

# Thomas M. Peters, PhD

College of Public Health Curriculum Vitae  
Department of Occupational and Environmental Health  
thomas-m-peters@uiowa.edu  
March 2026

## Educational and Professional History

### Degrees Earned

1990	BS in Environmental Engineering, University of Florida, Gainesville, Florida
1992	MS in Environmental Engineering, University of Florida, Gainesville, Florida
2004	PhD in Industrial Hygiene/ Aerosol Physics, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

### Certifications

Jun 2012 - Present	Certified Industrial Hygienist (CIH; 10112CP), American Board of Industrial Hygiene
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### Employment History

1990 - 1992	Graduate Research Assistant, University of Florida, Gainesville, Florida
1993 - 2000	Research Aerosol Engineer/Scientist, RTI International, Research, Triangle Park, North Carolina
2000 - 2004	Graduate Research Assistant, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
2004 - 2010	Assistant Professor, University of Iowa, Iowa City, Iowa
2010 - 2015	Associate Professor, University of Iowa, Iowa City, Iowa
2022 - 2024	Interim Department Head, Occupational and Environmental Health, The University of Iowa
2015 - Present	Professor, Occupational and Environmental Health, University of Iowa, Iowa City, Iowa
2015 - Present	Professor, Secondary Appointment, Biomedical Engineering, University of Iowa, Iowa City, Iowa

### Honors and Awards

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	"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
2013	"Best Poster in Session Award" AIHce - Graduate Student Session
2013	Distinguished Lecture Award, Association of Environmental Engineering & Science Professors
2013	Ulowa Inventor Award
2014	Ulowa Inventor Award
2016	"Best Poster in Show Award", AIHce, Baltimore, Maryland
2019	"Best Poster in Session Award" AIHce - Graduate Student Session (Respiratory Session)
2020	David Swift Memorial Award for "Best Aerosols Paper Published in Journal of Occupational and Environmental Hygiene"

## Teaching

### Course Teaching

#### University of Iowa

2004	Industrial Hygiene 1, Credit Hours: 3, Enr: 4, Percent of Course: 25.0%
Fall 2005	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 13, Percent of Course: 100.0%
Spring 2006	Air Pollution Control, 52:235, Credit Hours: 3, Enr: 3, Percent of Course: 10.0%
Spring 2006	Occupational and Environmental Epidemiology, 175:220, Credit Hours: 3, Enr: 5, Percent of Course: 50.0%
Fall 2006	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 8, Percent of Course: 100.0%
Spring 2007	Occupational and Environmental Epidemiology, 175:220, Credit Hours: 3, Enr: 13, Percent of Course: 50.0%
Fall 2007	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 8, Percent of Course: 100.0%

Fall 2007	Occupational Health, 175:230, Credit Hours: 3, Enr: 20, Percent of Course: 50.0%
Spring 2008	Occupational and Environmental Epidemiology, 175:220, Credit Hours: 3, Enr: 6, Percent of Course: 50.0%
Fall 2008	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%
Fall 2008	Occupational and Environmental Epidemiology, 175:220, Credit Hours: 3, Enr: 6, Percent of Course: 10.0%
Fall 2008	Occupational Health, 175:230, Credit Hours: 3, Enr: 16, Percent of Course: 50.0%
Spring 2009	Occupational and Environmental Epidemiology, 175:220, Credit Hours: 3, Enr: 3, Percent of Course: 10.0%
Fall 2009	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 15, Percent of Course: 100.0%
Spring 2010	Control of Occupational Hazards, 175:233, Credit Hours: 3, Enr: 10, Percent of Course: 80.0%
Fall 2010	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 15, Percent of Course: 100.0%
Spring 2011	Physical Agents, 175:232, Credit Hours: 3, Enr: 10, Percent of Course: 33.0%
Fall 2011	Industrial Hygiene Fundamentals, 175:231, Credit Hours: 3, Enr: 10, Percent of Course: 50.0%
Spring 2012	Control of Occupational Hazards, 175:233, Credit Hours: 3, Enr: 10, Percent of Course: 80.0%
Fall 2012	Aerosol Technology, 175:221, Credit Hours: 3, Enr: 13, Percent of Course: 100.0%
Spring 2013	Physical Agents, 175:232, Credit Hours: 3, Enr: 12, Percent of Course: 33.0%
Fall 2013	Aerosol Technology, OEH:6440, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%
Spring 2014	Control of Occupational Contaminants, OEH:6440, Credit Hours: 3, Enr: 8, Percent of Course: 80.0%
Fall 2014	Aerosol Technology, OEH:6440:0001, Credit Hours: 3, Enr: 9, Percent of Course: 100.0%
Spring 2015	Qualitative Exposure Assessment, OEH:6460, Credit Hours: 3, Percent of Course: 21.0%
Spring 2015	Thesis/Dissertation, OEH:7000:0139, Percent of Course: 100.0%
Fall 2015	Aerosol Technology, OEH:6440:0001, Credit Hours: 3, Enr: 15, Percent of Course: 100.0%
Spring 2016	Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%
Spring 2016	Thesis/Dissertation, OEH:7000:0139, Percent of Course: 100.0%
Fall 2016	Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%
Fall 2016	Thesis/Dissertation, OEH:7000:2838, Percent of Course: 100.0%
Spring 2017	Qualitative Exposure Assessment, OEH:6460, Credit Hours: 3, Percent of Course: 21.0%
Spring 2017	Research Biomedical Engineering MS Thesis, BME:5999:5314, Percent of Course: 100.0%

Spring 2017 Thesis/Dissertation, OEH:7000:4246, Percent of Course: 100.0%

Fall 2017 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%

Fall 2017 Research Biomedical Engineering MS Thesis, BME:5999:7599, Percent of Course: 100.0%

Spring 2018 Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 12, Percent of Course: 100.0%

Spring 2018 Thesis/Dissertation, OEH:7000:8625, Percent of Course: 100.0%

Fall 2018 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Spring 2019 OEH Internship, OEH:7050:0001, Enr: 3, Percent of Course: 100.0%

Spring 2019 Thesis/Dissertation, OEH:7000:3073, Enr: 1, Percent of Course: 100.0%

Fall 2019 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 12, Percent of Course: 100.0%

Fall 2019 Practicum in College Teaching, GRAD:7400:0020, Enr: 1, Percent of Course: 100.0%

Fall 2019 Thesis/Dissertation, OEH:7000:5086, Enr: 1, Percent of Course: 100.0%

Spring 2020 Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%

Spring 2020 OEH Internship, OEH:7050:0001, Enr: 7, Percent of Course: 100.0%

Spring 2020 OEH Internship, OEH:7050:0002, Credit Hours: 3, Enr: 3, Percent of Course: 100.0%

Spring 2020 Thesis/Dissertation, OEH:7000:7327, Enr: 2, Percent of Course: 100.0%

Fall 2020 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Spring 2021 OEH Internship, OEH:7050:0001, Enr: 6, Percent of Course: 100.0%

Spring 2021 OEH Internship, OEH:7050:0002, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Fall 2021 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 16, Percent of Course: 100.0%

Spring 2022 Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 16, Percent of Course: 100.0%

Spring 2022 OEH Internship, OEH:7050:0002, Credit Hours: 3, Enr: 5, Percent of Course: 100.0%

Spring 2023 Assessing Ionizing Radiation Hazards, OEH:6433:0001, Credit Hours: 1, Enr: 11, Percent of Course: 100.0%

Spring 2023 OEH Internship, OEH:7050:0002, Credit Hours: 3, Enr: 5, Percent of Course: 100.0%

Fall 2023 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 10, Percent of Course: 100.0%

Spring 2024 Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 9, Percent of Course: 100.0%

Spring 2024 OEH Internship, OEH:7050:0001, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Fall 2024 Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Spring 2025	Assessing Ionizing Radiation Hazards, OEH:6433:0001, Credit Hours: 1, Enr: 9, Percent of Course: 100.0%
Spring 2025	OEI Internship, OEH:7050:0002, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2025	OEI Internship, OEH:7050:0001, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Fall 2025	Aerosol Technology, OEH:6450:0001, Credit Hours: 3, Enr: 7, Percent of Course: 100.0%
Fall 2025	Quant Exposure Assess: Study Design & Evaluation, OEH:6460:0001, Credit Hours: 1,3, Enr: 7, Percent of Course: 100%
Spring 2026	Control of Occupational Hazards, OEH:6440:0001, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%
Spring 2026	OEI Internship, OEH:7050:0002, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%

### Other Institutions

1990	EPA short courses on Industrial Source sampling, Enr: 30, Percent of Course: 25.0%
1991	Atmospheric Dispersion Modeling, Credit Hours: 3, Percent of Course: 20.0% Role: Team Teacher
1991	EPA short courses on Industrial Source sampling, Percent of Course: 25.0% Role: Team Teacher
1992	EPA short courses on Industrial Source sampling, Percent of Course: 25.0% Role: Team Teacher
1992	EPA Air Pollution Control, Percent of Course: 10.0% Role: Team Teacher
2001	Introduction to Aerosols, Credit Hours: 4, Enr: 12, Percent of Course: 20.0%
2002	Introduction to Aerosols, Credit Hours: 4, Enr: 12, Percent of Course: 20.0%
2003	Air Pollution Control, ENVR:754, Credit Hours: 3, Enr: 5, Percent of Course: 10.0%

## Scholarship/Professional Productivity

### Publications or creative works

#### Peer-reviewed papers and journal articles

1. **Peters, T. M.**, Chein, H. M., Lundgren, D. A. & Keady, P. B. (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. (Vols. 19). (3), pp. 396-405. Aerosol Sci. Technol. [DOI: 10.1080/02786829308959647](https://doi.org/10.1080/02786829308959647).
2. **Peters, T. M.**, Chein, H. M., Lundgren, D. A. & Berntsen, J. (1994). Sub-micron aerosol generator development for EPA's Human Exposure Laboratory. (Vols. 20). (1), pp. 51-61. Aerosol Sci. Technol. [DOI: https://doi.org/10.1080/02786829408959663](https://doi.org/10.1080/02786829408959663).
3. Chein, H. M., **Peters, T. M.** & Lundgren, D. A. (1996). High-output generation of aerosol with narrow size distributions. (Vols. 8). (7), pp. 709-722. Inhalation Tox. [DOI: https://doi.org/10.3109/08958379609005449](https://doi.org/10.3109/08958379609005449).

4. Noble, C. A., Vanderpool, R. W., **Peters, T. M.**, McElroy, F. F., Gemmill, D. B. & Wiener, R. W. (2001). Federal reference and equivalent methods for measuring fine particulate matter. (Vols. 34). (5), pp. 457-464. *Aerosol Sci. Technol.* DOI: <https://doi.org/10.1080/02786820121582>.
5. Vanderpool, R. W., **Peters, T. M.**, Natarajan, S. & Gemmill, D. B. (2001). Evaluation of the loading characteristics of the EPA WINS PM2.5 separator. (Vols. 34). (5), pp. 444-456. *Aerosol Sci. Technol.* DOI: <https://doi.org/10.1080/02786820117739>.
6. **Peters, T. M.**, Norris, G. A., Vanderpool, R. W., Gemmill, D. B., Weiner, R. W., Murdoch, R. W., McElroy, F. F. & Pitchford, M. (2001). Field performance of PM2.5 reference method samplers. (Vols. 34). (5), pp. 433-443. *Aerosol Sci. Technol.* DOI: [10.1080/02786820116873](https://doi.org/10.1080/02786820116873).
7. **Peters, T. M.**, Vanderpool, R. W. & Weiner, R. W. (2001). Methodology for measuring PM2.5 separator characteristics using an Aerosizer. (Vols. 34). (5), pp. 398-406. *Aerosol Sci. Technol.*
8. Heist, D. K., Tolocka, M. P., Vanderpool, R. W., **Peters, T. M.**, Chen, F. L. & Weiner, R. W. (2001). Changes in operating procedures for achieving aerosol concentration uniformity for PM2.5 and PM10 samplers. (Vols. 34). (5), pp. 430-432. *Aerosol Sci. Technol.* DOI: <https://doi.org/10.1080/02786820118077>.
9. **Peters, T. M.**, Gussman, R. A., Kenny, L. C. & Vanderpool, R. W. (2001). Evaluation of PM2.5 separators used in speciation samplers. (Vols. 34). (5), pp. 422-429. *Aerosol Sci. Technol.* DOI: [10.1080/02786820119266](https://doi.org/10.1080/02786820119266).
10. **Peters, T. M.**, Boundy, M. & Leith, D. (2001). Influence of upstream flow characteristics on filter efficiency. (Vols. 38). (10), pp. 40-47. *Filtration & Separation.* DOI: [10.1016/S0015-1882\(01\)80584-X](https://doi.org/10.1016/S0015-1882(01)80584-X).
11. Tolocka, M. P., **Peters, T. M.**, Vanderpool, R. W., Chen, F. L. & Weiner, R. W. (2001). On the modification of the low flow-rate PM10 dichotomous sampler inlet. (Vols. 34). (5), pp. 407-415. *Aerosol Sci. Technol.* DOI: [10.1080/02786820119350](https://doi.org/10.1080/02786820119350).
12. **Peters, T. M.**, Vanderpool, R. W. & Weiner, R. W. (2001). Design and calibration of the EPA PM2.5 WELL Impactor Ninety-six(WINS). (Vols. 34). (5), pp. 389-397. *Aerosol Sci. Technol.*
13. Vanderpool, R. W., **Peters, T. M.**, Natarajan, S., Tolocka, M. P., Gemmill, D. B. & Weiner, R. W. (2001). Sensitivity analysis of the USEPA WINS PM2.5 separator. (Vols. 34). (5), pp. 465-476. *Aerosol Sci. Technol.* DOI: [10.1080/02786820120868](https://doi.org/10.1080/02786820120868).
14. Rosati, J. A., Brown, J. S., **Peters, T. M.**, Leith, D. & Kim, C. S. (2002). A polydisperse aerosol inhalation system designed for human studies. (Vols. 33). (10), pp. 1433-1446. *J. Aerosol Sci.* DOI: [10.1016/S0021-8502\(02\)00087-3](https://doi.org/10.1016/S0021-8502(02)00087-3).
15. **Peters, T. M.** & Leith, D. (2003). Concentration measurement and counting efficiency of the aerodynamic particle sizer 3321. (Vols. 34). (5), pp. 627-634. *J. Aerosol Sci.* DOI: [10.1016/S0021-8502\(03\)00030-2](https://doi.org/10.1016/S0021-8502(03)00030-2).
16. **Peters, T. M.** & Volkwein, J. C. (2003). Analysis of sampling line bias on respirable mass measurement. (Vols. 18). (6), pp. 458-465. *Appl Occup Environ Hyg.* DOI: [10.1080/10473220301418](https://doi.org/10.1080/10473220301418). PMID: [12746069](https://pubmed.ncbi.nlm.nih.gov/12746069/).
17. **Peters, T. M.** & Leith, D. (2004). Measurement of particle deposition in industrial ducts. (Vols. 35). (4), pp. 529-540. *J. Aerosol Sci.* DOI: [10.1016/j.jaerosci.2003.10.004](https://doi.org/10.1016/j.jaerosci.2003.10.004).
18. **Peters, T. M.** & Leith, D. (2004). Modeling large-particle deposition in bends of exhaust ventilation systems. (Vols. 38). (12), pp. 1171-1177. *Aerosol Sci. Technol.* DOI: [10.1080/027868290896834](https://doi.org/10.1080/027868290896834).
19. **Peters, T. M.** & Leith, D. (2004). Particle deposition in industrial duct bends. (Vols. 48). (5), pp. 483-490. *Ann Occup Hyg.* DOI: [10.1093/annhyg/meh031](https://doi.org/10.1093/annhyg/meh031). PMID: [15240335](https://pubmed.ncbi.nlm.nih.gov/15240335/).
20. Volckens, J. A. & **Peters, T. M.** (2005). Counting and particle transmission efficiency of the Aerodynamic Particle Sizer (APS 3321). (Vols. 36). (12), pp. 1400-1408. *J. Aerosol Sci.* DOI: [10.1016/j.jaerosci.2005.03.009](https://doi.org/10.1016/j.jaerosci.2005.03.009).
21. **Peters, T. M.**, Ott, D. & O'Shaughnessy, P. T. (2006). Comparison of the Grimm 1.108 and 1.109 portable aerosol spectrometer to the TSI 3321 aerodynamic particle sizer for dry particles. (Vols. 50). (8), pp. 843-850. *Ann Occup Hyg.* DOI: [10.1093/annhyg/mel067](https://doi.org/10.1093/annhyg/mel067). PMID: [17041244](https://pubmed.ncbi.nlm.nih.gov/17041244/).

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22. **Peters, T. M.** (2006). Use of the aerodynamic particle sizer to measure ambient PM10-2.5: the coarse fraction of PM10. (Vols. 56). (4), pp. 411-416. J Air Waste Manag Assoc. [DOI: 10.1080/10473289.2006.10464522](https://doi.org/10.1080/10473289.2006.10464522). [PMID: 16681206](https://pubmed.ncbi.nlm.nih.gov/16681206/).  
ISSN: 1096-2247
23. **Peters, T. M.**, Heitbrink, W. A., Evans, D. E., Slavin, T. J. & Maynard, A. D. (2006). The mapping of fine and ultrafine particle concentrations in an engine machining and assembly facility. (Vols. 50). (3), pp. 249-257. Ann Occup Hyg. [DOI: 10.1093/annhyg/mei061](https://doi.org/10.1093/annhyg/mei061). [PMID: 16361396](https://pubmed.ncbi.nlm.nih.gov/16361396/).  
ISSN: 0003-4878
24. Vanderpool, R. W., Byrd, L. A., Wiener, R. W., Hunike, E. T., Labickas, M., Leston, A. R., Tolocka, M. P., McElroy, F. F., Murdoch, R. W., Natarajan, S., Noble, C. A. & **Peters, T. M.** (2007). Laboratory and field evaluation of crystallized DOW 704 oil on the performance of the Well Impactor Ninety-Six fFine particulate matter fractionator. (Vols. 57). (1), pp. 14-30. J Air Waste Manag Assoc. [DOI: 10.1080/10473289.2007.10465299](https://doi.org/10.1080/10473289.2007.10465299). [PMID: 17269226](https://pubmed.ncbi.nlm.nih.gov/17269226/).  
ISSN: 1096-2247
25. Reid, J. & **Peters, T. M.** (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. (Vols. 112). (D4) J. Geophysical Research-Atmospheres. [DOI: 10.1029/2006JD007501](https://doi.org/10.1029/2006JD007501).
26. Heitbrink, W. A., Evans, D. E., **Peters, T. M.** & Slavin, T. J. (2007). Characterization and mapping of very fine particles in an engine machining and assembly facility. (Vols. 4). (5), pp. 341-351. J Occup Environ Hyg. [DOI: 10.1080/15459620701290081](https://doi.org/10.1080/15459620701290081). [PMID: 17454502](https://pubmed.ncbi.nlm.nih.gov/17454502/).  
ISSN: 1545-9624
27. Ott, D. K., Cyrs, W. & **Peters, T. M.** (2008). Passive measurement of coarse particulate matter, PM10-2.5. (Vols. 39). (2), pp. 156-167. J. Aerosol Sci.
28. Evans, D. E., Heitbrink, W. A., Slavin, T. J. & **Peters, T. M.** (2008). Ultrafine and respirable particles in an automotive grey iron foundry. (Vols. 52). (1), pp. 9-21. Ann Occup Hyg. [DOI: 10.1093/annhyg/mem056](https://doi.org/10.1093/annhyg/mem056). [PMID: 18056626](https://pubmed.ncbi.nlm.nih.gov/18056626/).  
ISSN: 0003-4878
29. Ott, D. K., Kumar, N. & **Peters, T. M.** (2008). Passive sampling to capture spatial variability of PM10-2.5. (Vols. 42). (4), pp. 746-756. Atmospheric Environ.
30. **Peters, T. M.**, Riss, A. L., Holm, R. L., Singh, M. & Vanderpool, R. W. (2008). Design and evaluation of an inlet conditioner to dry particles for real-time particle sizers. (Vols. 10). (4), pp. 541-551. J Environ Monit. [DOI: 10.1039/b717543d](https://doi.org/10.1039/b717543d). [PMID: 18385876](https://pubmed.ncbi.nlm.nih.gov/18385876/).  
ISSN: 1464-0325
31. Ott, D. K. & **Peters, T. M.** (2008). A shelter to protect a passive sampler for coarse particulate matter, PM10-2.5. (Vols. 42). (4), pp. 299-309. Aerosol Sci. Technol.
32. Kumar, N., Nixon, V., Sinha, K., Jiang, X., Ziegenhorn, S. & **Peters, T. M.** (2009). An optimal spatial configuration of sample sites for air pollution monitoring. (Vols. 59). (11), pp. 1308-1316. J Air Waste Manag Assoc. [PMID: 19947112](https://pubmed.ncbi.nlm.nih.gov/19947112/).  
ISSN: 1096-2247
33. Heitbrink, W. A., Evans, D. E., Ku, B. K., Maynard, A. D., Slavin, T. J. & **Peters, T. M.** (2009). Relationships among particle number, surface area, and respirable mass concentrations in automotive engine manufacturing. (Vols. 6). (1), pp. 19-31. J Occup Environ Hyg. [DOI: 10.1080/15459620802530096](https://doi.org/10.1080/15459620802530096). [PMID: 18982535](https://pubmed.ncbi.nlm.nih.gov/18982535/).  
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34. Klosener, J., **Peters, T. M.**, Adamcakova-Dodd, A., Teesch, L. M., Thorne, P. S., Robertson, L. W. & Luthe, G. (2009). Innovative application of fluoro-tagging to trace airborne particulate and gas-phase polybrominated diphenyl ether exposures. (Vols. 22). (1), pp. 179-186. Chem. Research Toxicology. [DOI: 10.1021/tx8003032](https://doi.org/10.1021/tx8003032). [PMID: 19111055](https://pubmed.ncbi.nlm.nih.gov/19111055/). [PMCID: 3120107](https://pubmed.ncbi.nlm.nih.gov/3120107/).

35. **Peters, T. M.**, Elzey, S., Johnson, R., Park, H., Grassian, V. H., Maher, T. & O'Shaughnessy, P. (2009). Airborne monitoring to distinguish engineered nanomaterials from incidental particles for environmental health and safety. (Vols. 6). (2), pp. 73-81. *J Occup Environ Hyg*. DOI: [10.1080/15459620802590058](https://doi.org/10.1080/15459620802590058). PMID: 19034793. PMCID: 4789272. ISSN: 1545-9624
36. Sheehan, M. J., **Peters, T. M.**, Cena, L., O'Shaughnessy, P. T. & Gussman, R. A. (2009). Generation of Nanoparticles with a Nebulizer-Cyclone System. (Vols. 43). (11), pp. 1091-1098. *Aerosol Sci. Technol*. DOI: [10.1080/02786820903173687](https://doi.org/10.1080/02786820903173687).
37. Boysen, D. & **Peters, T. M.** (2010). Impactor designed to increase mass output rate of nanoparticles from a pneumatic nebulizer. (Vols. 41). (2), pp. 170-179. *J. Aerosol Sci*.
38. O'Shaughnessy, P. T., Donham, K. J., **Peters, T. M.**, Taylor, C., Altmaier, R. & Kelly, K. M. (2010). A task-specific assessment of Swine worker exposure to airborne dust. (Vols. 7). (1), pp. 7-13. *J Occup Environ Hyg*. DOI: [10.1080/15459620903327970](https://doi.org/10.1080/15459620903327970). PMID: 19904655. PMCID: 10466474. ISSN: 1545-9624
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38. Cyrs, W., Cena, L. & **Peters, T. M.** (2008). Efficiency of Polycarbonate Filters for Nanoparticle Collection. Proc. American Industrial Hygiene Association Meeting, Minnesota, MA.
39. Willis, R. W., Vanderpool, R. W., Murdoch, R., Long, R., Grover, B. & **Peters, T. M.** (2008). Characterization of Ambient Coarse Particulate Matter in Birmingham, AL Using a Network of Passive Samplers. Proc. American Geophysical Union, San Francisco, CA.
40. **Peters, T. M.**, Ramakrishna, A. B., 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.
41. Kim, J. S., Luthe, G., Flor, S., Klosener, J., **Peters, T. M.**, Robertson, L. W., Thorne, P. S. & 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.
42. Cena, L., Cyrs, W. & **Peters, T. M.** (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'.
43. Ott, D., Kumar, N. & **Peters, T. M.** (2008). Passive sampling to capture spatial variability of PM<sub>10-2.5</sub>. Proc. 17th Annual Conference of the International Society of Exposure Analysis. Research Triangle Park, NC.
44. Vosburgh, D., Boysen, D. A. & **Peters, T. M.** (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'.
45. **Peters, T. M.**, Elzey, S., Johnson, R., Park, H., Grassian, V., Maher, T. & O'Shaughnessy, P. T. (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. Crys, W. D., Boysen, D. A., Casuccio, G., Lersch, T. & **Peters, T. M.** (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'. [DOI: 10.1016/j.jaerosci.2010.04.007](https://doi.org/10.1016/j.jaerosci.2010.04.007).
  47. Sawvel, E. J., Boysen, D. A., Kumar, N., Willis, R. D. & **Peters, T. M.** (2009). Spatial variability of coarse particulate matter (PM<sub>10-2.5</sub>) in Cleveland, OH. Proc. American Industrial Hygiene Association Meeting. Toronto, ON.
  48. Crys, W. D., Boysen, D. A. & **Peters, T. M.** (2009). Nanoparticle collection efficiency to the surface of capillary pore membrane filters. Proc. Annual American Association of Aerosol Researchers, Minneapolis, MN.
  49. Cena, L. G. & **Peters, T. M.** (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.
  50. Kim, J. S., Luthe, G., Flor, S., Klosener, J., **Peters, T. M.**, Robertson, L. W., Thorne, P. S. & 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.
  51. Cena, L. G. & **Peters, T. M.** (2009). Characterization of coarse particulate matter using passive samplers. Proc. National Ambient Air Monitoring Conference. Nashville, TN.
  52. O'Shaughnessy, P. T., **Peters, T. M.**, Donham, K. J., 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.
  53. Vosburgh, D., Klein, D. T., Sheehan, M., O'Shaughnessy, P. T. & **Peters, T. M.** (2010). Evaluation of a personal diffusion battery. Proc. American Industrial Hygiene Conference and Exhibition. Denver, CO.
  54. Cena, L. G. & **Peters, T. M.** (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'.
  55. Sawvel, E. J., **Peters, T. M.**, Kumar, N. & Willis, R. D. (2010). Passive sampling to characterize spatial and compositional variability in coarse particulate matter. Proc. American Industrial Hygiene Conference and Exhibition. Denver, CO.
  56. Kim, J. S., Adamcakova-Dodd, A., **Peters, T. M.**, O'Shaughnessy, P. T. & Thorne, P. S. (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.
  57. Thorne, P. S., Kim, J. S., Adamčaková-Dodd, A., **Peters, T. M.** & O'Shaughnessy, P. T. (2010). In vitro Dynamic Exposure Model (IVDEM) for Air Delivery of Nanomaterials to Lung Cells. American Thoracic Society 2010 International Conference, New Orleans, LA.
  58. Cena, L. G., **Peters, T. M.**, Anthony, T., Shelton, B. L., Casuccio, G. S. & Lersch, T. L. (2010). Characterization of airborne particles emitted during sanding of CNT nanocomposite Material. Proc. Annual American Association of Aerosol Researchers, Portland, WA.
  59. Sawvel, E., **Peters, T. M.**, 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.
  60. Hill, B. K., Bunker, K. L., Casuccio, G. S., Pacolay, B., Ott, D., Ferreri, M. R. & **Peters, T. M.** (2010). A sampling criterion for nanoparticles. Proc. Annual American Association of Aerosol Researchers, Portland, WA.

61. Hill, B. K., Bunker, K. L., Casuccio, G. S., Pacolay, B., Ott, D., Ferreri, M. R. & **Peters, T. M.** (2011). A sampling criterion for nanoparticles. Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA.
62. Hibbs, M., **Peters, T. M.** & Anthony, T. (2011). Capture velocity with slot entry to conical hood. Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA.
63. Park, J. H., Ault, A., Grassian, V. & **Peters, T. M.** (2011). Characterization of Nanoparticles Generated by Spark Discharge to Simulate Welding Fume. Proc. Annual American Association of Aerosol Researchers, Orlando, FL.
64. Cena, L. G., Anthony, T. & **Peters, T. M.** (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'. [DOI: 10.1021/es201379a](https://doi.org/10.1021/es201379a). ISSN: 0013-936X
65. Cena, L. G., **Peters, T. M.**, Lersch, T. L. & Casuccio, G. (2011). Characterization of Composite Particles Containing Carbon Nanotubes by Scanning-Transmission Electron Microscopy. Proc. American Industrial Hygiene Conference and Exhibition. Portland, WA.
66. Ault, A., **Peters, T. M.**, Sawvel, E., Cassuccio, 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, L. G., **Peters, T. M.** & 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, B. K. & **Peters, T. M.** (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, J. B., **Peters, T. M.** & Park, J. H. (2012). Verification of the DiSCmini Personal Monitor for Welding Fume. Proc. American Industrial Hygiene Conference and Exhibition. Indianapolis, IN.
70. 2013-present No Longer Tracking Abstracts
71. Mills, J. B., **Peters, T. M.** & Park, J. H. (2013). Evaluation of the DiSCmini Personal Aerosol Monitor for Submicrometer Sodium Chloride and Metal Aerosols. Proc. American Industrial Hygiene Conference and Exhibition. Montreal, ON.

## Research Interests/Current Projects

- Engineered nanomaterials and ultrafine particles: exposure assessment and health effects
- Industrial ventilation: capture and control of workplace pollutants
- Mechanics of aerosols: sampling and transport, instrumentation, and filter design

## Grants and Contracts

### Active (Funded)

1. Project Multi-Hazard Sampling Network; UES, Inc / USAF (prime); Peters, Thomas M (Investigator)
  - S-194-11G-001
  - Aug 2022 - Sep 2024
  - Amount: \$300,000.00
2. The Interdisciplinary Training, Education and Research Activities for Assessing and Controlling Contaminants from Emerging Technologies (InTERACCT) Program; University of Minnesota / NIH (prime); Peters, Thomas M (Co-Investigator), Arnold, Susan (Co-Investigator)
  - R25 ES033035-01
  - Sep 2021 - Aug 2026
  - Amount: \$205,634.00

3. Environmental Health Sciences Research Center (EHSRC); NIH/NIEHS; Peters, Thomas M. (Principal Investigator), Lehmler, Hans-Joachim (Director)
  - 2 P30 ES005605-32
  - Jun 1, 2022 - Mar 31, 2027
  - Amount: \$7,543,913.00
4. Great Plains Center for Agricultural Health and Safety (GPCAH); CDC/NIOSH; Peters, Thomas M (Director), Anthony, T Renee (Principal Investigator)
  - U54 OH007548-21
  - Sep 2022 - Sep 2027
  - Amount: \$8,629,310.00
  - Total Amount Requested: \$8,629,310.00
5. The Heartland Center for Occupational Health and Safety Research Center (ERC); US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Principal Investigator), O'Shaughnessy, Patrick T (Director)
  - T42 OH008491-17
  - Jul 1, 2019 - Jun 30, 2029
  - Amount: \$1,574,524.00
  - Total Amount Requested: \$8,172,153.00

### Completed

1. Ultrafine particles in heavy vehicle assembly and components manufacturing plants; International Truck & Engine Corporation and UAW; Peters, Thomas M. (Co-Investigator), Heitbrink (Principal Investigator)
  - Oct 15, 2004 - Nov 30, 2005
  - Amount: \$68,533.00, 20% effort
2. Passive sampling of ambient air particulate matter; Center for Health Effects of Environmental Contamination, University of Iowa; Peters, Thomas M. (Principal Investigator)
  - Jan 1, 2005 - Dec 31, 2005
  - Amount: \$25,000.00, 20% effort
3. Airway and immune response to inhaled endotoxin and diesel exhaust particles in humans; New Investigator Research Award, College of Public Health, University of Iowa; Peters, Thomas M. (Principal Investigator)
  - Feb 1, 2005 - Feb 28, 2006
  - Amount: \$10,000.00, 10% effort
4. Airways response to mixed exposure of endotoxin and diesel exhaust particles using exhaled breath condensate methodology; Heartland Center for Occupational Health & Safety, US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Principal Investigator)
  - Jun 30, 2005 - Jun 30, 2006
  - Amount: \$14,760.00, 10% effort
5. Modification and evaluation of the APS3321 for ambient air monitoring; TSI, Incorporated, Shoreview MN; Peters, Thomas M. (Principal Investigator)
  - Apr 1, 2005 - Jan 31, 2007
  - Amount: \$40,000.00, 4% effort
6. Development of a passive sampler for assessing airborne nanoparticles; Biological Science Funding Program, University of Iowa; Peters, Thomas M. (Principal Investigator)
  - Feb 1, 2006 - Jan 31, 2007
  - Amount: \$30,000.00, 20% effort

7. Relating cardiac function to diesel exhaust inhalation exposure; Environmental Health and Science Resource Center, University of Iowa; Peters, Thomas M. (Principal Investigator)
  - Jun 1, 2006 - Mar 30, 2007
  - Amount: \$8,500.00, 5% effort
8. Development and field assessment of a shelter for a passive aerosol sampler; US EPA; Peters, Thomas M. (Principal Investigator)
  - Jan 30, 2007 - Oct 1, 2007
  - Amount: \$20,887.00, 4% effort
9. Real-time, personal sampling for airborne nanoparticles; Center for Global and Regional Environmental Research, University of Iowa; Peters, Thomas M. (Principal Investigator)
  - Jun 1, 2006 - May 31, 2008
  - Amount: \$30,000.00, 5% effort
10. Assessment methods for nanoparticles in the workplace; EPA/ NIOSH/ NSF; Peters, Thomas M. (Co-Investigator), O'Shaughnessy, Patrick T (Principal Investigator)
  - Jul 1, 2005 - Jun 30, 2008
  - Amount: \$399,906.00, 3% effort
11. Predicting indoor and outdoor air quality by indirect methods; Center for Health Effects of Environmental Contaminants, University of Iowa; Peters, Thomas M., Kumar (Principal Investigator)
  - Sep 1, 2007 - Aug 31, 2008
  - Amount: \$30,000.00
12. Burn-off emissions in vehicle final assembly areas; UAW-GM Center for Human Resources; Peters, Thomas M. (Co-Investigator), Heitbrink
  - Feb 1, 2007 - May 30, 2009
  - Amount: \$418,039.00, 1% effort
13. Passive sampling to assess the spatial variability of PM10-2.5 in Cleveland, OH; US EPA; Peters, Thomas M. (Principal Investigator)
  - EP08D000289&am1 Amendment 1
  - Apr 7, 2008 - Jun 30, 2009
  - Amount: \$27,000.00, 5% effort
14. Passive sample analysis and data interpretation; US EPA; Peters, Thomas M. (Principal Investigator)
  - EPA09D000166
  - Feb 1, 2009 - Jan 31, 2010
  - Amount: \$32,000.00, 5% effort
15. Passive sampling assessment of spatial variability of PM10-2.5 Cleveland Multiple Air Pollutant Study (CMAPS); US EPA; Peters, Thomas M. (Principal Investigator)
  - Jun 1, 2009 - May 30, 2010
  - Amount: \$47,856.00, 0% effort
16. A personal real-time ultrafine particle monitor; Heartland Center for Occupational Health & Safety, US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Principal Investigator), Vosburgh (Principal Investigator)
  - Feb 1, 2009 - Jul 31, 2010
  - Amount: \$15,000.00, 5% effort
17. Personal exposure to engineered nanoparticles; US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Principal Investigator)
  - 1K010H009255-03

- Sep 1, 2007 - Aug 31, 2010
  - Amount: \$300,000.00, 50% effort
18. Evaluation of methods to control exposure to nanoparticles; US Department of Defense, Air Force; Peters, Thomas M. (Principal Investigator)
- FA8650-10-2-6136
  - Jun 15, 2010 - Jun 14, 2011
  - Amount: \$136,923.00, 10% effort
19. A personal sampler for engineered nanoparticles; Heartland Center for Occupational Health & Safety CDC/NIOSH; Peters, Thomas M. (Principal Investigator), Cena (Principal Investigator)
- Jul 1, 2010 - Jun 30, 2011
  - Amount: \$15,000.00, 5% effort
20. Method to evaluate release of engineered nanomaterial from commercial products; NIEHS through Applied Nanotech Holding, Inc.; Peters, Thomas M. (Principal Investigator)
- Jul 1, 2010 - Jun 30, 2011
  - Amount: \$46,250.00, 10% effort
21. Laboratory determination of deposition velocity and coagulation for nano-CeO<sub>2</sub> fuel additive; US EPA; Peters, Thomas M. (Principal Investigator)
- EP10D000322
  - Apr 8, 2010 - Sep 30, 2011
  - Amount: \$53,917.00, 10% effort
22. Analysis of Cleveland multiple air pollutant study (CMAQS) samples; US EPA; Peters, Thomas M. (Principal Investigator)
- EP11D000010
  - Sep 1, 2010 - Sep 30, 2011
  - Amount: \$30,144.00, 10% effort
23. Exposure assessment of workers in swine confinement buildings; Great Plains Center for Agricultural Health US DHHS/CDC/NIOSH; Peters, Thomas M. (Co-Investigator), O'Shaughnessy, Patrick T (Principal Investigator)
- 5U50OH007548-10
  - Oct 1, 2007 - Sep 30, 2012
  - Amount: \$856,146.00, 10% effort
24. An optimal spatial sampling design for the U.S. General Social Survey; Peters, Thomas M. (Co-Investigator), Kumar (Principal Investigator)
- Jan 1, 2009 - Dec 31, 2012
  - Amount: \$780,000.00, 2% effort
25. CFD investigation of particle inhalability in low wind speeds; US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Co-Investigator), Anthony, TR (Principal Investigator)
- 5R01OH009290-03
  - Jun 1, 2008 - May 31, 2013
  - Amount: \$125,718.00, 10% effort
26. Methods to assess personal exposures to airborne metallic nanoparticles; US DHHS/ CDC/ NIOSH; Peters, Thomas M. (Principal Investigator)
- 1R21OH009920
  - Sep 1, 2010 - Aug 31, 2013
  - Amount: \$275,000.00, 40% effort

- 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.
27. Development of a personal aerosol collector and spectrometer (PACS); US Department of Defense, Air Force through Spectral Energies; Peters, Thomas M. (Principal Investigator)
- Jun 18, 2013 - Mar 19, 2014
  - Amount: \$24,735.00, 13% effort
  - Develop a real-time personal monitor to measure particle size distributions and collect particles by size for chemical analysis.
28. Ergonomic and welding fume exposures during stud welding; Center to Protect Workers' Rights/CDC; Peters, Thomas M. (Co-Investigator), Fethke, Nathan B. (Principal Investigator)
- Jul 1, 2011 - Aug 30, 2014
  - Amount: \$131,081.00, 5% effort
29. Exposure Assessment & Outreach to Engage the Public on Risk from Frac Sand Mining; NIEHS; Peters, Thomas M., Thorne, Peter S. (Principal Investigator)
- Supplement to P30 ES005605
  - Aug 2013 - Mar 2015
  - Amount: \$74,000.00
  - 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.
30. Development of a personal aerosol collector and spectrometer; USAF; Peters, Thomas M. (Principal Investigator)
- SBIR Phase II
  - Jul 16, 2014 - Jul 15, 2017
  - Amount: \$132,675.00, 10% effort
  - 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.
31. Characterizing Airborne Particles Emitted from Prototype Materials Used in Car Seats; Vireo Avisors
- Feb 15, 2018 - Jun 30, 2018
  - Amount: \$23,922.00, Direct Cost: \$15,686.56, 1% effort
32. A nanoparticle respiratory dose sampler for metal-based nanoparticles; US DHHS/ CDC/ NIOSH; Grassian, Vicki, Anthony, TR, Peters, Thomas M. (Principal Investigator)
- 1R01OH010238-01A1
  - Sep 1, 2013 - Aug 31, 2018
  - Amount: \$1,209,000.00, 30% effort
  - 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
33. Aerosol Mapping and Low-Cost Monitoring; John Deere; Peters, Thomas M. (Principal Investigator)
- Oct 18, 2013 - Oct 16, 2018
  - Amount: \$89,918.00, 5% effort

- 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.
34. Design and Validation of a Diluter for Real-time Exposure Monitoring using Wearable Direct Reading Particle Counters; UES, Inc/US Department of Defense, Air force; Peters, Thomas M (Principal Investigator)
- S-977-056-001
  - Dec 2017 - Dec 2018
  - Amount: \$40,500.00
35. An inexpensive monitoring network to assess workplace exposures; John Hopkins University/NIH; Thomas, Geb, Koehler, Kirsten (Multi-PI), Peters, Thomas M. (Multi-PI)
- 2002475379
  - Sep 2014 - Aug 2019
  - Amount: \$1,111,000.00, 20% effort
  - 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.
36. Integration of Particulate Matter Sensor into a System to Increase the Frequency of Personal Hearing Protective Equipment Use; UES, Inc/US Department of Defense, Air Force
- S-158-204-001
  - Nov 2018 - Nov 2019
  - Amount: \$133,000.00
37. Protecting Farm Workers' Hearing Through Personalized, Automated Training; NIDCD/NIH; Peters, Thomas M (Principal Investigator)
- 5 R21 DC017022-02
  - Mar 1, 2018 - Feb 28, 2020
  - Amount: \$186,040.00, Direct Cost: \$132,248.00, 12% effort
38. Demonstration of a Network to Generate Hazard Maps; UES, Inc.
- S-158-112-002
  - Jun 22, 2020 - Sep 21, 2020
  - Amount: \$24,984.00, Direct Cost: \$16,171.00, 3% effort
39. Midwest Emerging Technologies Public Health and Safety Training (METPHAST) Program; NIEHS through University of Minnesota; Peters, Thomas M. (Principal Investigator)
- Aug 1, 2013 - Jul 31, 2021
  - Amount: \$120,000.00, 7% effort
40. Multi-Hazard Monitoring Network; UES, Inc
- S-158-112-001
  - Aug 1, 2019 - Jul 31, 2021
  - Amount: \$150,000.00, Direct Cost: \$101,019.00, 14% effort
41. Design of an Inhalable Sampler for Abrasive Blasting; John Deere Company; Peters, Thomas M (Principal Investigator)
- K579200-C
  - Jul 1, 2022 - Oct 31, 2023
  - Amount: \$19,507.00

## Planned

1. A Sensor Network for Hearing Conservation in Occupational Settings; Johns Hopkins University / NIH (prime); Peters, Thomas M (Co-Investigator)
  - R01 DC020776
  - Jul 2022 - Jun 2027
  - Amount: \$1,724,293.00

## **Presentations**

### Keynote/Plenary Address

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|----------|--|
| 2013     | Peters, T. M. Lessons from the Workplace: Hazards from Exposure to Engineered Nanomaterials. Presented at Plenary session, 32nd Annual Conference American Association for Aerosol Research. |
| Nov 2022 | Peters, T.M., Creative Use of Direct-Reading Instruments: Modern Art for Industrial Hygiene, AIRMON Conference, Bristol, UK  |
| Oct 2023 | Peters, T.M., Creative Use of Artificial Intelligence in Industrial Hygiene, US Dept of Interior   |

### Invited Lectures

- |          |  |
|----------|--|
| 2014     | Creative Use of Direct-Reading Instruments. University of Michigan.  |
| Jun 2016 | Peters, T. M. <a href="#">A method to assess exposures to nanocellulose aerosols for workplace health and safety</a> . Presented at International Conference on Nanotechnology for Renewable Materials, TAPPI, Grenoble, France. |
| May 2022 | Peters, T.M., Creative Use of Direct-Reading Instruments: Modern Art for the Industrial Hygienist, NY/NJ Local Section   |
| Sep 2023 | Peters, T.M., Chen, L. Ethics of Using Artificial Intelligence Chatbots in Industrial Hygiene. ACGIH On Line Education   |
| Nov 2023 | Peters, T.M., The Ethics of Using Chatbots in Occupational Safety and Health, IA Governors Safety Conference   |
| Sep 2024 | Peters, T.M., The Ethics of Using Chatbots in Occupational Safety and Health, Hawkeye on Safety Symposium  |

### Oral Presentations

- |      |   |
|------|---|
| 2004 | Peters, T. M. Aerosol short course: physics, measurement, and sampling. Boeing Corporation, Everett, Washington.  |
| 2007 | Peters, T. M. The FUN of Aerosols: Assessing Fine Ultrafine and Nano Particles in Workplace Atmospheres. Presented at Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, California. |
| 2008 | Industrial Hygiene Student Journal Club. Department of Occupational and Environmental Health, University of Iowa.   |
| 2008 | Industrial Hygiene Student Journal Club. Department of Occupational and Environmental Health, University of Iowa.   |
| 2009 | Peters, T. M. Air Quality in American Subway Systems. Presented at Subway Air Quality Workshop, Seoul, South Korea.   |

- 2009 Peters, T. M. Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles. Presented at Air Force Workshop on Engineered Nanomaterials, Dayton, Ohio.
- 2009 Peters, T. M. Airborne Monitoring to Distinguish Engineered Nanomaterials from Incidental Particles. Presented at Nanomaterials Applications Center Colloquium, Austin, Texas.
- 2009 Peters, T. M. Physicochemical Characteristics of Nanoparticles in the Workplace and Implications for Occupational Exposure Limits. Presented at Roundtable Session at the American Industrial Hygiene Conference and Exhibition.
- 2011 Peters, T. M. Future Needs in Air Sampling Instrumentation. Presented at 5th International Symposium on Nanoparticles, Occupational, and Environmental Health, Boston, Massachusetts.
- 2011 Peters, T. M. Workplace Safety for Engineered Nanomaterials. Presented at Moscow Nanotechnologies Retreat, Russia-US Bilateral Presidential Commission for Nanotechnologies, Moscow, Russia.
- 2012 Peters, T. M. Evaluation of Measurement Methods to Assess Exposures to Nanomaterials. Presented at 3rd USAF ASC/AFRL Engineered Nanomaterials Environment, Safety, and Health Workshop.
- Mar 2014 Peters, T. M. Creative Use of Direct Reading Instruments: Modern Art for the Industrial Hygienist. Presented at Environmental Research Center Invited Visit, Univ of Michigan, Ann Arbor.
- Jul 2014 Peters, T. M. Creative Use of Direct Reading Instruments: Modern Art for the Industrial Hygienist. NIOSH, Morgantown, West Virginia.
- Oct 2024 Peters, T.M. Artificial Intelligence in Public Health, OEH Seminar

Continuing Education Talks

- 2007 The FUN of aerosols: fine, ultrafine, and nano particles. American Industrial Hygiene.
- 2010 The FUN of aerosols: fine, ultrafine, and nano particles. American Industrial Hygiene.
- 2010 Ventilation to control occupational contaminants. Heartland Center.

Seminars

- 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.
- 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.

## Service

### Professional Service

#### Professional Organizations

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
2011	U.S. delegation to Moscow, Russia for Bilateral Presidential Commission on EHS for Nanotechnology, U.S. Department of State, Member
1992 - Present	Tau Beta Pi, Member
2001 - Present	Aerosol Technology Working Committee, American Industrial Hygiene Association, Member
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
2012 - Present	American Industrial Hygiene Association, Member of the Engineering Committee

#### Review Panels

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
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
2017	2017/08 ZRG1 IMST-B (12) B, Small Business: Instrumentation, Environmental, and Occupational Safety, Washington, District of Columbia, Reviewer, Grant Proposals

2016 - Present Safety and Occupational Health (SOH), Washington, District of Columbia, Reviewer, Grant Proposals

#### National/International Committees

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

2011 - Present Advisory Board, University of Washington Center for Clean Air Research, Member

2020 - Present Board of Advisors, American Conference of Government Industrial Hygienists, Board of Advisors

#### Professional Consulting

2001 - 2002 Center for Disease Control, NIOSH, Modeled aerosol transport to a new personal respirable monitor

1998 - 2004 BGI, Inc., Designed, implemented, and maintained software for serial communications with flow measurement devices and PM2.5 federal reference method samplers

2008 Superprotonic, Inc., Designed impactor to remove large droplets from nebulized aerosol

#### Other

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 Journal of the Aerosol Science, Editor

2012 - Present Aerosol and Air Quality Research, Editor

### **University, College, Department Service**

#### University

2001 - 2003 University of North Carolina, Ph.D. Student Representative to Faculty

2007 - 2008 Committee to Hire a New Faculty Member in the Industrial Hygiene Program, Member

2007 - 2008 Education subgroup for the review of the College of Public Health's Strategic Plan, College of Public Health, University of Iowa, Member

2007 - 2008 Iowa Research Experience for Undergraduates Program, Mentor

2009 - 2010 Education subgroup for the review of the College of Public Health's Strategic Plan, College of Public Health, University of Iowa, Member

2009 - 2011 Junior faculty group, Department of Occupational and Environmental Health, College of Public Health, University of Iowa, Organizer

2011 - 2013 SROP/McNair Scholars program, University of Iowa, Mentor

2011 - 2014 BS/MS Combined Degree Program, Taskforce Member

2011 - 2014	CPH Faculty Council, College of Public Health, University of Iowa, Chair 2012-2013
2006 - 2015	Nanoscience and Nanotechnology Institute (NNI@UI) Executive Committee, University of Iowa, Member
2011 - 2016	Faculty Council, College of Public Health, University of Iowa, OEH Representative
2018 - 2019	Search Committee for College of Public Health Dean, Member
2017 - 2020	Faculty Senate, Member
2005 - Present	Accreditation Board for Engineering and Technology (ABET) reaccreditation of Industrial Hygiene program, Member
2020 - Present	CCOM – Department Search Committee, Member

## Intellectual Property

1. Cena, L. & Peters, T. M., Personal nanoparticle respiratory deposition sampler and methods of using same., US9506843 B2, Nov 29, 2016