Assessment'; 2011-2012; PA Nano (subaward, RJ Lee Group, Inc.) (\$60,000)
- 'Is Green Diesel Healthy Diesel?'; 2011-2012; CSU Clean Energy Supercluster (\$15,000)
- 'A Portable, Fast Sensor for Oxidative Capacity of Particulate Air Pollution'; 2010-2013; NIH/NIEHS (MPI) R21ES019264 (\$396,824)
- 'A Personal Sampler for Assessing Inhaled Nanoparticle Exposures'; 2008-2010; CDC/NIOSH R03OH009381 (\$143,006)
- 'Combustion Chemistry and Pollutant Emissions from Algae-Derived SVO, FAME and HTRD'; 2008-2009; (Co-PI) CSU Clean Energy Supercluster (\$35,000)
- 'A High-Flow Personal Sampler for Inhalable Aerosol'; 2007-2009; CDC/NIOSH R21OH009114 (\$421,081)
- 'Lung Deposition Sampler for Inhalable Aerosol'; 2007-2009; CDC/NIOSH R03OH009248 (\$135,956)
- 'Engineering an In-Vitro Lung for Air Pollution Toxicology'; 2006-2011; NIH/NIEHS K25ES014378 (\$695,118)
- 'Novel PM Exposure Assessment for Children with Asthma'; 2006-2007; CSU/CVMBS College Research Council (\$20,000)
- 'A Lung-Deposition Model for Particulate Matter'; 2005-2006; CSU/CVMBS College Research Council (\$20,000)

University Fellowships

NIEHS Doctoral Student Training Grant, 2002
U.S. EPA NNEMS Fellow, 2000-2002
UNC Board of Governors Fellowship, 1999-2002
NIOSH-UNC Pilot Project Research Training Grant, 2000
NIOSH Traineeship Award, 1997

Teaching

Principal Instructor	MECH 577 'Aerosol Physics and Technology' 2017- MECH 342 'Mechanics and Thermodynamics of Flow Processes' 2015- EH 726 'Aerosols and Environmental Health' 2004-2015 EH 636 'Control Methods for Industrial Hygiene' 2005-2014
Guest Lecturer	AS 526 'Health Effects of Air Pollution', 2 lectures, 2005, 2008 EH 502 'Risk Assessment and Toxicology', 1 lecture, 2005, 2006 EH 446 'Air Pollution and Human Health,' 1 lecture, 2004-2006 EH 526 'Aerosol Measurement,' 1 lecture, 2004- EH 526 'Control Methods for Industrial Hygiene' 1 lecture, 2009- EH 693b 'Occupational and Environmental Health Colloquium'

UNC Chapel-Hill ENVR 119 'Introduction to Aerosol Science,' co-instructor 2003
ENVR 103 Seminar 'Semivolatile Aerosols,' 1 lecture, 2002
ENVR 245 'Electrostatic Precipitators,' 4 lectures, 2001
ENVR 145 'Evaporation and Condensation,' 3 lectures, 2000

Service

President Board of Directors, Journal of Occ. and Environ. Hygiene, 2009

Chair AIHA Aerosol Technology Committee, 2008-2010
AAAR Aerosol Control Technology Working Group, 2001-2002
AAAR Health Related Aerosols Working Group, 2014-2015

Guest Editor Special Issue on Low-Cost Sensors. Atmospheric Environment (2019)

Technical Reviewer *ACS Sustainable Chemistry and Engineering*
Aerosol Science and Technology
Annals of Occupational Hygiene
American Industrial Hygiene Association Journal
Applied Occupational and Environmental Hygiene
Atmospheric Chemistry and Physics
Atmospheric Environment
Biomass and Bioenergy
Cell Biology and Toxicology
Environmental Science and Technology
Environmental Science: Processes & Impacts
Environmental Health Perspectives
International Immunopharmacology
International Journal of Environmental Research and Public Health
International Journal of Environmental Health
Journal of Geophysical Research
Journal of Air and Waste Management Association
Journal of Environmental Engineering
Journal of Environmental Monitoring
Journal of Nanoparticle Research
Journal of Occupational and Environmental Hygiene
Nanotoxicology
PLOS ONE
Science of the Total Environment

Grant Review Panelist *EHS P30 Review Committee, Ad-hoc member, NIH/NIEHS, 2009*
EPA-G2011-STAR-B1/B2 Panel, U.S. EPA, 2011
RFA 10-2, New Investigator Panel, Health Effects Institute, 2011, 2015
ZRG1 HDM-A Challenge Grants Panel 29, NIH/NIEHS, 2009
ZES1 LKB Pathway to Independence Panel, NIH/NIEHS, 2011-2014
NAME Neuromuscular Aging Musculoskeletal Epi. Panel, NIH 2012
SIMI 6 2012 Panel, French National Research Agency, 2012
ZES1 LKB-K P0, Children's Health Centers, NIH/NIEHS, 2012
MAP-ERC Pilot Projects Program, 2010-present

HICAHS Pilot Project Grant Program, Director, 2010-2014
Infect. Dis., Repro., Asthma/Pulmonary Cond. Panel, NIH/NIEHS 2014
NORA Intramural Project Proposals, NIOSH 2014, 2015
Cardiovascular and Sleep Epi Study Section, NIH 2015
Bioengineering Sciences and Technologies Section, NIH 2015
SOH Occupational Health Study Section, CDC/NIOSH 2013.2016-
ZRG1 Bioengineering Sciences and Technologies Section, NIH 2019

Organizing Member *2nd Air Sensors International Conference, May 2020, CA*
Special Symposium on Air Quality Sensors: Low-cost != Low Complexity,
AAAR Annual Meeting, Sep 2019, Portland OR.
International Aerosol Conference Symposium on Low-Cost Sensors, 2018
1st Air Sensors International Conference, September 2018, CA
CSU Partnership for Air Quality, Climate, and Health, 2015-
International State of the Science Workshop on Organic Speciation in
Atmospheric Aerosols Research, April 5-7, 2004 Las Vegas, NV.
Science Symposium on Inhalable Particles, American Industrial Hygiene
Conference and Exposition, May 16, 2011, Portland, OR.
Science Symposium on Aerosol Respiratory Deposition, American
Industrial Hygiene Conference and Exposition, 2015, Salt Lake City, UT

Faculty Senate *Colorado School of Public Health, 2012-2013*

International Advisory Board *Journal of Work Exposures and Health, 2017-*

**Professional and
Honorary Societies**

American Association for Aerosol Research
Association of Environmental Engineering and Science Professors
American Industrial Hygiene Association
Combustion Institute
International Society for Environmental Epidemiology
International Society for Exposure Science
Tau Beta Pi and Chi Epsilon Honor Societies
Order of the Engineer

Patents

'Thermophoretic Sampler' Volckens, J. et al., #8,973,447, #9,618,439

'Portable Particle Spectrometer' Volckens, J. et al., # 9,482,620

'Portable Air Sampling Device' Miller-Lionberg, D. et al., #10,488,305

'Sampling Device for Exposure Measurement of Particles and Gases' Volckens, J. et al. PCT/US2019/033850

'Portable Atmospheric Monitor' Miller-Lionberg, D. et al., #62/831,550

Refereed Publications (*h-index = 31; i-10 index = 68* via [Google Scholar](#))

1. Piedrahita, R., Johnson, M., Bilsback, K.R., L'Orange, C., Kodros, J.K., Eilenberg, S.R., Naluwagga, A., Shan, M., Sambandam, S., Clark, M.L., Pierce, J.R., Balakrishnan, K., Robinson, A.L., and J. Volckens. "Comparing regional stove usage patterns and using those patterns to model indoor air quality impacts." (2020) *Indoor Air*. In press.
2. Walker, E.S., Clark, M.L., Young, B.N., Rajkumar, S., Benka-Coker, M.L., Bachand, A.M., Brook, R.D., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Africano, S., Osorto Pinel, A.B., Good, N., Koehler, K., and J.L. Peel. "Exposure to household air pollution from biomass cookstoves and self-reported symptoms among women in rural Honduras" (2020). *International Journal of Environmental Health Research*. In Press.
3. Fedak, K.M., Good, N., Walker, E.S., Balmes, J., Brook, R.D., Clark, M.L., Cole-Hunter, T., Devlin, R., L'Orange, C., Luckasen, G., Mehaffy, J., Shelton, R., Wilson, A., Volckens, J., and J.L. Peel. "Acute changes in lung function following controlled exposure to cookstove air pollution in the subclinical tests of volunteers exposed to smoke (STOVES) study" (2020) *Inhalation Toxicology*. In press.
4. Leith, D., L'Orange, C., Mehaffy, J., and J. Volckens. 'Design and performance of UPAS inlets for respirable and thoracic mass sampling.' (2020) *Journal of Occupational and Environmental Hygiene*. In press.
5. Berg, K.E., Clark, K.M., Li, X., Carter, E.M., Volckens, J., and C.S. Henry. 'High-throughput, semi-automated dithiothreitol (DTT) assays for oxidative potential of fine particulate matter.' (2020) *Atmospheric Environment*. In press.
6. Quinn, C., Anderson, G.B., Magzamen, S., Henry, C.S., and J. Volckens. (2020) 'Dynamic classification of personal microenvironments using a suite of wearable, low-cost sensors.' *Journal of Exposure Science and Environmental Epidemiology*. In press.
7. Afshar-Mohajer, N., Foos, R., Volckens, J., and G. Ramachandran. (2020) 'Variability of aerosol mass and number concentrations during taconite mining operations.' *Journal of Occupational and Environmental Hygiene*. In press.
8. Mettakoopitak, J., Volckens, J., and C.S. Henry (2020). 'Janus Electrochemical Paper-Based Analytical Devices for Metals Detection in Aerosol Samples.' *Analytic Chemistry*. In press.
9. Tryner, J., L'Orange, C., Mehaffy, J., Miller-Lionberg, D., Hofstetter, J.C., Wilson, A., and J. Volckens. (2020) 'Laboratory evaluation of low-cost PurpleAir PM monitors and in-field correction using co-located portable filter samplers.' *Atmospheric Environment*. In press.
10. Walker, E.S., Fedak, K.M., Good, N., Balmes, J., Brook, R.D., Clark, M.L., Cole-Hunter, T., Dinunno, F., Devlin, R.B., L'Orange, C., Luckasen, G., Mehaffy, J., Shelton, R., Wilson, A., Volckens, J., and J.L. Peel. (2020) 'Acute differences in pulse wave velocity, augmentation index, and central pulse pressure following controlled exposures to cookstove air pollution in the Subclinical Tests of Volunteers Exposed to Smoke (STOVES) study.' *Environmental Research*. 180: In press.
11. Jathar, S.H., Sharma, N., Galang, A., Vanderheyden, C., Takhar, M., Chan, A.W.H., Pierce, J.R. and J. Volckens. (2020) 'Measuring and modeling the primary organic aerosol volatility from a modern non-road diesel engine.' *Atmospheric Environment*. In press.
12. Lee, E.G., Grimson, P.J., Chisholm, W.P., Kashon, M.L., He, X., L'Orange, C., and J. Volckens. 'Performance evaluation of disposable inhalable aerosol sampler at a copper electrorefinery.' (2019) *Journal of Occupational and Environmental Hygiene*. 16(3): 250-257.
13. Young, B.N., Peel, J.L., Nelson, T.L., Bachand, A.M., Heiderscheidt, J., Luna, B., Reynolds, S.J., Koehler, K.A., Volckens, J., Diaz-Sanchez, D., Neas, L.M., and M.L. Clark. 'C-reactive protein from dried blood spots: Application to household air pollution field studies.' (2020) *Indoor Air*. 30(1): 24-30.

Refereed Publications

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14. Cromar, K.R., Duncan, B.N., Bartonova, A., Benedict, K., Brauer, M., Habre, R., Hagler, G.S.W., Haynes, J.A., Khan, S., Kilaru, V., Liu, Y., Pawson, S., Peden, D.B., Quint, J.K., Rice, M.B., Sasser, E.N., Seto, E., Stone, S.L., Thurston, G.D., and J. Volckens. (2019) 'Air Pollution Monitoring for Health Research and Patient Care. An Official American Thoracic Society Workshop Report.' *Annals of the American Thoracic Society* 16(10): 1207-1214.
15. Wendt, E.A., Quinn, C.W., Miller-Lionberg, D.D., Tryner, J., L'Orange, C., Ford, B., Yalin, A.P., Pierce, J.R., Jathar, S., and J. Volckens. (2019) A low-cost monitor for simultaneous measurement of fine particulate matter and aerosol optical depth—Part 1: Specifications and testing. *Atmospheric Measurement Techniques*. 12(10): 5431-5441.
16. Ford, B., Pierce, J.R., Wendt, E., Long, M., Jathar, S., Mehaffy, J., Tryner, J., Quinn, C., van Zyl, L., L'Orange, C., Miller-Lionberg, D., and J. Volckens. (2019) 'A low-cost monitor for measurement of fine particulate matter and aerosol optical depth—Part 2: Citizen-science pilot campaign in northern Colorado.' *Atmospheric Measurement Techniques*. 12(12): 6385-6399.
17. Benka-Coker, Peel, J.L., Volckens, J. Good, N., Bilsback, K.R., L'Orange, C., Quinn, C., Young, B.N., Rajkumar, S., Wilson, A., Tryner, J., Africano, S., Osorto, A.B., and M.L. Clark. (2020) 'Kitchen concentrations of fine particulate matter and particle number concentration in households using biomass cookstoves in rural Honduras.' *Environmental Pollution*. 258.
18. Young, B.N., Peel, J.L., Benka-Coker, M.L., Rajkumar, S., Walker, E.S., Brook, R.D., Nelson, T.L., Volckens, J., L'Orange, C., Good, N., Quinn, C., Keller, J.P., Weller, Z.D., Africano, S., Osorto Pinel, A.B., Clark, M.L. (2019) 'Study protocol for a stepped-wedge randomized cookstove intervention in rural Honduras: household air pollution and cardiometabolic health.' *BMC Public Health*. 19(1): 903.
19. Tryner, J., Good, N., Wilson, A., Clark, M.L., Peel, J.L., and J. Volckens. 'Variation in gravimetric correction factors for nephelometer-derived estimates of personal exposure to PM2.5.' (2019) *Environmental Pollution*. 250: 251-261.
20. Fedak, K.M., Good, N., Walker, E.S., Balmes, J., Brook, R.D., Clark, M.L., Cole-Hunter, T., Devlin, R., L'Orange, C., Luckasen, G., Mehaffy, J., Shelton, R., Wilson, A., Volckens, J. and J.L. Peel. (2019) 'Acute Effects on Blood Pressure Following Controlled Exposure to Cookstove Air Pollution in the STOVES Study.' *Journal of the American Heart Association*. Published 9 Jul 2019. doi: 10.1161/JAHA.119.012246
21. Bilsback, K., Dahlke, J., Fedak, K., Good, N., Hecobian, A., Herckes, P., L'Orange, C., Mehaffy, J., Sullivan, A., Tryner, J., Van Zyl, L., Walker, E., Zhou, Y., Pierce, J.R., Wilson, A., Peel, J. and J. Volckens. 'A Laboratory Assessment of 120 Air Pollutant Emissions from Biomass and Fossil-Fuel Cookstoves.' (2019) *Environmental Science and Technology*. 53(12): 7114-7125.
22. van Zyl, L., Tryner, J., Bilsback, K.R., Good, N., Hecobian, A., Sullivan, A., Zhou, Y., Peel, J.L., and J. Volckens. (2019) 'Effects of Fuel Moisture Content on Emissions from a Rocket-Elbow Cookstove.' *Environmental Science and Technology*. 53(8): 4648-4656.
23. Fedak, K.M., Good, N., Walker, E., Clark, M.L., L'Orange, C., Volckens, J., and J.L. Peel. (2019) 'An expert survey on the material types used to start cookstoves.' *Energy for Sustainable Development* 48: 59-66.
24. Walker, E.S., Clark, M.L., Young, B.N., Rajkumar, S., Benka-Coker, M.L., Bachand, A.M., Brook, R.D., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Africano, S., Osorto Pinel, A.B., Good, N., Koehler, K., and J.L. Peel. (2019) 'Exposure to household air pollution from biomass cookstoves and self-reported symptoms among women in rural Honduras.' *International Journal of Environmental Health Research*. doi: 10.1080/09603123.2019.1579304

Refereed Publications

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25. Rajkumar, S., Young, B.N., Clark, M.L., Benka-Coker, M.L., Bachand, A.M., Brook, R.D., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Good, N., Koehler, K., Africano, S., Osorto Pinel, A.B., and J.L. Peel. (2019) 'Household air pollution from biomass-burning cookstoves and metabolic syndrome, blood lipid concentrations, and waist circumference in Honduran women: A cross-sectional study.' *Environmental Research*. 170: 46-55.
26. Young, B., Clark, M.L., Rajkumar, S., Benka-Coker, M.L., Bachand, A., Brook, R., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Good, N., Koehler, K., Africano, S., Osorto Pinel, A.B. and J.L. Peel. (2019) 'Household air pollution from biomass-burning cookstoves and metabolic syndrome, blood lipid concentrations, and waist circumference in Honduran women: a cross-sectional study.' *Environmental Research*. 170: 46-55.
27. Berg, K.E., Turner, L.R., Benka-Coker, M.L., Rajkumar, S., Young, B.N., Peel, J.L., Clark, M.L., Volckens, J., and C.S. Henry. (2018) 'Electrochemical Dithiothreitol Assay for Large-Scale Particulate Matter Studies.' *Aerosol Science and Technology*. 53(3): 268-275.
28. Benka-Coker, M.L., Clark, M.L., Rajkumar, S., Young, B., Bachand, A., Balmes, J., Brook, R., Nelson, T., Volckens, J., Reynolds, S., Wilson, A., L'Orange, C., Good, N., Quinn, C., Koehler, K., Africano, S., Osorto, A. and J.L. Peel (2018) 'Exposure to household air pollution from biomass cookstoves and levels of fractional exhaled nitric oxide (FeNO) among Honduran women.' *International Journal of Environmental Research and Public Health*. 15(11): 2544.
29. Koehler, K., Good, N., Wilson, A., Mölter, A., Moore, B., Carpenter, T., Peel, J.L., and J. Volckens. (2018) 'The Fort Collins Commuter Study: Variability in Personal Exposure to Air Pollutants by Microenvironment.' *Indoor Air*. 29 2): 231-241.
30. Kodros, J., Volckens, J., Jathar, J., and J. Pierce. (2018) 'Ambient particulate matter size distributions drive regional and global variability in particle deposition in the respiratory tract.' *GeoHealth*. 2 (10): 298-312 doi: 10.1029/2018GH000145
31. Quinn, C., Miller-Lionberg, D., Klunder, K.J., Kwon, J., Noth, E.M., Mehaffy, J., Magzamen, S., Hammond, S.K., Henry, C.S., and J. Volckens. (2018) 'Personal exposure to PM2.5 black carbon and aerosol oxidative potential using an automated microenvironmental aerosol sampler (AMAS).' *Environmental Science and Technology*. 52(19) 11267-11275. doi: 10.1021/acs.est.8b02992
32. Young, B.N., Clark, M.L., Rajkumar, S., Benka-Coker, M.L., Bachand, A., Brook, R., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Africano, S., Osorto Pinel, A.B. and J.L. Peel. (2018) 'Exposure to household air pollution from biomass cookstoves and blood pressure among women in rural Honduras: A cross-sectional study.' *Indoor Air*. 29(1): 130-142.
33. Good, N., Carpenter, T., Anderson, G.B., Wilson, A., Peel, J.L., Browning, R., and J. Volckens. (2018) 'Development and validation of models to predict personal ventilation rate for air pollution research.' *Journal of Exposure Science and Environmental Epidemiology*. 29(4): 568-577.
34. Fedak, K., Good, N., Dahlke, J., Hecobian, A., Sullivan, A., Zhou, Y., Peel, J., and J. Volckens. (2018) 'Chemical composition and emissions factors for cookstove startup (ignition) materials.' *Environmental Science and Technology*. 52 (16): 9505-9513 doi: 10.1021/acs.est.8b02218
35. Rajkumar, S., Clark, M.L., Young, B.N., Benka-Coker, M.L., Bachand, A.M., Brook, R.D., Nelson, T.L., Volckens, J., Reynolds, S.J., L'Orange, C., Good, N., Koehler, K., Africano, S., Osorto Pinel, A.B., and J. L. Peel. (2018) 'Exposure to Household Air Pollution from Biomass-Burning Cookstoves and HbA1c and Diabetic Status among Honduran Women.' *Indoor Air*. In press.

Refereed Publications

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36. Eilenberg, S.R., Bilsback, K.R., Johnson, M., Kodros, J.K., Lipsky, E.M., Naluwagga, N., Fedak, K.M., Benka-Coker, M., Reynolds, B., Peel, J., Clark, M.L., Shan, M., Sambandam, S., L'Orange, C., Pierce, J.R., Subramanian, R., Volckens, J., and A. Robinson. (2018). 'Field Measurements of Solid-Fuel Cookstove Emissions from Uncontrolled Cooking in China, Honduras, Uganda, and India'. *Atmospheric Environment*. 190: 116-125.
37. Moore, A.C., Anderson, A.A., Long, M., McKernan, L.T., and J. Volckens (2019). 'The Power of the Crowd: Prospects and Pitfalls for Citizen Science in Occupational Health.' *Journal of Occupational and Environmental Hygiene*. 16(3): 191-198.
38. Bilsback, K., L'Orange, C., Johnson, M., Kodros, J., Eilenberg, S., Subramanian, R., Lipsky, E., Pierce, J., Robinson, A., and J. Volckens. (2018) 'The Firepower Sweep Test: A Novel Approach to Cookstove Laboratory Testing'. *Indoor Air*. 28: 936-949. doi: 10.1111/ina.12497
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118. Volckens J., O'Shaughnessy P.T., and Hemenway D.R. (1998) 'An aerosol generation system for the production of respirable grain dust.' *Applied Occupational and Environmental Hygiene*. 13(2): 122-126. doi: 10.1080/1047322X.1998.1038913

Presentations (previous 5 years only)

1. Invited Symposium Speaker. 'New Sensors and Citizen Science.' Colorado Air Quality Control Commission / Colorado School of Public Health: Air Quality & Health Symposium. Aurora, CO. May 2019.

Presentations *(continued, previous 5 years only)*

2. Invited Seminar Speaker. 'Arts and Crafts in the 21st Century: Adventures in Low-Cost Environmental Sensing.' University of California Riverside. April 2019.
3. Invited Symposium Presentation. 'Ensuring trustworthy data for communities engaged in environmental sensing.' International Society for Environmental Epidemiology and Exposure Science Joint Meeting, Ottawa, Canada, August 2018.
4. Invited Keynote. 'Low-Cost Sensors and Citizen Science: Prospects, Pitfalls, and Paradigm Shifts.' Principles of Air Monitoring Conference (AIRMON) Conference, Dresden, Germany, June 2017.
5. Invited Presentation 'The Low-Cost Sensor Revolution: Prospects, Pitfalls, and a Whole Lot of Noise.' AWMA Rocky Mountain States Annual Meeting, Denver, CO, April 2017.
6. Invited Presentation. 'Approaching personal exposure assessment at population scale: The Holy Grail is not made of gold.' Workshop on Innovative Approaches to Scalable Research on Household Air Pollution, International Society for Environmental Epidemiology annual meeting, Rome, Italy, September 2016.
7. Invited Keynote. 'The Future of Environmental Engineering and Science.' NSF-AEESP Grand Challenges Workshop, Washington DC, June 2016.
8. Invited Seminar Speaker. 'A 21st Century Toolkit for the Modern Exposure Scientist: Crayons, Paper, and Plastic.' University of Michigan, School of Public Health, April 2016.
9. Invited Keynote. 'Occupational Health in the 21st Century: Romance, Separation, Counseling, and Re-Marriage.' American Industrial Hygiene Association YUMA Section Annual Meeting, San Diego, CA, January 2016.
10. Invited Presentation. 'The Future of Environmental Engineering and Science.' NSF-AEESP Grand Challenges Workshop at USC, Los Angeles, CA, January 2016.
11. Platform Presentation. 'Quantifying the climate, air quality and health benefits of improved cookstoves: An integrated laboratory, field and modeling study'. Global Alliance for Clean Cookstoves: Clean Cooking Forum. Accra, Ghana, November 2015.
12. Platform Moderator. 'Workplace Safety and Public Safety Related to Oil and Gas Activities.' CSU 2015 Natural Gas Symposium, Fort Collins, CO, October 2015.
13. Invited Keynote. 'Occupational Health in the 21st Century: Romance, Separation, Counseling, and Re-Marriage.' The Future of Occupational Health Symposium. University of Washington, Seattle, WA, June 2015.
14. Invited Symposium Speaker. 'A Brief History of Aerosol Lung Deposition,' Science Symposium at the American Industrial Hygiene Conference and Exposition, Salt Lake City, UT, June 2015.
15. Invited Speaker. 'Engineering for Public Health: 19th Century Innovations for 21st Century Problems.' Health Canada Symposium. Ottawa, ON. May 2015.
16. Invited Symposium Speaker: 'Point-of-Need Monitoring for Environmental Pollutants and Citizen Science.' Pittcon Conference and Expo. New Orleans, LA, March 2015.
17. Invited Speaker: 'Arts and Crafts for the 21st Century Industrial Hygienist: How Crayons, Paper, and Pencils Can Help Revolutionize Occupational and Environmental Health.' AIHA Rocky Mountain Section Fall Technical Conference. Arvada, CO, September, 2014.
18. Invited Keynote Speaker. '19th century innovations for 21st century exposure science: how crayons, paper and citizen-based science can revolutionize our field.' National Environmental Monitoring Conference. Washington, DC, August 2014.
19. Invited Plenary Speaker. 'The 8th International Symposium on Modern Principles for Air Monitoring and Biomonitoring. Marseille, France, June 2014.

Presentations *(continued, previous 5 years only)*

20. Invited Speaker. 'Development of the Thermophoretic Personal Sampler (TPS) for Nanoparticle Exposure Assessment.' Webinar to the Morgantown, WV office of NIOSH. December, 2013.
21. Invited Speaker. 'A Low-Cost, Disposable Sampler for Inhalable Aerosol.' Webinar to the DOE Beryllium Health and Safety Committee. October 15, 2014.