COLLEGE OF PUBLIC HEALTH CURRICULUM VITAE

Thomas M. Peters
January 18, 2018

I. EDUCATION AND PROFESSIONAL HISTORY

A. Education

Institution	Field of Study	Degree Obtained	Degree Date
University of Florida, Gainesville, Florida	Environmental Engineering	BS	1990
University of Florida, Gainesville, Florida	Environmental Engineering	MS	1992
University of North Carolina at Chapel Hill, Chapel Hill, North Carolina	Industrial Hygiene/ Aerosol Physics	PhD	2004

Certification/Licensure

Board	Date
Certified Industrial Hygienist (CIH; 10112CP), American Board of Industrial Hygiene	June 2012 - Present

B. Professional and Academic Positions

Position Title	Dates of Service	Location/Institution
Graduate Research Assistant	1990-1992	University of Florida, Gainesville
Research Aerosol Engineer/Scientist	1993-2000	RTI International, Research, Triangle Park
Graduate Research Assistant	2000-2004	University of North Carolina at Chapel Hill, Chapel Hill
Assistant Professor	2004-2010	University of Iowa, Iowa City
Associate Professor	2010-2015	University of Iowa, Iowa City
Professor	2015-Present	University of Iowa, Iowa City

C. Honors, Awards, Recognitions, and Outstanding Achievements

Year	Title
1989	Florida Consulting Engineers Scholarship
1990	Air Pollution Control Scholarship, EPA
1991	Engineer-in-Training
2000	Graduate Assistants in Areas of National Need Fellowship, Department of Education
2001	Graduate Assistants in Areas of National Need Fellowship, Department of Education
2002	Training Award, NIOSH
2003	FY2001 EPA Scientific and Technology Achievement Award: Level 1
2003	Runner-up “Best Poster in Show Award”, AIHce
2003	Training Award, NIOSH
2004	Bernard G. Greenberg Award for Excellence in Doctoral Research
2005	New Investigator Research Award, College of Public Health
2008	“Best Aerosol Poster in Show Award”, AIHce
2009	“Best Aerosol Poster in Show Award”, AIHce
2009	“Best Poster in Session Award”, AIHce – Graduate Student Session
2009	“Best Poster in Session Award”, AIHce – Graduate Student Session
2010	David Swift Memorial Award for “Best Aerosols Paper Published in Journal of Occupational and Environmental Hygiene”
2010	“Best Paper Award”, Michigan Industrial Hygiene Society
2010	“Best Poster in Session Award”, AIHce – Graduate Student Session
2010	“Best Poster in Show Award”, AIHce
2011	Leadership Award, AIHce
2011	“Best Poster in Show Award”, AIHce

Year	Title
2013	"Best Poster in Session Award" AIHce - Graduate Student Session
2013	Distinguished Lecture Award, Association of Environmental Engineering & Science Professors
2013	UIowa Inventor Award
2014	UIowa Inventor Award
2016	"Best Poster in Show Award", AIHce

II. TEACHING

A. Teaching Assignments on a semester-by-semester basis (*classroom, seminar, teaching lab*)

1. University of Iowa

Semester/Year	Course Title/Number	Semester Hours	# Students	Role	Percent Responsible
1990	EPA short courses on Industrial Source sampling		30	Team Teacher	25%
2001	Introduction to Aerosols	4	12	Team Teacher	20%
2002	Introduction to Aerosols	4	12	Team Teacher	20%
2003	ENVR:754 Air Pollution Control	3	5	Team Teacher	10%
2004	Industrial Hygiene 1	3	4	Team Teacher	25%
Fall 2005	175:221 Aerosol Technology	3	13	Primary Instructor	100%
Spring 2006	175:220 Occupational and Environmental Epidemiology	3	5	Team Teacher	50%
Spring 2006	52:235 Air Pollution Control	3	3	Team Teacher	10%
Fall 2006	175:221 Aerosol Technology	3	8	Primary Instructor	100%

Semester/Year	Course Title/Number	Semester Hours	# Students	Role	Percent Responsible
Spring 2007	175:220 Occupational and Environmental Epidemiology	3	13	Team Teacher	50%
Fall 2007	175:221 Aerosol Technology	3	8	Primary Instructor	100%
Fall 2007	175:230 Occupational Health	3	20	Team Teacher	50%
Spring 2008	175:220 Occupational and Environmental Epidemiology	3	6	Team Teacher	50%
Fall 2008	175:220 Occupational and Environmental Epidemiology	3	6	Primary Instructor	10%
Fall 2008	175:221 Aerosol Technology	3	11	Primary Instructor	100%
Fall 2008	175:230 Occupational Health	3	16	Team Teacher	50%
Spring 2009	175:220 Occupational and Environmental Epidemiology	3	3	Team Teacher	10%
Fall 2009	175:221 Aerosol Technology	3	15	Primary Instructor	100%
Spring 2010	175:233 Control of Occupational Hazards	3	10	Team Teacher	80%
Fall 2010	175:221 Aerosol Technology	3	15	Primary Instructor	100%
Spring 2011	175:232 Physical Agents	3	10	Team Teacher	33%
Fall 2011	175:231 Industrial Hygiene Fundamentals	3	10	Team Teacher	50%
Spring 2012	175:233 Control of Occupational Hazards	3	10	Primary Instructor	80%
Fall 2012	175:221 Aerosol Technology	3	13	Primary Instructor	100%

Semester/Year	Course Title/Number	Semester Hours	# Students	Role	Percent Responsible
Spring 2013	175:232 Physical Agents	3	12	Team Teacher	33%
Fall 2013	OEH:6440 Aerosol Technology	3	11	Primary Instructor	100%
Spring 2014	OEH:6440 Control of Occupational Contaminants	3	8	Primary Instructor	80%
Fall 2014	OEH:6440 Aerosol Technology	3	9	Primary Instructor	100%
Spring 2015	OEH:6460 Qualitative Exposure Assessment	3		Team Teacher	21%
Spring 2015	OEH:7000:0139 Thesis/Dissertation			Primary Instructor	100%
Fall 2015	OEH:6440 Aerosol Technology	3	15	Primary Instructor	100%
Spring 2016	OEH:6440:0001 Control of Occupational Hazards	3	14	Primary Instructor	100%
Spring 2016	OEH:7000:0139 Thesis/Dissertation			Primary Instructor	100%
Fall 2016	OEH:6450:1 Aerosol Technology			Primary Instructor	100%
Fall 2016	OEH:7000:2838 Thesis/Dissertation			Primary Instructor	100%
Spring 2017	BME:5999:5314 Research Biomedicl Engineering MS Thesis			Primary Instructor	100%
Spring 2017	OEH:6460 Qualitative Exposure Assessment	3		Team Teacher	21%
Spring 2017	OEH:7000:4246 Thesis/Dissertation			Primary Instructor	100%
Fall 2017	BME:5999:7599 Research Biomedicl Engineering MS Thesis			Primary Instructor	100%

Semester/Year	Course Title/Number	Semester Hours	# Students	Role	Percent Responsible
Fall 2017	OEH:6450:1 Aerosol Technology			Primary Instructor	100%

B. Course Materials (syllabi, instructional web pages, computer lab materials) (Description only - *full materials to be included in promotion dossier*)

2005-2006 Developed exposure assessment portion of new course entitled Occupational and Environmental Epidemiology
Prepared syllabus, course lessons, website, and problem sets.

2005-2006 Developed new course entitled Aerosol Technology
Prepared syllabus, course lessons, website, and lab materials.

2007-2008 Revised Industrial Hygiene portion of Occupational Health course

2009-2010 Revised Control of Occupational Contaminants course

2011-2012 Revised Industrial Hygiene Fundamentals course

2016-2017 Ongoing development of web training modules available through Youtube for occupational health and safety training on nanomaterials:
https://www.youtube.com/channel/UC8OS96CgraPftseRCo4hjuw

III. SCHOLARSHIP

A. Publications or Creative Works

1. Peer-Reviewed Papers

1. Peters TM, Chein HM, Lundgren DA, Keady PB (1993). Comparison and combination of aerosol size distributions measured with a low pressure impactor, differential mobility particle sizer, electrical aerosol analyzer, and aerodynamic particle sizer. *Aerosol Sci. Technol*, 19:396-405.

2. Peters TM, Chein HM, Lundgren DA, Berntsen J (1994). Sub-micron aerosol generator development for EPA's Human Exposure Laboratory. *Aerosol Sci. Technol*, 20:51-61.

3. Chein HM, Peters TM, Lundgren DA (1996). High-output generation of aerosol with narrow size distributions. *Inhalation Tox*, 8:709-722.

4. Heist DK, Tolocka MP, Vanderpool RW, Peters TM, Chen FL, Weiner RW (2001). Changes in operating procedures for achieving aerosol concentration uniformity for PM2.5 and PM10 samplers. *Aerosol Sci. Technol*, 34:430-432.

5. Peters TM, Vanderpool RW, Weiner RW (2001). Design and calibration of the WINS impactor. *Aerosol Sci. Technol*, 34:389-397.

6. Peters TM, Gussman RA, Kenny LC, Vanderpool RW (2001). Evaluation of PM2.5 separators used in speciation samplers. *Aerosol Sci. Technol*, 34:422-429.

7. Vanderpool RW, Peters TM, Natarajan S, Gemmill DB (2001). Evaluation of the loading characteristics of the EPA WINS PM2.5 separator. *Aerosol Sci. Technol*, 34:444-456.

8. Noble CA, Vanderpool RW, Peters TM, McElroy FF, Gemmill DB, Wiener RW (2001). Federal reference and equivalent methods for measuring fine particulate matter. *Aerosol Sci. Technol*, 34:457-464.

9. Peters TM, Norris GA, Vanderpool RW, Gemmill DB, Weiner RW, Murdoch RW, McElroy FF, Pitchford M (2001). Field performance of PM2.5 reference method samplers. *Aerosol Sci. Technol*, 34:433-443.

10. Peters TM, Boundy M, Leith D (2001). Influence of upstream flow characteristics on filter efficiency. *Filtration & Separation* 38(10):40-47.

11. Peters TM, Vanderpool RW, Weiner RW (2001). Methodology for measuring PM2.5 separator characteristics using an Aerosizer. *Aerosol Sci. Technol*, 34:398-406.

12. Tolocka MP, Peters TM, Vanderpool RW, Chen FL, Weiner RW (2001). On the modification of the low flow-rate PM10 dichotomous sampler inlet. *Aerosol Sci. Technol*, 34:407-415.

13. Vanderpool RW, Peters TM, Natarajan S, Tolocka MP, Gemmill DB, Weiner RW (2001). Sensitivity analysis of the USEPA WINS PM2.5 separator. *Aerosol Sci. Technol*, 34:465-476.

14. Rosati JA, Brown JS, Peters TM, Leith D, Kim CS (2002). A polydisperse aerosol inhalation system designed for human studies. *J. Aerosol Sci* 33(10):1433-1446.

15. Peters TM, Volkwein JC (2003). Analysis of sampling line bias on respirable mass measurement. *Appl Occup Environ Hyg* 18(6):458-465. PMID: 12746069

16. Peters TM, Leith D (2003). Concentration measurement and counting efficiency of the aerodynamic particle sizer 3321. *J. Aerosol Sci* 34(5):627-634.

17. Peters TM, Leith D (2004). Measurement of particle deposition in industrial ducts. *J. Aerosol Sci* 35(4):529-540.

18. Peters TM, Leith D (2004). Modeling large-particle deposition in bends of exhaust ventilation systems. *Aerosol Sci. Technol*, 38:1171-1177.

19. Peters TM, Leith D (2004). Particle deposition in industrial duct bends. *Ann Occup Hyg* 48(5):483-490. PMID: 15240335

20. Volckens JA, Peters TM (2005). Counting and particle transmission efficiency of the Aerodynamic Particle Sizer (APS 3321). *J. Aerosol Sci* 36(12):1400-1408.

21. Peters TM, Ott D, O'Shaughnessy PT (2006). Comparison of the Grimm 1.108 and 1.109 portable aerosol spectrometer to the TSI 3321 aerodynamic particle sizer for dry particles. *Ann Occup Hyg* 50(8):843-850. PMID: 17041244

22. Peters TM, Heitbrink WA, Evans DE, Slavin TJ, Maynard AD (2006). The mapping of fine and ultrafine particle concentrations in an engine machining and assembly facility. *Ann Occup Hyg* 50(3):249-257. PMID: 16361396

23. Peters TM (2006). Use of the aerodynamic particle sizer to measure ambient PM10-2.5: the coarse fraction of PM10. *J Air Waste Manag Assoc* 56(4):411-416. PMID: 16681206

24. Heitbrink WA, Evans DE, Peters TM, Slavin TJ (2007). Characterization and mapping of very fine particles in an engine machining and assembly facility. *J Occup Environ Hyg* 4(5):341-351. PMID: 17454502

25. Vanderpool RW, Byrd LA, Wiener RW, Hunike ET, Labickas M, Leston AR, Tolocka MP, McElroy FF, Murdoch RW, Natarajan S, Noble CA, Peters TM (2007). Laboratory and field evaluation of crystallized DOW 704 oil on the performance of the Well Impactor Ninety-Six fFine particulate matter fractionator. *J Air Waste Manag Assoc* 57(1):14-30. PMID: 17269226

26. Reid J, Peters TM (2007). Update to “Reconciliation of coarse mode sea-salt aerosol particle size measurements and parameterizations at a sub-tropical ocean receptor site" regarding the use of Aerodynamic Particle Sizers in marine environments. *J. Geophysical Research-Atmospheres* 112(D4).

27. Ott DK, Peters TM (2008). A shelter to protect a passive sampler for coarse particulate matter, PM10-2.5. *Aerosol Sci. Technol* 42(4):299-309.

28. Peters TM, Riss AL, Holm RL, Singh M, Vanderpool RW (2008). Design and evaluation of an inlet conditioner to dry particles for real-time particle sizers. *J Environ Monit* 10(4):541-551. PMID: 18385876

29. Ott DK, Cyrs W, Peters TM (2008). Passive measurement of coarse particulate matter, PM10-2.5. *J. Aerosol Sci* 39(2):156-167.

30. Ott DK, Kumar N, Peters TM (2008). Passive sampling to capture spatial variability of PM10-2.5. *Atmospheric Environ* 42(4):746-756.

31. Evans DE, Heitbrink WA, Slavin TJ, Peters TM (2008). Ultrafine and respirable particles in an automotive grey iron foundry. *Ann Occup Hyg* 52(1):9-21. PMID: 18056626

32. Peters TM, Elzey S, Johnson R, Park H, Grassian VH, Maher T, O'Shaughnessy P (2009). Airborne monitoring to distinguish engineered nanomaterials from incidental particles for environmental health and safety. *J Occup Environ Hyg* 6(2):73-81. PMC: PMC4789272, PMID: 19034793

33. Kumar N, Nixon V, Sinha K, Jiang X, Ziegenhorn S, Peters TM (2009). An optimal spatial configuration of sample sites for air pollution monitoring. *J Air Waste Manag Assoc* 59(11):1308-1316. PMID: 19947112

34. Sheehan M, Peters TM, Cena L, O'Shaughnessy PT, Gussman RA (2009). Enhanced nanoparticle production with a nebulizer-cyclone aerosol generator. *Aerosol Sci. Technol*, 43:1091-1098.

35. Klosener J, Peters TM, Dodd AA, Thorne PS, Robertson LW, Luthe G (2009). Innovative application of fluoro-tagging to trace airborne particulate and gas-phase polybrominated diphenyl ether exposures. *Chem. Research Toxicology* 22(1):179-186.

36. Heitbrink WA, Evans DE, Ku BK, Maynard AD, Slavin TJ, Peters TM (2009). Relationships among particle number, surface area, and respirable mass concentrations in automotive engine manufacturing. *J Occup Environ Hyg* 6(1):19-31. PMID: 18982535

37. O'Shaughnessy PT, Donham KJ, Peters TM, Taylor C, Altmaier R, Kelly KM (2010). A task-specific assessment of Swine worker exposure to airborne dust. *J Occup Environ Hyg* 7(1):7-13. PMID: 19904655

38. Boysen D, Peters TM (2010). Impactor designed to increase mass output rate of nanoparticles from a pneumatic nebulizer. *J. Aerosol Sci* 41(2):170-179.

39. Crys WD, Boysen DA, Casuccio G, Lersch T, Peters TM (2010). Nanoparticle collection efficiency to the surface of capillary pore membrane filters. *J. Aerosol Sci*, 41:655-664.

40. Persoon C, Peters TM, Kumar N, Hornbuckle KC (2010). Spatial distribution of airborne polychlorinated biphenyls in Cleveland, Ohio and Chicago, Illinois. *Environ Sci Technol* 44(8):2797-2802. PMID: 20384374

41. Schmoll LH, Peters TM, O'Shaughnessy PT (2010). Use of a condensation particle counter and an optical particle counter to assess the number concentration of engineered nanoparticles. *J Occup Environ Hyg* 7(9):535-545. PMID: 20614365

42. Cena L, Anthony R, Peters TM (2011). A personal nanoparticle respiratory deposition (NRD) sampler. *Environ Sci Technol* 45(15):6483-6490. PMC: 4751023, PMID: 21718022 http://pubs.acs.org/doi/abs/10.1021/es201379a

43. Vosburgh DJ, Boysen DA, Oleson JJ, Peters TM (2011). Airborne nanoparticle concentrations in the manufacturing of polytetrafluoroethylene (PTFE) apparel. *J Occup Environ Hyg* 8(3):139-146. PMID: 21347955 http://www.tandfonline.com/doi/abs/10.1080/15459624.2011.554317

44. Cena LG, Peters TM (2011). Characterization and control of airborne particles emitted during production of epoxy/carbon nanotube nanocomposites. *J Occup Environ Hyg* 8(2):86-92. PMC: 4778245, PMID: 21253981

45. Kumar N, Chu AD, Peters TM, Willis R (2011). Satellite remote sensing for developing time-space resolved estimates of ambient particulate in Cleveland, OH. *Aerosol Sci Technol*, 45:1090-1108.

46. O'Shaughnessy PT, Peters TM, Donham KJ, Altmaier R, Taylor C, Kelly K (2012). Assessment of swine worker exposures to dust and endotoxin during hog load-out and power washing. *Ann Occ Hyg* 56(7):843-851.

47. Peters TM, Anthony T, Taylor C, Altmaier R, Anderson K, O'Shaughnessy PT (2012). Distribution of particle and gas concentrations in swine gestation confinement animal feeding operations. *Ann Occ Hyg* 56(9):1080-1090. PMC: 4777339, PMID: 22904211

48. Huang GB, Park JH, Cena LG, Shelton BL, Peters TM (2012). Evaluation of airborne particle emissions from commercial products containing carbon nanotubes. *J Nanoparticle Res*, 14:1231. PMC: 3507461, PMID: 23204914

49. Cena L, Ku BK, Peters TM (2012). Evaluation of Nylon Mesh Screens as Diffusion Media for Nanoparticles. *J Aerosol Sci* 46(2):214-221.

50. Mukerjee S, Willis RD, Walker JT, Hammond D, Norris GA, Smith LA, Welch DP, Peters TM (2012). Seasonal effects in land use regression models for nitrogen dioxide, coarse particulate matter, and gaseous ammonia in Cleveland, Ohio. *Atmos Pollution Res*, 3:352-361.

51. Ault AP, Peters TM, Sawvel EJ, Casuccio GS, Willis RD, Norris GA, Grassian VH (2012). Single particle SEM-EDX analysis of iron-containing coarse particulate matter in an urban environment: sources and distributions of iron within Cleveland, Ohio. *Environ. Sci. Technol* 46(8):4331-4339.

52. Mills JB, Park JH, Peters TM (2013). Comparison of the DiSCmini aerosol monitor to a handheld condensation particle counter and a scanning mobility particle sizer for submicrometer sodium chloride and metal aerosols. *J Occup Environ Hyg* 10(3):250-258. PMC: 4773198, PMID: 23473056

53. Vosburgh D, Klein T, Sheehan M, Anthony T, Peters TM (2013). Design and evaluation of a personal diffusion battery. *Aerosol Sci Technol* 47(4):435-443. PMC: 4758324, PMID: 23548103

54. Koehler K, Peters TM (2013). Influence of analysis methods on interpretation of hazard maps. *J Occup Envir Hyg* 57(5):558-570. PMC: 3916742, PMID: 23258453

55. Hirth S, Cena LG, Cox G, Tomovic Z, Peters TM, Wohllenben W (2013). Scenarios and methods that induce protruding or released CNTs after degradation of composite materials. *J Nanoparticle Res*, 15:1504. PMC: 3625415, PMID: 23596358

56. Park JH, Peters TM, Altmaier R, Sawvel RA, Anthony T (2013). Simulation of air quality and cost to ventilate swine farrowing facilities in winter. *Computers and Electronics in Agriculture*, 98:136-145. PMC: 4770838, PMID: 24433305

57. Kim JS, Peters TM, O'Shaughnessy PT, Adamcakova-Dodd A, Thorne PS (2013). Validation of an in vitro exposure system for toxicity assessment of air-delivered nanomaterials. *Toxicology in Vitro*, 27:164-173. PMC: 3950355, PMID: 22981796

58. Reeve KA, Peters TM, Anthony T (2013). Wintertime factors affecting contaminant distribution in a swine farrowing room. *J Occup Environ Hyg* 10(6):287-296. PMC: 4753562, PMID: 23548103

59. Vosburgh DJ, Ku BK, Peters TM (2014). Evaluation of a diffusion charger for measuring aerosols in a workplace. *Ann Occup Hyg*1-13. PMC: 4318931, PMID: 24458322

60. Anthony T, Altmaier R, Park JH, Peters TM (2014). Modeled effectiveness of ventilation with contaminant control devices on indoor air quality in swine farrowing facility. *J Occup Envir Hyg*, 11:434-449. PMC: 4753567, PMID: 24433305

61. Park JH, Mudunkotuwa IA, Kim JS, Stanam A, Thorne PS, Grassian VH, Peters TM (2014). Physicochemical characterization of simulated welding fumes from a spark discharge system. *Aerosol Sci and Technol*, 48:768-776. PMC: 4119574, PMID: 25097299

62. Thorne PS, Jing X, Park JH, Adamcakova-Dodd A, Peters TM, Perry S (2014). Toxicity assessment of spark-generated airborne copper oxide nanoparticles in lung epithelial cells. *European Respiratory J* 44(S58):P1489.

63. Kim JS, Klosener J, Flor S, Peters TM, Ludewig G, Thorne PS, Robertson LW, Luthe G (2014). Toxicity assessments of air-delivered particle-bound polybromaniated diphehyl ethers. *Toxicology*, 317:31-39. PMC: 3975599, PMID: 24451063

64. Byeon SH, Willis RW, Peters TM (2015). Chemical characterization of outdoor and subway fine and coarse particulate matter in Seoul, Korea by computer-controlled scanning electron microscopy. *Intl J Environ Res Public Health*, 12:2090-2104. PMC: 4344713, PMID: 25689348

65. Sawvel EJ, Willis R, West RR, Casuccio G, Norris G, Kumar N, Hammond D, Peters TM (2015). Passive sampling to capture the spatial variability of coarse particles by composition in Cleveland, OH. *Atmos Environ*, 105:61-69.

66. Downard J, Singh A, Bullard R, Jayarathne T, Rathnayake C, Simmons DL, Wels BR, Spak SN, Peters TM, Beardsley D, Stanier C, Stone EA (2015). Uncontrolled combustion of shredded tires in a landfill - Part 1: Characterization of gaseous and particulate emissions. *Atmos Environ*, 104:195-204. PMC: 4316387, PMID: 25663800

67. Singh A, Spak SN, Stone EA, Downard J, Bullard R, Pooley M, Kostle PA, Mainprize MW, Wichman MD, Peters TM, Beardsley D, Stanier C (2015). Uncontrolled combustion of shredded tires in a landfill - Part 2: Population exposure, public health response, and an air quality index for urban fires. *Atmos Environ*, 104:273-283. PMC: 4304096, PMID: 25624787

68. Park JH, Mudunkotuwa IA, Mines LW, Anthony T, Grassian VH, Peters TM (2015). A granular bed for use in a nanoparticle respiratory deposition sampler. *Aerosol Science and Technology* 49(3):179-187. PMC: 4756655, PMID: 26900208

69. Peters TM, Sawvel RA, Park JH, Anthony TR (2015). Evaluation of a shaker dust collector for use in a recirculating ventilation system. *J Occup Environ Hyg* 12(9):D201-10. PMC: 4753559, PMID: 23548103

70. Anthony T, Altmaier R, Jones S, Gassman R, Park JH, Peters TM (2015). Use of recirculating ventilation with dust filtration to improve wintertime air quality in a swine farrowing room. *J Occup Environ Hyg* 12(9):635-46. PMC: 4756717, PMID: 25950713

71. Jing X, Park JH, Peters TM, Thorne PS (2015). Toxicity assessment of copper oxide nanoparticles in lung epithelial cells exposed at the air-liquid interface compared with in vivo assessment. *Toxicology in Vitro* 29(3):502-511. PMC: 4373347, PMID: 25575782

72. Byeon JH, Park JH, Peters TM, Roberts J (2015). Reducing the cytotoxicity of inhalable engineered nanoparticles via in situ passivation with biocompatible materials. *J Hazardous Materials*, 292:118-125. PMID: 25797930

73. Kilburg-Basnyat B, Peters TM, Perry SS, Thorne PS (2015). Electrostatic dust collectors compared to inhalable samplers for measuring endotoxin concentrations in farm homes. *Indoor Air*, Epub ahead of print: PMC: PMC4344713, PMID: 25689348

74. Koehler KA, Peters TM (2015). New methods for personal exposure monitoring for airborne particles. *Current Environmental Health Reports* 2(4):399-411. PMC: 4807653, PMID: 26385477

75. Jones S, Anthony TR, Sousan S, Altmaier R, Park JH, Peters TM (2016). Evaluation of a low-cost aerosol sensor to assess dust concentrations in a swine building. *Ann Occup Hyg* 60(5):597-607. PMC: 4879606, PMID: 26944922

76. Sousan S, Koehler K, Hallett L, Peters TM (2016). Evaluation of the Alphasense Optical Particle Counter (OPC-N2) and the Grimm Portable Aerosol Spectrometer (PAS-1.108). *Aerosol Sci Technol*, 50(12):1352-1365. PMC: 5580936

77. Sousan S, Koehler K, Thomas G, Michael H, Andrew H, Peters TM, (2016). Inter-comparison of low-cost sensors for measuring the mass concentration of occupational aerosols *Aerosol Sci Techno* 50(5):462-473. PMC: 5580827

78. Mines LW, Park JH, Mudunkotuwa IA, Anthony TR, Grassian VH, Peters TM (2016). Porous polyurethane foam for use as a particle collection substrate in a nanoparticle respiratory deposition sampler *Aerosol Sci Technol* 50(5):497-506. PMC: 5580938

79. Mudunkotuwa IA, Anthony RT, Grassian VH, Peters TM (2016). Accurate quantification of titanium dioxide nanoparticles collected on air filters using a microwave-assisted acid digestion method. *J Occup Envir Hyg* 13(1):30-39. PMC: 4753567, PMID: 26181824

80. Fethke NB, Peters TM, Leonard S, Metwali M, Mudunkotuwa IA (2016). Reduction of biomechanical and welding fume exposures in stud welding. *Ann Occup Hyg* 60(3):387-401. PMC: 4861640, PMID: 26602453

81. Shen H, Peters TM, Casuccio GS, Lersch TL, West RR, Kumar N, Ault AP (2016). Elevated concentrations of lead in fine particulate matter on the neighborhood-scale in Delhi, India as determined by single particle analysis. *Environ Sci Techno* 50(10):4961-4970.

82. Peters TM, Sawvel EJ, Willis R, West RR, Casuccio GS (2016). Performance of passive samplers analyzed by computer controlled scanning electron microscopy to measure PM10-2.5. *Environ Sci Techol* 50(14):7581-9. PMID: 27300163

83. Halterman A, Sousan S, Peters TM (2017). Comparison of respirable mass concentrations measured by a Personal Dust Monitor and a personal DataRAM to gravimetric measurements. *Ann Work Exposures Health*, 15(62):62-71. PMID: 29136129

84. Sousan S, Koehler K, Hallett L, Peters TM (2017). Evaluation of consumer air quality monitors for aerosols *J Aerosol Sci*, 107:123-133. PMC: 5580935, PMID: 28871212

85. Mohajer NA, Zuidema C, Peters TM, Thomas G, Sousan S, Tatum M, Koehler K (2017). Evaluation of low-cost electro-chemical sensors for environmental monitoring of ozone, nitrogen dioxide and carbon monoxide. *J Occup Environ Hyg*.

86. Beswick-Honn JM, Peters TM, Anthony TR (2017). Evaluation of low-cost hydrogen sulfide monitors for use in livestock production. *J Agricul. Safety and Health*, 23(4):247-263.

87. Vosburgh DJ, Park JH, Mines LW, Mudunkotuwa IA, Anthony TR, Peters TM (2017). Nonwoven textile for use in a nanoparticle respiratory deposition sampler. *Aerosol Sci Technol*, 14(5):368-376. PMC: 5581958, PMID: 27875101

88. Park JH, Mudunkotuwa I, Crawford K, Anthony TR, Grassian V, Peters TM (2017). Rapid Analysis of the Size Distribution of Metal-Containing Aerosol *Aerosol Sci Techno* 51(1). PMC: PMC5580826

89. Koehler KA, Zhu J, Wang H, Peters TM (2017). Sampling strategies for accurate hazard mapping using short-duration measurements *Ann Work Exposures Health* 61(2):183-194. PMID: 28395352

90. Park JH, Peters TM, Altmaier R, Jones SM, Gassman R, Anthony TR (2017). Simulation of air quality and operational cost to ventilate swine farrowing facilities in Midwest U.S. during winter *Trans Amer Society Agric Biol Engin* 60(2):465-477. PMC: 5536187, PMID: 28775911

91. Yang AY, Altmaier R, Jones S, Gassman R, Park JH, Cai C, Peters TM, Anthony TR (2017). Effect of heater and air pollution control type on air quality in a swine farrowing barn. *J Occup Envir Hyg* 23(4):247-263.

92. Peters TM, O'Shaughnessy P, Grant R, Altmaier R, Swanton E, Falk J, Osterberg D, Parker E, Wyland N, Sousan S, Stark A, Thorne P (2017). Community airborne particulate matter from mining for sand used as hydraulic fracturing proppant. *Sci Total Environ*, 609:1475-1482. PMC: 5600868

93. Berman JD, Peters TM, Koehler K (2017). Optimizing a Sensor Network with Data from Hazard Mapping Demonstrated in a Heavy-Vehicle Manufacturing Facility. *J Occup Environ Hyg*. (*Accepted/In Press*)

94. Stebounova LV, Gonzalez N, Grassian V, Peters TM (2018). Physicochemical properties of air discharge-generated manganese oxide nanoparticles: comparison to welding fumes. *Environ Sci: Nano*. (*Accepted/In Press*)

95. Crawford KJ, Barnes LA, Peters TM, Falk J, Gehlbach BK (2017). Evaluation of a behavioral intervention to reduce noise in a medical intensive care unit. *J Hospital Medicine*. (*Submitted*)

96. Ellenbecker M, Tsai C, Jacobs M, Riedeker M (2017). The Difficulties in Establishing an Occupational Exposure Limit for Carbon Nanotubes. *J Nano Res*. (*Submitted*)

97. Hallett L, Tatum M, Thomas G, Sousan S, Koehler K (2017). An inexpensive sensor for noise. *J Occup Envir Hyg*. (*Submitted*)

98. Cai C, Stebounova LV, Peate DW, Peters TM (2018). Evaluation of a Portable Aerosol Collector and Spectrometer to Measure Particle Concentration by Composition and Size. *Environ Sci Technol*. (*Submitted*)

99. Thomas GW, Sousan S, Tatum M, Liu X, Fitzpatrick M, Koehler KA, Peters TM (2018). Low-cost, distributed environmental monitors for factory worker health. *Sensors*. (*Submitted*)

100. Cai C, Thomas GW, Park JH, Gogineni SP, Peters TM (2018). Portable Aerosol Collector and Spectrometer. Part I: design and hardware development. *Environ Sci Technol*. (*Submitted*)

101. Cai C, Yang T, Thomas GW, Peters TM (2018). Portable Aerosol Collector and Spectrometer. Part II: algorithm to estimate size distributions. *Environ Sci Technol*. (*Submitted*)

2. Non-Peer-Reviewed Papers (reports, proceedings, etc.)

3. Books/Monographs

4. Chapters

1. Peters TM, Volckens JA, Hering S (2009). Impactors, cyclones, and other inertial and gravitational collectors. D. Leong (Ed.), Air Sampling Instruments for Evaluation of Atmospheric Contaminants., Cincinnati, OH: *American Conference of Governmental Industrial Hygienists, Inc*

2. Baron PA, Peters TM, Mazumder MK, Cheng YS (2011). Direct-reading techniques using particle motion and optical detection. P. Baron (Ed.), Aerosol Measurement, New York, NY: *J. Wiley*

3. Peters TM, Grassian VH (2011). Engineered nanomaterials. V. Rose; B. Cohrssen (Eds.), Patty's Industrial Hygiene, New York, NY: *J. Wiley*(6th ed. ed.):373-403.

4. Peters TM (2012). Managing risks in occupational environments. Shatkin, J.A. (Ed.), Nanotechnology: Health and Environmental Risks, Boca Raton, FL: *CRC Press*

5. Peters TM, Ramachandran T, Park JY, Raynor PC, Peters TM (2016). Chapter 2: Assessing and managing exposures to nanomaterials in the workplace. G. Ramachandran (Ed.), Assessing Nanoparticle Risks to Human Health, Cambridge, MA: *Elsevier*, ISBN: 978-0-323-35323-6,21-44.

6. Raynor PC, Peters TM (2016). Chapter 7: Controlling nanoparticle exposures. G. Ramachandran (Ed.), Assessing Nanoparticle Risks to Human Health, Cambridge, MA: *Elsevier*, ISBN: 978-0-323-35323-6,153-178.

5. Electronic Publications

6. Abstracts

1. Peters TM, Chein H, Lundgren DA (1992). Combining data from an APS and an EAA or a DMPS (DMA) to obtain aerosol mass distribution. *Proc. 11th Annual Meeting of the American Association of Aerosol Researchers. San Francisco, CA*

2. Peters TM, Chein HM, Lundgren DA (1992). Submicron aerosol generator development for EPA's human exposure laboratory. *Proc. 11th annual meeting of the American Association of Aerosol Researchers. San Francisco, CA*

3. Peters TM, Lindstrom AB, Wiener RW (1994). Development of a standardized airborne dust mite antigen collection method. *Proc. 4th International Aerosol Conference: sponsored by the American Association of Aerosol Researchers. Los Angeles, CA*

4. Burton R, Peters TM, Lawrence J, Allen G, Koutrakis P (1995). Characteristics of Washington, D.C. ambient aerosol as measured by a real-time particle sizing system, a micro orifice

impactor, and integrated PM2.5 and PM10 samples. *Proc. 14th Annual Meeting of the American Association of Aerosol Researchers. Pittsburgh, PA*

5. Chein HM, Peters TM, Lundgren DA (1995). High-output generation of aerosol with narrow size distributions. *Proc. 14th Annual Meeting of the American Association of Aerosol Researchers. Pittsburgh, PA*

6. Rodes CE, Peters TM, Lawless PA, Wallace L (1996). Aerosol sampling biases in personal exposure measurements. *Proc. Joint SRA/ISEA Conference, Session K3 - Exposure to Particulate Matter, paper K3.03. New Orleans, LA*

7. Rodes CE, Lawless PA, Peters TM (1996). Biases in personal aerosol air exposure sampling. *Proc. A&WMA Conference Measurement of Toxic and Related Air Pollutants, Session 15 - Human Exposure. Research Triangle Park, NC*

8. Peters TM, Vanderpool RW, Lawrence J, Abt E, Koutrakis P (1996). Combination of aerodynamic particle sizer and scanning mobility particle sizer data in measuring ambient aerosols. *Proc. 14th Annual Meeting of the American Association of Aerosol Researchers. Pittsburgh, PA*

9. Tolocka MP, Chen FL, Peters TM, Vanderpool RW, Wiener RW (1999). Comparison of the standard and modified inlets for low flow rate samplers. *Proc. Air and Waste Management Association Meeting, paper 441. St. Louis, MO*

10. Vette AF, Peters TM, Sheldon L (2000). Comparisons of dual SMPS-APS systems to measure indoor-outdoor particle size distributions. *Proc. 10th Annual Conference of the International Society of Exposure Analysis. 2000. Monterey, CA*

11. Peters TM, Vanderpool RW, Wiener RW (2000). Incorporation of real-time methods into US EPA laboratory procedures for evaluation of size selective samplers. *Proc. European Aerosol Conference. Dublin, Ireland*

12. Vanderpool RW, Peters TM, Natarajan S, Gemmill DB, Wiener RW (2000). Performance and sensitivity analysis of the US EPA WINS fractionator for PM2.5 federal reference method. *Proc. Air and Waste Management Association Special Conference: PM2000. Charleston, SC*

13. Peters TM, Gussman RA, Kenny LC, Vanderpool RW (2000). Performance of size selectors used in PM2.5 speciation samplers. *Proc. Air and Waste Management Association Special Conference: PM2000. Charleston, SC*

14. Peters TM, Leith D (2002). A rapid measurement technique for determining particle penetration of industrial ductwork. *Proc. American Industrial Hygiene Association Meeting. San Diego, CA*

15. Peters TM, Leith D (2002). Aerosol collection in industrial ductwork bends. *Proc. 21st Annual American Association of Aerosol Researchers. Charlotte, NC*

16. Peters TM, Volkwein JC (2002). Analysis of sampling line bias on respirable mass measurement. *Proc. 21st Annual American Association of Aerosol Researchers Conference. Charlotte, NC*

17. Tanwongwan Y, Peters TM, Leith D (2002). The effect of turbulence on filter efficiency. *Proc. 21st Annual American Association of Aerosol Researchers Conference. Charlotte, NC*

18. Peters TM, Leith D (2003). Counting efficiency of the model 3321 aerodynamic particle sizer. *Proc. 22nd Annual American Association of Aerosol Researchers Conference. Aneheim, CA*

19. Peters TM, Leith D (2003). Particle deposition in industrial duct bends. *Proc. 22nd Annual American Association of Aerosol Researchers Conference. Aneheim, CA*

20. Peters TM, Leith D (2003). Particle deposition in industrial ducts. *Proc. American Industrial Hygiene Association Meeting. Dallas, TX*

21. Peters TM (2003). Ventilation engineers may have all their ducts in a row, but can they account for all the feathers? *In Environmental Sciences and Engineering Department Seminar. UNC, Chapel Hill, NC*

22. (2004). Counting and particle transmission efficiency of the aerodynamic particle sizer (APS 3321). *Proc. 23rd Annual American Association of Aerosol Researchers Conference. Atlanta, GA*

23. Peters TM, Leith D, Rappaport S (2004). Developing a passive sampler for ultrafine particles. *Proc. 23rd Annual American Association of Aerosol Researchers Conference. Atlanta, GA*

24. Peters TM, Leith D (2004). Particle deposition in industrial duct bends. *Proc. American Industrial Hygiene Association Meeting. Atlanta, GA*

25. Peters TM, Ott D, O'Shaughnessy PT (2005). Comparison of the Grimm Optical Particle Counter to the TSI Aerodynamic Particle Sizer. *Proc. American Industrial Hygiene Association Meeting, Anaheim, CA*

26. Evans D, Heitbrink W, Peters TM, Maynard A (2005). Nanoparticles in the workplace: lessons from the automotive industry. *Proc. 2nd International Symposium on Nanotechnology and Occupational Health, St. Paul, MN*

27. Peters TM, Heitbrink W, Evans D, Maynard A, Slavin T (2005). Particle concentration mapping in a diesel engine machining and assembly center. *Proc. 2nd International Symposium on Nanoparticles and Occupational Health, St. Paul, MN, 2005; St. Paul, MN*

28. Peters TM (2005). The practical aspects of nanoparticle measurement. *Proc. American Industrial Hygiene Association Meeting, Anaheim, CA*

29. Peters TM, Riss A, Singh M (2005). Use of the aerodynamic particle sizer (APS 3321) to measure ambient coarse particles, PM10-2.5. *Proc. 23rd Annual American Association of Aerosol Researchers, Austin, TX*

30. Peters TM, Vanderpool RW, Natarajan S (2005). Use of the Aerodynamic Particle Sizer to measure atmospheric coarse particulate matter. *Proc. Particulate Matter Supersites Program and Related Studies, Atlanta, GA*

31. Ott D, Peters TM (2006). A passive sampler to measure coarse ambient particles, PM10-2.5. *Proc. American Industrial Hygiene Association Meeting, Chicago, IL*

32. Riss A, Peters TM, Singh M, Holm R (2006). An inlet conditioner for the Model 3321 Aerodynamic Particle Sizer. *Proc. American Industrial Hygiene Association Meeting, Chicago, IL*

33. Heitbrink W, Peters TM, Evans D (2006). Characterization of fine and ultrafine particles in an engine machining and assembly center. *Proc. American Industrial Hygiene Association Meeting, Chicago, IL*

34. Johnson RL, O'Shaughnessy PT, Maher T, Peters TM (2007). Airborne particles in the manufacturing and handling of nano-structured lithium titanate. *Proc. American Industrial Hygiene Association Meeting. Philadelphia, PA*

35. Peters TM, Ramakrishna A, Watt J, Olshansky B, Kline J (2007). Cardiopulmonary effects from exposure to diesel exhaust. *Presented at the J. and Lucille A. Carver College of Medicine and the College of Public Health Research Week*

36. Peters TM, Ramakrishna A, Watt J, Olshansky B, Kline J (2007). Cardiopulmonary effects from exposure to diesel exhaust. *Proc. 26th Annual American Association of Aerosol Researchers, Reno, NV*

37. Ott D, Kumar N, Peters TM (2007). Passive sampling to capture spatial variability of PM10-2.5. *Proc. 26th Annual American Association of Aerosol Researchers, Reno, NV*

38. Willis RW, Vanderpool RW, Murdoch R, Long R, Grover B, Peters TM (2008). Characterization of Ambient Coarse Particulate Matter in Birmingham, AL Using a Network of Passive Samplers. *Proc. American Geophysical Union, San Francisco, CA*

39. Cyrs W, Cena L, Peters TM (2008). Efficiency of Polycarbonate Filters for Nanoparticle Collection. *Proc. American Industrial Hygiene Association Meeting, Minnesota, MA*

40. Kim JS, Luthe G, Flor S, Klosener J, Peters TM, Robertson LW, Thorne PS, Ludewig G (2008). In vitro Study of the Air Delivery of Particle-bound PBDEs to Lung Cells. *Proc. Central States Society of Toxicology Annual Meeting, Kansas City, KS*

41. Peters TM, Ramakrishna AB, Watt J, Olshansky B, Kline J (2008). Noise or diesel exhaust exposure? It's all the same to heart rate variability. *Proc. American Thoracic Society. Toronto, ON*

42. Ott D, Kumar N, Peters TM (2008). Passive sampling to capture spatial variability of PM10-2.5 *Proc. 17th Annual Conference of the International Society of Exposure Analysis. Research Triangle Park, NC*

43. Cena L, Cyrs W, Peters TM (2008). Selecting a substrate suitable for detecting nanoparticles by transmission electron microscopy. *Proc. American Industrial Hygiene Association Meeting. Minnesota, MA. Awarded 'best aerosol poster in show'*

44. O'Shaughnessy PT, Peters TM, Donham KJ, Altmaier R, Taylor C, Kelly K (2009). A Task-Specific Assessment of Swine Worker Exposure to Airborne Dust. *(Abstract 84) American Industrial Hygiene Conference & Exposition, Toronto, Canada, May 30-June 4, 2009*

45. Peters TM, Elzey S, Johnson R, Park H, Grassian V, Maher T, O'Shaughnessy PT (2009). Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles for Environmental Health and Safety. *Presented at the College of Engineering Research Open House, University of Iowa, April 16*

46. Cena LG, Peters TM (2009). Characterization and control of airborne particles emitted during production of epoxy reinforced with carbon nanotubes. *Proc. Annual American Association of Aerosol Researchers, Minneapolis, MN*

47. Cena LG, Peters TM (2009). Characterization of coarse particulate matter using passive samplers. *Proc. National Ambient Air Monitoring Converence. Nashville, TN*

48. Vosburgh D, Boysen DA, Peters TM (2009). Exposure assessment of fume released during seam sealing of polytetrafluorethylene fabric. *Proc. American Industrial Hygiene Association Meeting. Toronto, ON. Awarded 'best poster in session' and 'best student aerosol poster'*

49. Kim JS, Luthe G, Flor S, Klosener J, Peters TM, Robertson LW, Thorne PS, Ludewig G (2009). In Vitro Study of the Air Delivery of Particle-bound PBDEs to Lung Cells. *Presented at the 48th Annual Meeting of the Society of Toxicology, Baltimore, Maryland, March 15-19, 2009, Abstract # 2016. Awarded Third Place Student Award in the In Vitro and Alternative Methods Specialty Section*

50. Cyrs WD, Boysen DA, Peters TM (2009). Nanoparticle collection efficiency to the surface of capillary pore membrane filters *Proc. Annual American Association of Aerosol Researchers, Minneapolis, MN*

51. Cyrs WD, Boysen DA, Peters TM (2009). Nanoparticle collection efficiency to the surface of capillary pore membrane filters. *Proc. American Industrial Hygiene Association Meeting. Toronto, ON. Awarded 'best poster in graduate student session'*

52. Sawvel EJ, Boysen DA, Kumar N, Willis RD, Peters TM (2009). Spatial variability of coarse particulate matter (PM10-2.5) in Cleveland, OH. *Proc. American Industrial Hygiene Association Meeting. Toronto, ON*

53. Peters TM, Cena LG, Anthony T, Kim C (2010). A sampling criterion for nanoparticles. *Proc. Annual American Association of Aerosol Researchers, Portland, WA*

54. Cena LG, Peters TM, Anthony T, Shelton BL, Casuccio GS, Lersch TL (2010). Characterization of airborne particles emitted during sanding of CNT nanocomposite Material. *Proc. Annual American Association of Aerosol Researchers, Portland, WA*

55. Vosburgh D, Klein DT, Sheehan M, O'Shaughnessy PT, Peters TM (2010). Evaluation of a personal diffusion battery. *Proc. American Industrial Hygiene Conference and Exhibition. Denver, CO*

56. Cena LG, Peters TM (2010). Evaluation of nylon net screens as diffusion media for nanoparticles. *Proc. American Industrial Hygiene Conference and Exhibition. Denver, CO. Awarded 'best poster in show' and 'best poster in graduate student session"*

57. Kim JS, Adamcakova-Dodd A, Peters TM, O'Shaughnessy PT, Thorne PS (2010). In vitro Dynamic Exposure Model (IVDEM) for Air Delivery of Nanomaterials to Cells. *Health Sciences*

Research Week, The University of Iowa, Iowa City, IA. Student award for best graduate and medical student poster

58. Thorne PS, Kim JS, Adamčaková-Dodd A, Peters TM, O'Shaughnessy PT (2010). In vitro Dynamic Exposure Model (IVDEM) for Air Delivery of Nanomaterials to Lung Cells. *American Thoracic Society 2010 International Conference, New Orleans, LA*

59. Sawvel EJ, Peters TM, Kumar N, Willis RD (2010). Passive sampling to characterize spatial and compositional variability in coarse particulate matter. *Proc. American Industrial Hygiene Conference and Exhibition. Denver, CO*

60. Sawvel E, Peters TM, Kumar N, Willis R, Norris G, Hammond D (2010). Spatial variability of the composition of coarse particulate matter in Cleveland, OH. *Proc. Annual American Association of Aerosol Researchers, Portland, WA*

61. Cena LG, Anthony T, Peters TM (2011). A personal nanoparticle respiratory deposition (NRD) sampler. *Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA. Awarded 'best poster in show' and 'best poster in graduate student session'*

62. Hill BK, Bunker KL, Casuccio GS, Pacolay B, Ott D, Ferreri MR, Peters TM (2011). A sampling criterion for nanoparticles. *Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA*

63. Hibbs M, Peters TM, Anthony T (2011). Capture velocity with slot entry to conical hood. *Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA*

64. Cena LG, Peters TM, Lersch TL, Casuccio G (2011). Characterization of Composite Particles Containing Carbon Nanotubes by Scanning-Transmission Electron Microscopy. *Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA*

65. Park JH, Ault A, Grassian V, Peters TM (2011). Characterization of Nanoparticles Generated by Spark Discharge to Simulate Welding Fume. *Proc. Annual American Association of Aerosol Researchers, Orlando, FL*

66. Ault A, Peters TM, Sawvel E, Cassucio G, Willis R, Grassian V (2011). Sources and distribution of iron within coarse particulate matter in Cleveland, Ohio. *Proc. Annual Geophysical Union, San Francisco, CA*

67. Cena LG, Peters TM, Anthony T (2011). Standardized method to evaluate airborne particle emissions from sanding nanocomposite materials. *Proc. 5th International Symposium on Nanoparticles, Occupational, and Environmental Health, Boston, MA*

68. Hill BK, Peters TM (2012). Field portable x-ray fluorescence for rapid analysis of titanium dioxide on air filters. *Proc. American Industrial Hygiene Conference and Exhibition. Indianapolis, IN*

69. Mills JB, Peters TM, Park JH (2012). Verification of the DiSCmini Personal Monitor for Welding Fume. *Proc. American Industrial Hygiene Conference and Exhibition. Indianapolis, IN*

70. Mills JB, Peters TM, Park JH (2013). Evaluation of the DiSCmini Personal Aerosol Monitor for Submicrometer Sodium Chloride and Metal Aerosols *Proc. American Industrial Hygiene Conference and Exhibition. Montreal, ON*

7. Other

1. Peters TM, Cena L (2012). Personal nanoparticle respiratory deposition sampler and methods of using same, US Provisional Patent Application No: 61/599,683.

B. Areas of Research Interest/Current Projects

1. Engineered nanomaterials and ultrafine particles: exposure assessment and health effects (Area of Research Interest)

2. Industrial ventilation: capture and control of workplace pollutants (Area of Research Interest)

3. Mechanics of aerosols: sampling and transport, instrumentation, and filter design (Area of Research Interest)

C. Sponsored Research (*ALL grants*)

(if you are not the PI, state your role or contributions - in a few sentences)

1. Grants Received

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
US DHHS/ CDC/ NIOSH Heartland Occupational and Health Education Research Center Zwerling *Director* Thomas M. Peters *Supporting*	8%	$1,200,000 07/01/2004-06/30/2008
International Truck & Engine Corporation and UAW Ultrafine particles in heavy vehicle assembly and components manufacturing plants Heitbrink *Principal* Thomas M. Peters *Co-Investigator*	20%	$68,533 10/15/2004-11/30/2005
Center for Health Effects of Environmental Contamination, University of Iowa Passive sampling of ambient air particulate matter Thomas M. Peters *Principal*	20%	$25,000 01/01/2005-12/31/2005

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
New Investigator Research Award, College of Public Health, University of Iowa Airway and immune response to inhaled endotoxin and diesel exhaust particles in humans Thomas M. Peters *Principal*	10%	$10,000 02/01/2005-02/28/2006
TSI, Incorporated, Shoreview MN Modification and evaluation of the APS3321 for ambient air monitoring Thomas M. Peters *Principal*	4%	$40,000 04/01/2005-01/31/2007
Heartland Center for Occupational Health & Safety, US DHHS/ CDC/ NIOSH Airways response to mixed exposure of endotoxin and diesel exhaust particles using exhaled breath condensate methodology Thomas M. Peters *Principal*	10%	$14,760 06/30/2005-06/30/2006
EPA/ NIOSH/ NSF Assessment methods for nanoparticles in the workplace Patrick T. O'Shaughnessy *Principal* Thomas M. Peters *Co-Investigator*	3%	$399,906 07/01/2005-06/30/2008
Biological Science Funding Program, University of Iowa Development of a passive sampler for assessing airborne nanoparticles Thomas M. Peters *Principal*	20%	$30,000 02/01/2006-01/31/2007
Center for Global and Regional Environmental Research, University of Iowa Real-time, personal sampling for airborne nanoparticles Thomas M. Peters *Principal*	5%	$30,000 06/01/2006-05/31/2008

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
Environmental Health and Science Resource Center, University of Iowa Relating cardiac function to diesel exhaust inhalation exposure Thomas M. Peters *Principal*	5%	$8,500 06/01/2006-03/30/2007
US EPA Development and field assessment of a shelter for a passive aerosol sampler Thomas M. Peters *Principal*	4%	$20,887 01/30/2007-10/01/2007
UAW-GM Center for Human Resources Burn-off emissions in vehicle final assembly areas Heitbrink Thomas M. Peters *Co-Investigator*	1%	$418,039 02/01/2007-05/30/2009
5 P30 ES05605-19 NIEHS Environmental Health Sciences Research Center Peter S. Thorne *Director* Thomas M. Peters *Supporting*	10%	$980,427 04/01/2007-03/31/2010
1K01OH009255-03 US DHHS/ CDC/ NIOSH Personal exposure to engineered nanoparticles Thomas M. Peters *Principal*	50%	$300,000 09/01/2007-08/31/2010
Center for Health Effects of Environmental Contaminants, University of Iowa Predicting indoor and outdoor air quality by indirect methods Kumar *Principal* Thomas M. Peters		$30,000 09/01/2007-08/31/2008

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
5U50OH007548-10 Great Plains Center for Agricultural Health US DHHS/CDC/NIOSH Exposure assessment of workers in swine confinement buildings Patrick T. O'Shaughnessy *Principal* Thomas M. Peters *Co-Investigator*	10%	$856,146 10/01/2007-09/30/2012
EP08D000289&am1 Amendment 1 US EPA Passive sampling to assess the spatial variability of PM10-2.5 in Cleveland, OH Thomas M. Peters *Principal*	5%	$27,000 04/07/2008-06/30/2009
5R01OH009290-03 US DHHS/ CDC/ NIOSH CFD investigation of particle inhalability in low wind speeds TR Anthony *Principal* Thomas M. Peters *Co-Investigator*	10%	$125,718 06/01/2008-05/31/2013
An optimal spatial sampling design for the U.S. General Social Survey Kumar *Principal* Thomas M. Peters *Co-Investigator*	2%	$780,000 01/01/2009-12/31/2012
Heartland Center for Occupational Health & Safety, US DHHS/ CDC/ NIOSH A personal real-time ultrafine particle monitor Vosburgh *Principal* Thomas M. Peters *Principal*	5%	$15,000 02/01/2009-07/31/2010
EPA09D000166 US EPA Passive sample analysis and data interpretation Thomas M. Peters *Principal*	5%	$32,000 02/01/2009-01/31/2010

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
US EPA Passive sampling assessment of spatial variability of PM10-2.5 Cleveland Multiple Air Pollutant Study (CMAPS) Thomas M. Peters *Principal*	0%	$47,856 06/01/2009-05/30/2010
US DHHS/ CDC/ NIOSH Heartland Occupational and Health Education Research Center Patrick T. O'Shaughnessy *Principal* Thomas M. Peters *Director*	15%	$1,574,524 07/01/2009-06/30/2014
EP10D000322 US EPA Laboratory determination of deposition velocity and coagulation for nano-CeO2 fuel additive Thomas M. Peters *Principal*	10%	$53,917 04/08/2010-09/30/2011
FA8650-10-2-6136 US Department of Defense, Air Force Evaluation of methods to control exposure to nanoparticles Thomas M. Peters *Principal*	10%	$136,923 06/15/2010-06/14/2011
Heartland Center for Occupational Health & Safety CDC/NIOSH A personal sampler for engineered nanoparticles Cena *Principal* Thomas M. Peters *Principal*	5%	$15,000 07/01/2010-06/30/2011
NIEHS through Applied Nanotech Holding, Inc. Method to evaluate release of engineered nanomaterial from commercial products Thomas M. Peters *Principal*	10%	$46,250 07/01/2010-06/30/2011

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
1R21OH009920 US DHHS/ CDC/ NIOSH Methods to assess personal exposures to airborne metallic nanoparticles Thomas M. Peters *Principal* *This work will result in methodologies to measure personal exposures to airborne metal-based nanoparticles. In this project we will target titanium dioxide as a primary metal of concern.*	40%	$275,000 09/01/2010-08/31/2013
EP11D000010 US EPA Analysis of Cleveland multiple air pollutant study (CMAPS) samples Thomas M. Peters *Principal*	10%	$30,144 09/01/2010-09/30/2011
Center to Protect Workers' Rights/CDC Ergonomic and welding fume exposures during stud welding Nathan B. Fethke *Principal* Thomas M. Peters *Co-Investigator*	5%	$131,081 07/01/2011-08/30/2014
US Department of Defense, Air Force through Spectral Energies Development of a personal aerosol collector and spectrometer (PACS) Thomas M. Peters *Principal* *Develop a real-time personal monitor to measure particle size distributions and collect particles by size for chemical analysis.*	13%	$24,735 06/18/2013-03/19/2014
NIEHS through University of Minnesota Midwest Emerging Technologies Public Health and Safety Training (METPHAST) Program Thomas M. Peters *Principal*	7%	$120,000 08/01/2013-07/31/2016

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
Supplement to P30 ES005605 NIEHS Exposure Assessment & Outreach to Engage the Public on Risk from Frac Sand Mining Peter S. Thorne *Principal* Thomas M. Peters *Conduct an impact assessment of active large-scale silica sand mining operations on PM and crystalline silica exposures in Wisconsin, and using PM4 air monitoring devices, establish the impact of such mines on community respirable PM levels. Translate this research to the communities in need via two centrally-held workshops to which residents and policymakers of active and potential mining communities in WI, MN, and IA will be invited.*		$74,000 08/01/2013-03/31/2015
1R01OH010238-01A1 US DHHS/ CDC/ NIOSH A nanoparticle respiratory dose sampler for metal-based nanoparticles Thomas M. Peters *Principal* TR Anthony Vicki Grassian *This work will result in methodologies to measure personal exposures to airborne metal-based nanoparticles by particle calls. As such it is applicable to assessing worker exposures to engineered nanomaterial in the burgeoning field of nanotechnology and more traditional occupational settings such as where welding occurs*	30%	$1,209,000 09/01/2013-08/31/2018
John Deere Aerosol Mapping and Low-Cost Monitoring Thomas M. Peters *Principal* *Implement novel exposure assessment techniques (aerosol mapping with traditional DRIs and the use of low-cost air quality monitors) to assess indoor air quality involving welding fume and metal-working operations at Deere Davenport Works.*	5%	$89,918 10/18/2013-10/16/2018

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
SBIR Phase II USAF Development of a personal aerosol collector and spectrometer Thomas M. Peters *Principal* *We will develop a novel instrument to provide direct reading of aerosol number, surface area, and mass concentration by size. The instrument will also collect aerosols for subsequent chemical analysis.*	10%	$132,675 07/16/2014-07/15/2017
R01OH010533 US DHHS/ CDC/ NIOSH An inexpensive monitoring network to assess workplace exposures Thomas M. Peters *Multi-PI* Kirsten Koehler *Multi-PI* Geb Thomas *This work is expected to develop information for evidence-based selection of sensors and a monitor for use in a distributed network. It will also demonstrate the tremendous power of distributed monitoring as a way to examine exposure variability.*	20%	$1,111,000 09/01/2014-08/31/2018

2. Grants Pending

Source Title P.I.	Number of Months % Effort	Direct Funds Period of Funding
NIDCD Protecting farm workers' hearing through personalized automated training Thomas M. Peters *Principal Investigator*	1.2 months 10%	

D. Presentations

1. Invited Presentations

Year	Title	Organization	Presentation Type

Year	Title	Organization	Presentation Type
2013	Lessons from the Workplace: Hazards from Exposure to Engineered Nanomaterials (Peters TM)	Plenary session, 32nd Annual Conference American Association for Aerosol Research	Keynote/Plenary Address
2014	Creative Use of Direct-Reading Instruments	University of Michigan	Invited Lecture
June 2016	A method to assess exposures to nanocellulose aerosols for workplace health and safety (Peters TM)	International Conference on Nanotechnology for Renewable Materials, TAPPI, Grenoble, France	Invited Lecture

2. Conference Presentations/Posters

Year	Title	Organization	Presentation Type
2004	Aerosol short course: physics, measurement, and sampling (Peters TM)	Boeing Corporation, Everett, Washington	Oral
2007	The FUN of Aerosols: Assessing Fine Ultrafine and Nano Particles in Workplace Atmospheres (Peters TM)	Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, California	Oral
2008	Industrial Hygiene Student Journal Club	Department of Occupational and Environmental Health, University of Iowa	Oral
2008	Industrial Hygiene Student Journal Club	Department of Occupational and Environmental Health, University of Iowa	Oral
2009	Air Quality in American Subway Systems (Peters TM)	Subway Air Quality Workshop, Seoul, South Korea	Oral
2009	Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles (Peters TM)	Air Force Workshop on Engineered Nanomaterials, Dayton, Ohio	Oral
2009	Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles (Peters TM)	Nanomaterials Applications Center Colloquium, Austin, Texas	Oral

Year	Title	Organization	Presentation Type
2009	Physicochemical Characteristics of Nanoparticles in the Workplace and Implications for Occupational Exposure Limits (Peters TM)	Roundtable Session at the American Industrial Hygiene Conference and Exhibition	Oral
2011	Future Needs in Air Sampling Instrumentation (Peters TM)	5th International Symposium on Nanoparticles, Occupational, and Environmental Health, Boston, Massachusetts	Oral
2011	Workplace Safety for Engineered Nanomaterials (Peters TM)	Moscow Nanotechnologies Retreat, Russia-US Bilateral Presidential Commission for Nanotechnologies, Moscow, Russia	Oral
2012	Evaluation of Measurement Methods to Assess Exposures to Nanomaterials (Peters TM)	3rd USAF ASC/AFRL Engineered Nanomaterials Environment, Safety, and Health Workshop	Oral
March 2014	Creative Use of Direct Reading Instruments: Modern Art for the Industrial Hygienist (Peters TM)	Environmental Research Center Invitated Visit, Univ of Michigan, Ann Arbor	Oral
July 2014	Creative Use of Direct Reading Instruments: Modern Art for the Industrial Hygienist (Peters TM)	NIOSH, Morgantown, West Virginia	Oral

3. Other Presentations

Year	Title	Organization	Presentation Type
2003	Ventilation engineers may have all their ducts in a row, but can they account for all the feathers?	Environmental Sciences and Engineering Department, University of North Carolina, Chapel Hill	Seminar
2003	Ventilation engineers may have all their ducts in a row, but can they account for all the feathers?	Environmental Sciences and Engineering Department, University of North Carolina, Chapel Hill	Seminar

Year	Title	Organization	Presentation Type
2007	The FUN of aerosols: fine, ultrafine, and nano particles	American Industrial Hygiene	Continuing Education Talks
2010	The FUN of aerosols: fine, ultrafine, and nano particles	American Industrial Hygiene	Continuing Education Talks
2010	Ventilation to control occupational contaminants	Heartland Center	Continuing Education Talks

IV. SERVICE

A. Offices/appointments held in professional organizations

1. Editorships

Year	Organization	Position
2000-Present	Aerosol Science and Technology	Editor
2000-Present	Annals of Occupational Hygiene	Editor
2000-Present	Environmental Science and Technology	Editor
2000-Present	Journal of Air and Waste Management Association	Editor
2011-Present	Jounal of the Aerosol Science	Editor
2012-Present	Aerosol and Air Quality Research	Editor

2. Review Panels

Year	Organization	Position
2004	Reviewed pre-proposals submitted by the various NIOSH intramural research laboratories, NORA Peer Review, Washington, DC	Panel Member
2004	Reviewed proposals submitted by several NIOSH intramural research laboratories, NORA Peer Review, Washington, DC	Panel Member
2008	Reviewed proposals submitted by several NIOSH intramural research laboratories, NORA Peer Review, Washington, DC	Panel Member

Year	Organization	Position
2008	“Thoracic Coarse Particle Components and Potential Public Health Impacts” in US EPA “Ambient Air Quality Monitoring and Health Research: Workshop to Discuss Key Issues", Research Triangle Park, NC	Expert Panel
2009	Special emphasis panel for research conference grants, NIEHS	Panel Member
2011	EPA Review Panel – Washington, DC. Science To Achieve Results (STAR) grant review titled “Developing the Next Generation of Air Quality Measurement Technology.”	Review Panel
2011	Science To Achieve Results (STAR) grant review titled “Developing the Next Generation of Air Quality Measurement Technology.”, EPA Review Panel, Washington, DC	Panel Member
2012	Served on panel for SBIR/STTR grant applications for NIH study section IMST12	Review Panel
2016-Present	Safety and Occupational Health (SOH)	Reviewer, Grant Proposals
2017	2017/08 ZRG1 IMST-B (12) B, Small Business: Instrumentation, Environmental, and Occupational Safety	Reviewer, Grant Proposals

3. Professional Organizations (state and/or national)

Year	Organization	Position
1992-Present	Tau Beta Pi	Member
2001-Present	Aerosol Technology Working Committee, American Industrial Hygiene Association	Member

Year	Organization	Position
2001	Organized special issue of Aerosol Science and Technology (PM2.5 Federal Reference Method Sampler, Volume 34, Number 5), American Association for Aerosol Research	
2003	Aerosol Physics Working Group, American Association for Aerosol Research	Chair
2003	Membership Committee, American Association for Aerosol Research	Chair
2007-Present	Aerosol Physics Working Group	Member
2007-Present	Advisory Board for Ambient Air Quality Standards, Linn Co. Ambient Air Quality Group	Member
2008-Present	Nanotechnology Working Group, American Industrial Hygiene Association	Chair
2011-Present	Newsletter Committee, American Association for Aerosol Research	Member
2011	U.S. delegation to Moscow, Russia for Bilateral Presidential Commission on EHS for Nanotechnology, U.S. Department of State	Member
2012-Present	American Industrial Hygiene Association	Member of the Engineering Committee

B. Other Professional Service

1. Referee Manuscripts/Journal Reviews

Year	Organization	Position

2. Organize Conference, Paper Session, etc.

Year	Organization	Position

3. State Committees

Year	Organization	Position

4. National Committees

Year	Organization	Position
2011-Present	Advisory Board, University of Washington Center for Clean Air Research	Member
2011-2012	Task group to select release scenarios and methods for development targeted to common commercial use of products containing engineered nanomaterials, International Life Science Institute	Member
2011-2012	Workshop on safety aspects of nanosystems and infrastructure for sustainability, National Science Foundation	Member

5. Professionally Relevant Community Involvement

Year	Organization	Position

6. Professional Consulting

Year	Organization	Position
1998-2004	BGI, Inc.	Designed, implemented, and maintained software for serial communications with flow measurement devices and PM2.5 federal reference method samplers
2001-2002	Center for Disease Control, NIOSH	Modeled aerosol transport to a new personal respirable monitor
2008	Superprotonic, Inc.	Designed impactor to remove large droplets from nebulized aerosol

7. Other

Year	Organization	Position

C. Departmental, Collegiate or University Service

Year	Organization	Position

Year	Organization	Position
2001-2003	University of North Carolina	Ph.D. Student Representative to Faculty
2005-Present	Accreditation Board for Engineering and Technology (ABET) reaccredidation of Industrial Hygiene program	Member
2006-2015	University of Iowa, Nanoscience and Nanotechnology Institute (NNI@UI) Executive Committee	Member
2007-2008	Committee to Hire a New Faculty Member in the Industrial Hygiene Program	Member
2007-2008	College of Public Health, University of Iowa, Education subgroup for the review of the College of Public Health's Strategic Plan	Member
2007-2008	Iowa Research Experience for Undergraduates Program	Mentor
2009-2011	Department of Occupational and Environmental Health, College of Public Health, University of Iowa, Junior faculty group	Organizer
2009-2010	College of Public Health, University of Iowa, Education subgroup for the review of the College of Public Health's Strategic Plan	Member
2011-2016	College of Public Health, University of Iowa, Faculty Council	OEH Representative
2011-2014	BS/MS Combined Degree Program	Taskforce Member
2011-2014	College of Public Health, University of Iowa, CPH Faculty Council	Chair 2012-2013
2011-2013	University of Iowa, SROP/McNair Scholars program	Mentor
2017-Present	Faculty Senate	Member
2017-Present	Search Committee for College of Public Health Dean	Member

E. Intellectual Property

Title	Status	Property Type
Personal nanoparticle respiratory deposition sampler and methods of using same. US9506843 B2	Issued: November 29, 2016	Patent