

Professor
Colorado State University
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Education

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

Professional Experience*(current appointments in bold)*

Associate Professor 2014-present	Department of Mechanical Engineering Colorado State University (primary appointment)
Associate Professor 2010-present	Department of Environmental and Radiological Health Sciences Colorado State University (affiliate appointment)
Director 2013-present	Center for Energy Development and Health The Energy Institute at Colorado State University
Associate 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	Engines and Energy Conversion Laboratory Dept. of Mechanical Engineering, Colorado State University
Associate Department Head 2011 - 2013	<i>Department of Environmental and Radiological Health Sciences Colorado State University</i>
Assistant Professor 2004 - 2010	<i>Department of Environmental and Radiological Health Sciences Colorado State University</i>
Assistant Professor 2009-2011	<i>Department of Environmental and Occupational Health Colorado School of Public Health</i>
Visiting Scientist 2006-2009	<i>Clinical Research Branch National Health and Environmental Effects Research Lab, U.S. EPA</i>
Postdoctoral Research Fellow January, 2003 – July 2004	<i>Environmental Characterization and Apportionment Branch National Exposure Research Laboratory, U.S. EPA</i>
Special Appointment August, 2003 – August 2004	<i>Department of Environmental Sciences and Engineering University of North Carolina at Chapel Hill</i>

Professional Experience

(continued)

Environmental Engineer <i>June – September, 1999, 2000</i>	<i>Atmospheric Methods and Monitoring Branch U.S. EPA</i>
Water Resources Engineer <i>July, 1996 – January, 1997</i>	<i>The Pitometer Associates Boston, MA</i>

Honors and Awards

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, 1993

Grants and Contracts*(as principal investigator; total costs shown)*

- ‘A New Paradigm for Workplace Air Sampling and Cost-Effective Exposure Assessment’
2015-2019; CDC/NIOSH, PIs: Volckens, Henry. 1R01OH010662 (\$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’
2015-2017; NIH/NIEHS, PIs: Volckens, Henry. R21ES24719 (\$409,105)
- ‘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)

Grants and Contracts

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- ‘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 (MPI) R01ES020017 (\$2,072,576)
- ‘Development of a Microfluidic Paper Analytic Device (μ PAD) for Airborne Metals’
2011-2014; CDC/NIOSH (MPI) 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 342 “Mechanics and Thermodynamics of Flow Processes” 2015 EH 726 “Aerosols and Environmental Health” 2004-present EH 636 “Control Methods for Industrial Hygiene” 2005-present
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, 2009) AAAR Aerosol Control Technology Working Group, 2001-2002 AAAR Health Related Aerosols Working Group, 2014-2015
Technical Reviewer	<i>Aerosol Science and Technology</i> <i>Annals of Occupational Hygiene</i> <i>American Industrial Hygiene Association Journal</i> <i>Applied Occupational and Environmental Hygiene</i> <i>Atmospheric Chemistry and Physics</i> <i>Atmospheric Environment</i> <i>Biomass and Bioenergy</i> <i>Cell Biology and Toxicology</i> <i>Environmental Science and Technology</i> <i>Environmental Science: Processes & Impacts</i> <i>Environmental Health Perspectives</i> <i>International Immunopharmacology</i> <i>International Journal of Environmental Research and Public Health</i> <i>International Journal of Environmental Health</i> <i>Journal of Geophysical Research</i> <i>Journal of Air and Waste Management Association</i> <i>Journal of Environmental Engineering</i> <i>Journal of Environmental Monitoring</i> <i>Journal of Nanoparticle Research</i> <i>Journal of Occupational and Environmental Hygiene</i> <i>Nanotoxicology</i> <i>PLOS ONE</i> <i>Science of the Total Environment</i>

Service

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- 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
ZESI 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
ZESI 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-
- Organizing Member** *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*

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., Issued 10 March 2015, #8,973,447

"Portable Inhalable Particle Separator." Volckens, J. et al., #14/918,798

Refereed Publications (*h-index = 21; i-10 index = 35*)

1. Jathar, S., Friedman, B., Galang, A.A., Link, M., Brophy, P., Volckens, J., and D.K. Farmer. (2016) "Linking Load, Fuel and Emission Controls to Photochemical Production of Organic Aerosol from a Diesel Engine." *Environmental Science and Technology*. Submitted.

Refereed Publications

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2. Mettakoonpitaka, J., Mehaffy, J., Volckens, J. and C.S. Henry. (2016) "AgNP/Bi/Nafion-Modified Disposable Electrodes for Sensitive Zn(II), Cd(II), and Pb(II) Detection in Aerosol Samples." *Electroanalysis*. In press.
3. Rabinovitch, N., Adams, C., Strand, M., Koehler, K., and J. Volckens. (2016) "Within-Microenvironment Exposure to Particulate Matter and Health Effects in Children with Asthma: A Pilot Study Utilizing Real-Time Personal Monitoring with GPS Interface." *Environmental Health*. 15:96. doi: 10.1186/s12940-016-0181-5
4. Good, N., Mölter, A., Peel, J., and J. Volckens. (2016) "An accurate filter loading correction is essential for assessing personal exposure to black carbon using an Aethalometer." *Journal of Exposure Science and Environmental Epidemiology*. In press.
5. Serdar, B., Brindley, S., Dooley, G., Volckens, J., Juarex-Colunga, E., and Gan, R. (2016) "Short-term markers of DNA damage among roofers who work with hot asphalt" *Environmental Health*. In press.
6. Stewart, J., Sleeth, D.K., Handy, R.G., Pahler, L.F., Anthony, T. R., and J. Volckens. (2016) "Assessment of Increased Sampling Pump Flow Rates in a Disposable, Inhalable Aerosol Sampler." *Journal of Occupational and Environmental Hygiene*. In press.
7. Volckens, J., Quinn, C., Mehaffy, J., Henry, C.S., and D. Miller-Lionberg. (2016) "Development and Evaluation of an Ultrasonic Personal Aerosol Sampler (UPAS)." *Indoor Air*. In press. doi: 10.1111/ina.12318
8. Groulx, N. Lecours, C., Turgeon, N., Volckens, J., Tremblay, M.E., and C. Duchaine (2016) "Nano-scale aerovirology: an efficient yet simple method to analyse the viral content of single bioaerosols," *Aerosol Science and Technology*. In press.
9. Maikawa, C.L., Zimmerman, N., Rais, K., Shah, M., Hawley, B., Jeong, C.H., Volckens, J., Evans, G., Wallace, J.S. and K.J. Godri Pollitt (2016) "Cytotoxic and inflammatory induction by Gasoline Direct Injection engine exhaust in murine precision-cut lung slices." *Science of the Total Environment*. In press.
10. Meredith, N.A., Quinn, C., Cate, D., Reilly, T.H., Volckens, J., and C.S. Henry. (2016) "Paper-Based Analytical Devices for Environmental Analysis." *Analyst*. 141: 1874-1887. doi: 10.1039/C5AN02572A
11. L'Orange, C., Anderson, K., Sleeth, D., Anthony, T.R., and J. Volckens. (2016) "Simple, Low-Cost Sampler for Inhalable Aerosol." *Annals of Occupational Hygiene*. 60(2): 150-160. doi: 10.1093/annhyg/mev065
12. Good, N., Mölter, A., Ackerson, C., Bachand, A., Carpenter, T., Clark, M.L., Fedak, K.M., Kayne, A., Koehler, K., Moore, B., L'Orange, C., Quinn, C., Ugave, V., Stuart, A.L., Peel, J.L., and J. Volckens. (2016) "The Fort Collins Commuter Study: Impact of route type and transport mode on personal exposure to multiple air pollutants." *Journal of Exposure Science and Environmental Epidemiology*. 26: 397-404. doi:10.1038/jes.2015.68
13. Anthony, T.R., Sleeth, D., and J. Volckens. (2016) "Sampling Efficiency of Modified 37-mm Sampling Cassettes using Computational Fluid Dynamics." *Journal of Occupational and Environmental Health*. 13(2): 148-158. doi:10.1080/15459624.2015.1091961
14. Anderson, K.R., Leith, D., Ndonga, M., and J. Volckens. (2016) "Novel Instrument to Separate Large Inhalable Particles." *Aerosol Science and Technology*. 49(12): 1195-1209, doi: 10.1080/02786826.2015.1112874
15. Cate, D., Noblitt, S., Volckens, J. and C.S. Henry. (2015) "Multiplexed paper analytical device for quantification of metals using distance-based detection." *Lab Chip*, 15: 2808-2818. doi: 10.1039/C5LC00364D
16. Kodros, J. K., Scott, C.E., Farina, S.C., Lee, Y.H., L'Orange, C., Volckens, J., and J. R. Pierce. "Uncertainties in global aerosols and climate effects due to biofuel emissions." (2015) *Atmospheric Chemistry and Physics*, 15, 10199-10256, doi:10.5194/acpd-15-10199-2015

Refereed Publications

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17. Hawley, B., Schaeffer, J., Poole, J.A., Dooley, G.P., Reynolds, S., and J. Volckens. (2015). "Differential Response of Human Nasal and Bronchial Epithelial Cells upon Exposure to Size-fractionated Dairy Dust." *Journal of Toxicology and Environmental Health, Part A*. 78: 583–594. doi: 10.1080/15287394.2015.1015699
18. Ruecha, N., Rodthongkum, N., Cate, D.M., Volckens, J., Chailapakul, O., and C.S. Henry (2015) "Sensitive Electrochemical Sensor using a Graphene-Polyaniline Nanocomposite for Simultaneous Detection of Zn(II), Cd(II), and Pb(II)" *Analytica Chimica Acta*. 874: 40-48. doi: 10.1016/j.aca.2015.02.064
19. Lake, K., Zhu, J., Wang, H., Volckens, J., and K.A. Koehler. (2015) "Effects of Data Sparsity and Spatiotemporal Variability on Hazard Maps of Workplace Noise." *Journal of occupational and environmental hygiene*. 12: 256–265. doi: 10.1080/15459624.2014.963589
20. L'Orange, C., Leith, D., Volckens, J., and M DeFoort. (2015) "A quantitative model of cookstove variability and field performance: Implications for sample size." *Biomass and Bioenergy*, 72: 233-241. doi:10.1016/j.biombioe.2014.10.031
21. Hawley, B., L'Orange, C., Olsen, D., Marchese, A., and J. Volckens. (2014) "Oxidative Stress and Aromatic Hydrocarbon Response of Human Bronchial Epithelial Cells Exposed to Petro- or Biodiesel Exhaust Treated with a Diesel Particulate Filter." *Toxicological Sciences*. 141(2): 505-514. doi: 10.1093/toxsci/kfu147.
22. Hawley, B., McKenna, D., Marchese, A., and J. Volckens. (2014) "Time Course of Bronchial Cell Inflammation Following Exposure to Diesel Particulate Matter using a Modified EAVES." *Toxicology in Vitro*. 28(5): 829-237. doi: 10.1016/j.tiv.2014.03.001
23. Rattanarat, P., Dungchai, W., Cate, D., Volckens, J., Chailapakul, O., and C.S. Henry. (2014) "Multilayer Paper-based Device for Colorimetric and Electrochemical for Quantification of Metals." *Analytic Chemistry*, 86(7): 3555-3562. doi: 10.1021/ac5000224
24. Koehler, K., Shapiro, J., Sameenoi, Y., Henry, C.S., and J. Volckens. (2014) "Laboratory Evaluation of a Microfluidic Electrochemical Sensor for Aerosol Oxidative Load." *Aerosol Science and Technology*, 48(5): doi: 10.1080/02786826.2014.891722
25. Liu, X., Doerges, J.E., Volckens, J., and T.E. Johnson. (2014) "Aerosol Size Distribution in the Schwartzwalder Uranium Mine." *Health Physics*, 106(2): S20-S24.
26. Cate, D., Nanthasurasak, P., Riwkulkajorn, P., L'Orange, C., Henry, C.S., and J. Volckens (2014) "Rapid Detection of Transition Metals in Welding Fumes Using Paper-Based Analytical Devices." *Annals of Occupational Hygiene*, 58(4): 413-423. doi:10.1093/annhyg/met078
27. Leith, D., Miller-Lionberg, D., Casuccio, G., Lersch, T., Lentz, H., Marchese, A., and J. Volckens (2014) "Development of a Transfer Function for a Personal, Thermophoretic Nanoparticle Sampler." *Aerosol Science and Technology*, 48: 81–89. doi: 10.1080/02786826.2013.861593
28. Rattanarat, P., Dungchai, W., Cate, D., Siangproh, W., Volckens, J., Chailapakul, O., and C.S. Henry (2013) "A Microfluidic Paper-Based Analytical Device for Rapid Quantification of Particulate Chromium." *Analytica Chimica Acta*, 800: 50-55. doi: /10.1016/j.aca.2013.09.008
29. Dungchai, W., Sameenoi, Y., Chailapakul, O., Volckens, J., Henry, C.S., (2013) "Determination of Aerosol Oxidative Activity using Silver Nanoparticle Aggregation on Paper-Based Analytical Devices." *Analyst*, 138: 6766-6773. doi: 10.1039/C3AN01235B
30. Koehler, K., and J. Volckens (2013) "Development of a sampler to estimate regional deposition of aerosol in the human respiratory tract." *Annals of Occupational Hygiene*. 57(9): 1138-1147. doi: 10.1093/annhyg/met041
31. Cate, D.M., Dungchai, W., Cunningham, J., Volckens, J., Henry, C. (2013) "Simple, Distance-Based Measurement for Paper Analytical Devices." *Lab on a Chip*. 13(12): 2397 - 2404 doi:10.1039/C3LC50072A

Refereed Publications

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32. Clark M.L., Bachand, A.M., Heiderscheidt, J.M., Yoder, S.A., Luna, B., Volckens, J., Koehler, K.A., Conway, S., Reynolds, S.J., Peel, J.L. (2013) "Impact of a cleaner-burning cookstove intervention on blood pressure in Nicaraguan women." *Indoor Air*. 23(2): 105-114. doi: 10.1111/ina.12003
33. Hawley, B., and J. Volckens (2013) "Proinflammatory effects of cookstove emissions on human bronchial epithelial cells." *Indoor Air*. 23(1): 4-13. doi:10.1111/j.1600-0668.2012.00790
34. Sameenoi, Y., Panymeesamer, P., Suphalakorn, N., Koehler, K., Chailapakul, O., Henry, C., and J. Volckens (2012) "A Microfluidic Paper-Based Analytical Device (μ PAD) for Aerosol Oxidative Activity" *Environmental Science and Technology*. 47(2): 932-940. doi: 10.1021/es304662w
35. L'Orange, C., Volckens, J., and M. Defoort. (2012) "Influence of stove type and cooking pot temperature on particulate matter emissions from biomass cook stoves." *Energy For Sustainable Development*. 16(4): 448-455. doi: 10.1016/j.esd.2012.08.008
36. Sameenoi, Y., Koehler, K., Shapiro, J. Boonsong, K., Sun, Y. Collett, J., Volckens, J., and C.S. Henry. (2012) "Microfluidic electrochemical sensor for on-line monitoring of aerosol oxidative activity." *Journal of the American Chemical Society*. 134(25): 10562-10568. doi: 10.1021/ja3031104
37. Mentele, M.M., Cunningham, J., Koehler, K., Volckens, J. and C. Henry. (2012) "Microfluidic Paper-Based Analytical Device for Particulate Metals." *Journal of Analytical Chemistry*. 84(10): 4474-4480. doi: 10.1021/ac300309c
38. Koehler, K.A., Van Dyke, M., Anthony, T.R., and J. Volckens (2012) "Solid versus Liquid Particle Sampling Efficiency of Three Personal Aerosol Samplers when Facing the Wind." *Annals of Occupational Hygiene*. 56(2): 194-206. doi: 10.1093/annhyg/mer077
39. Koehler, K.A., and J. Volckens. (2011) "Prospects and Pitfalls of Occupational Hazard Mapping: Between These Lines There Be Dragons." *Annals of Occupational Hygiene*. 55(8): 829-840. doi: 10.1093/annhyg/mer063
40. Thayer, D., Koehler, K.A., Marchese, A., and J. Volckens. (2011) "A Personal, Thermophoretic Sampler for Airborne Nanoparticles." *Aerosol Science and Technology*. 45(6): 734-740. doi: 10.1080/02786826.2011.558943
41. Clark, M.L., Bazemore, H., Reynolds, S.J., Heiderscheidt, J.M., Conway, S., Bachand, A.M., Volckens, J., and Peel, J.L. (2011) "A Baseline Evaluation of Traditional Cook Stove Smoke Exposures and Indicators of Cardiovascular and Respiratory Health among Nicaraguan Women." *International Journal of Occupational and Environmental Health*. 17(2): 113 - 121.
42. Koehler, K., Anthony, T.R., Van Dyke, M., and J. Volckens, (2011) "A Rotating Bluff-Body Disc for Reduced Variability in Wind Tunnel Aerosol Studies." *Annals of Occupational Hygiene*. 55(1): 86-96. doi: 10.1093/annhyg/meq078
43. Fisher, B.C., Marchese, A.J., Volckens, J., Lee, T., and J.L. Collett. (2010) "Measurement of Gaseous and Particulate Emissions from Algae-Based Fatty Acid Methyl Esters." *SAE International Journal of Fuels and Lubricants*. 3: 292-321
44. Anthony, T.R., Landázuri, A.C., Van Dyke, M., and Volckens, J. (2010) "Design and Computational Fluid Dynamics Investigation of a Personal, High Flow Inhalable Sampler." *Annals of Occupational Hygiene*. 54(4): 427-442. doi:10.1093/annhyg/meq029
45. Rosenbaum, M., VandeWoude, S., Volckens, J., and Johnson, T. (2010) "Disparities in Ammonia, Temperature, Humidity, and Airborne Particulate Matter between the Micro-and Macroenvironments of Mice in Individually Ventilated Caging." *Journal of the American Association for Laboratory Animal Science*. 49(2): 177-183.

Refereed Publications

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46. Koehler, K., Clark, P., Volckens, J. (2009) "Development of a sampler for total aerosol deposition in the human respiratory tract." *Annals of Occupational Hygiene*. 53: 731-738. doi:10.1093/annhyg/mep053
47. Volckens, J., Dailey, L., Walters, G., and Devlin, R. (2009) "Direct particle-to-cell deposition of coarse ambient particulate matter increases the production of inflammatory mediators from cultured human airway epithelial cells." *Environmental Science and Technology*. 43: 4595-4599. doi 10.1021/es900698a
48. Adams, C., Riggs, P., and Volckens, J.(2009) "Development of a method for personal, spatiotemporal exposure assessment" *Journal of Environmental Monitoring*. 11: 1331-1339. doi: 10.1039/B903841H
49. Clark, P., Koehler, K., Volckens, J. (2009) "An Improved Model for Particle Deposition in Porous Foams." *Journal of Aerosol Science*. 40: 563-572. doi 10.1016/j.jaerosci.02.005
50. Schroeder, W.G., Mitrescu, L.M., Hart, M.L. Smith, E.E., Shanley, C., Benedict, K.M., Taraba, L., Volckens, J. Basaraba, R.J., Schenkel, A. (2009) "Flexible low cost system for small animal aerosol inhalation exposure to drugs, proteins, inflammatory agents, and infectious agents." *Biotechniques*. 48(3): Piii-Pviii. doi 10.2144/00011289
51. Bennett, M., Volckens, J., Stanglmaier, R., McNichol, A., Ellenson, W.D., and C.W. Lewis. (2008) "Biodiesel effects on radiocarbon emissions from a diesel engine." *Journal of Aerosol Science*. 39(8): 667-678. doi:10.1016/j.jaerosci.2008.04.001
52. Quillen, K., Bennet, M., Volckens, J., Stanglmaier, R. (2008) "Characterization of particulate matter emissions from a 4-stroke, lean burn, natural-gas engine." *Journal of Engineering for Gas Turbines and Power*. doi:10.1115/1.2906218
53. Benton-Vitz, K.B., and J. Volckens (2008) "Evaluation of the pDR-1200 Real-time aerosol monitor." *Journal of Occupational and Environmental Health*. 5(6): 353-359. doi: 0.1080/15459620802009919
54. Volckens, J., Olson, D, and M. Hays. (2008) "Carbonaceous species emitted from handheld two-stroke engines." *Atmospheric Environment*. 42(6): 1239 - 1248. doi:10.1016/j.atmosenv.2007.10.032
55. Volckens, J. Braddock, J., Snow, R.F., and W. Crews. (2007) "Emissions profile of new and in-use handheld, two-stroke engines." *Atmospheric Environment*. 41(3): 640-649. doi:10.1016/j.atmosenv.2006.08.033
56. Lewis, C.W., Volckens, Braddock, J.N., Crews, W., Lonneman, W.A., and A.P. McNichol (2006) "Absence of ¹⁴C in PM_{2.5} emissions from gasohol combustion in small engines." *Aerosol Science and Technology*. 40: 657-663. doi: 10.1080/02786820600784315
57. Volckens, J., and Peters, T.M. (2005) "Counting and particle transmission efficiency of the Aerodynamic Particle Sizer." *Journal of Aerosol Science*. 36(12): 1400-1408. doi:10.1016/j.jaerosci.2005.03.009
58. Leith, D., Volckens, J., Boundy, M., and D. Hands. (2003) "Control methods for mineral oil mists." *Applied Occupational and Environmental Hygiene*. 18(11): 883-889. doi: 10.1080/10473220390237412
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60. Volckens, J., and Leith, D. (2003) "Effects of sampling bias on gas-particle partitioning of semivolatile compounds." *Atmospheric Environment*. 37: 3385-3393. doi:10.1016/S1352-2310(03)00356-X
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Refereed Publications

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63. Volckens, J., and Leith, D. (2002) "Filter and electrostatic samplers for semivolatile aerosols: Physical artifacts." *Environmental Science and Technology*. 36(21): 4613-4617. doi: 10.1021/es020711s
64. Cardello, N., Volckens, J., Wiener, R., Tolocka, M., and Buckley, T. (2002) "Performance of a personal electrostatic precipitator particle sampler." *Aerosol Science and Technology*. 36: 162-165. doi: 10.1080/027868202753504029
65. Volckens J., Boundy M., and Leith D. (2000) "Mist concentration measurements II: Laboratory and field evaluation." *Applied Occupational and Environmental Hygiene*. 15(4): 370-379. doi: 10.1080/104732200301494
66. Raynor P.C., Volckens J., and Leith D. (2000) "Modeling evaporative losses of oil mist collected by sampling filters." *Applied Occupational and Environmental Hygiene*. 15(1): 90-96. doi: 10.1080/104732200301890
67. Volckens J., Boundy M., Leith D., and Hands D. (1999) "Oil mist concentration: A comparison of sampling methods." *American Industrial Hygiene Association Journal*. 60: 684-689. doi: 10.1080/00028899908984492
68. 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 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.
2. Invited Keynote. "The Future of Environmental Engineering and Science." NSF-AEESP Grand Challenges Workshop, Washington DC, June 2016.
3. 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.
4. 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.
5. Invited Presentation. "The Future of Environmental Engineering and Science." NSF-AEESP Grand Challenges Workshop at USC, Los Angeles, CA, January 2016.
6. 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.
7. Platform Moderator. "Workplace Safety and Public Safety Related to Oil and Gas Activities." CSU 2015 Natural Gas Symposium, Fort Collins, CO, October 2015.
8. 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.
9. 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.
10. Invited Speaker. "Engineering for Public Health: 19th Century Innovations for 21st Century Problems." Health Canada Symposium. Ottawa, ON. May 2015.

Presentations

(continued, previous 5 years only)

11. Invited Symposium Speaker. "Point-of-Need Monitoring for Environmental Pollutants and Citizen Science." Pittcon Conference and Expo. New Orleans, LA, March 2015.
12. 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.
13. 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.
14. Invited Plenary Speaker. "The 8th International Symposium on Modern Principles for Air Monitoring and Biomonitoring. Marseille, France, June 2014.
15. Invited Speaker. "Development of the Thermophoretic Personal Sampler (TPS) for Nanoparticle Exposure Assessment." Webinar to the Morgantown, WV office of NIOSH. December, 2013.
16. Invited Speaker. "A Low-Cost, Disposable Sampler for Inhalable Aerosol." Webinar to the DOE Beryllium Health and Safety Committee. October 15, 2014.
17. "Spatiotemporal Modeling of Indoor Aerosol Mass Concentration," Platform Presentation. American Association for Aerosol Research. Portland, OR. October 2013.
18. "Measuring Commuter Exposure to Black Carbon in the Context of a Multi-Pollutant Study," Platform Presentation, American Association for Aerosol Research. Portland, OR. October 2013.
19. "Inexpensive Microfluidic Devices for Multiplexed Metal Measurement in Particulate Matter," Poster Presentation, American Association for Aerosol Research. Portland, OR. October 2013.
20. "Performance of a Personal Thermal Precipitator to Assess Nanoparticle Exposures," Platform Presentation. American Association for Aerosol Research. Portland, OR. October 2013.
21. "Commuting and air pollution: A multi-pollutant exposure study," Platform Presentation, The 2013 Conference on Environment and Health, Joint Meeting of the ISEE, ISES, ISIAQ. Basel, Switzerland. August, 2013.
22. "A Holistic Approach to Microenvironmental Exposure Assessment: Home, Work, and Commute Personal Exposures to Particulate Air Pollution," Platform Presentation, The 2013 Conference on Environment and Health, Joint Meeting of the ISEE, ISES, ISIAQ. Basel, Switzerland. August, 2013.
23. Invited Speaker. "19th Century Innovations for 21st Century Exposure Science: How Crayons, Paper, and Heat Can Revolutionize Industrial Hygiene," National Institute for Occupational Health and Safety, Cincinnati, OH, April 2013.
24. Invited Lecture. "Microfluidic approaches to the analysis of ambient aerosols," Nanyang Technical University, Singapore, January, 2013.
25. Invited Lecture. "Personal Exposure Assessment using Paper-Based Microfluidic Devices," Pure and Applied Chemistry Conference, BangSaen, Thailand, January, 2013.
26. Invited Speaker. "Personal exposure assessment to particulate metals using a paper-based analytical device," SPIE Photonics West, San Francisco, February, 2013.
27. Invited Lecture. "Electrochemistry of Atmospheric Micro- and Nanoparticles," Pittsburg Conference on Analytical Chemistry, Orlando, FL, March, 2012.
28. Invited Symposium Speaker. "The ISO Conventions for Aerosol Exposure Assessment." International Society for Exposure Science. November, 2012. Seattle, WA.

Presentations

(continued, previous 5 years only)

29. Invited Plenary Lecture. "A Small Solution to a Big Problem: Lab-on-a-Chip Technology for Characterizing Atmospheric Aerosols," Wyoming meeting of the ACS, April, 2012.
30. Invited Lecture. "Microfluidic tools for personal exposure assessment," invited lecture, Lab-on-a-Chip World Congress, San Diego, CA, September, 2012.
31. "Fast measurements of inherent and catalytic aerosol oxidative activity," oral presentation, AAAR, October 2012, Minneapolis, MN
32. "A low-cost method for quantifying metal aerosol in the field: Microfluidic paper-based analytical devices (μ PAD)," oral presentation, Lab-on-a-Chip World Congress, October, 2012, Minneapolis, MN.
33. Invited Lecture. "Microfluidic tools for personal exposure assessment," Latin American Capillary Electrophoresis society meeting, Buenos Aires, Argentina, December, 2012.
34. "Paper-Based Microfluidic Devices for Aerosol Exposure Assessment." Platform Presentation. International Society for Exposure Science. November, 2012. Seattle, WA.
35. "Spatiotemporal Profiles of Particulate Matter Exposure Among Asthmatic Children." Poster Presentation. International Society for Exposure Science. November, 2012. Seattle, WA.
36. "Paper-Based Microfluidic Devices for Aerosol Exposure Assessment." Platform Presentation. American Association for Aerosol Research. October, 2012. Minneapolis, MN.
37. "Real-Time Measurements of Direct and Catalytic Aerosol Oxidative Activity." Platform Presentation. American Association for Aerosol Research. October, 2012. Minneapolis, MN.
38. "Spatiotemporal Assessment of Fine Particle Exposures During Commuting Activities." Platform Presentation. American Association for Aerosol Research. October, 2012. Minneapolis, MN.
39. "Development and Evaluation of a Personal Sampler for Nanoparticle Exposure Assessment." Platform Presentation. American Association for Aerosol Research. October, 2012. Minneapolis, MN.
40. "Spatiotemporal Profiles of Particulate Matter Exposure Among Asthmatic Children." Platform Presentation. 7th International Conference on the Science of Exposure Assessment. July, 2012. Edinburgh, Scotland.
41. "Development and evaluation of a personal sampler for nanoparticle exposure assessment." Platform Presentation. 7th International Conference on the Science of Exposure Assessment. July, 2012. Edinburgh, Scotland.
42. "An aerosol sampler to estimate regional deposition within the human respiratory tract." Platform Presentation. 7th International Conference on the Science of Exposure Assessment. July, 2012. Edinburgh, Scotland.