

JANE ELLEN CLOUGHERTY, MSc ScD

Updated September 2017

Associate Professor
Drexel University
Dornsife School of Public Health
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EDUCATION and TRAINING

Harvard School of Public Health
Exposure, Epidemiology, and Risk Program
Department of Environmental Health
- Also completed curriculum in Society, Human Development, and Health

ScD -- June 2006
Boston, MA

McMaster University
Department of Geography
- Emphasis in Environmental Health Sciences

MSc -- December 1998
Hamilton, Ontario, Canada

University of Chicago
Department of Economics
and Environmental Studies Program
- General and Departmental Honors

AB -- June 1997
Chicago, IL

PROFESSIONAL PRIMARY APPOINTMENTS

Associate Professor (with tenure) / Director of Exposure Science

August 2016 – December 2016

Assistant Professor/ Director of Exposure Science
University of Pittsburgh
Graduate School of Public Health
Department of Environmental and Occupational Health

October 2010 – July 2016
Pittsburgh, PA

Senior Research Scientist
New York City Department of Health and Mental Hygiene
Department of Environmental Health
Bureau of Environmental Surveillance and Policy

September 2008 – September 2010
New York, NY

Post-Doctoral Research Fellow
Harvard School of Public Health
Department of Environmental Health
in collaboration with Yale University School of Medicine

June 2006 – September 2009
Boston, MA

SECONDARY APPOINTMENTS/ OTHER AFFILIATIONS

Affiliate Drexel University Urban Health Collaborative	February 2017 - Present
Visiting Scientist New Zealand National Institute for Water and Atmospheric Research (NIWA)	July 2015 – Present Auckland, New Zealand
Research Associate Harvard School of Public Health Department of Environmental Health	September 2009 – September 2010 Boston, MA
Visiting Scientist Auckland University of Technology Faculty of Health and Environmental Sciences	June 2006 – September 2008 Auckland, New Zealand
Senior Research Associate Environomics, Inc. Environmental Consultants	January 2001 – June 2001 Bethesda, MD
Program Manager, Research Associate Center for Neighborhood Technology Energy, Economics, and Air Quality	January 1999 – January 2001 Chicago, IL
ECO Associate/ Intern Environmental Protection Agency Region V Headquarters Division of Wastes, Pesticides, and Toxics Environmental Justice Team	April 1997 – August 1997 Chicago, IL
Academic Coordinator University of Chicago Environmental Studies Academic Program	July 1996 – August 1997 Chicago, IL
Medical Advocate, Speakers Bureau Rape Victim Advocates	June 1994 – June 2001 Chicago, IL

MEMBERSHIP and ACTIVITY in PROFESSIONAL and SCIENTIFIC SOCIETIES

2016 – Present	Associate Editor, <i>Environmental Health Perspectives</i>
2004 – Present	International Society for Exposure Science (ISES)
2012 – Present	Board Member, Elected Academic Councilor, Academic Mentor
2014 - Present	Board Liaison to ISES Publications Committee Editorial Review Board, <i>Journal of Exposure Science and Environmental Epidemiology (JESEE)</i>
2013– Present	Quarterly Newsletter Editorial Committee
2017 - Present	International Society for Environmental Epidemiology (ISEE), Member
2004 - Present	International Society for Exposure Science (ISES) Tri-State, Member
2015 - Present	National Academy of Sciences, Engineering, and Medicine [formerly Institutes of Medicine (IOM)]
2015 – Present	Department of Veterans Affairs Scientific Committee on the Burn Pits Registry
2010 – 2012	American Thoracic Society (ATS) Environmental and Occupational Health Assembly, member

HONORS and AWARDS

	University of Chicago:
1994 – 1996	Dean's List
1996	Herst Award for Outstanding Academic Achievement and Social Service
1996	Halperin Academic Scholarship
1997	Maroon Key Honor Society
1997	General Honors (University-wide)
1997	Departmental Honors (Economics)
1997	Contributed to National Press Award Outstanding Feminist Writing (First Place): <i>Chicago Free Press</i>
1997	Fulbright Scholarship (IEE/CIES): U.S.- Canada
2002	Harvard University Joint Center for Housing Studies Award
2005	International Society for Environmental Epidemiology (ISEE) New Investigator Award -- Outstanding Abstract for Oral Presentation Johannesburg, South Africa
2005	American Lung Association (ALA) Lung Health Dissertation Grant
2007	Harvard School of Public Health, Committee on Educational Policy: Letter of Commendation for outstanding teaching, by student evaluations Advanced Topics in Women, Gender, and Health
2009 - 2012	National Institute for Occupational Health Sciences (NIOSH/CDC) K-01 Award
2010	<i>Environmental Health Perspectives (EHP)</i> : Reviewers of the Year 2010
2011	University of Pittsburgh Central Research Development Fund Faculty Award
2011	University of Pittsburgh Center for Social and Urban Research (UCSUR): Manners Faculty Development Award
2012	International Society for Exposure Science (ISES) Sally Liu Award for Outstanding New Investigator
2012	ISES Elected Academic Councilor
2012	City of Pittsburgh Proclamation for Public Service in citywide air monitoring
2013	Nominee: Dr. James L. Craig Endowed Excellence in Education Award, a student-nominated award for outstanding teaching at University of Pittsburgh
2013	Featured article in Pitt Public Health Magazine: "The Devil in Diesel"
2017	Drexel University Faculty Scholarly and Creative Activity Award

PUBLICATIONS

Peer-reviewed Publications

1. Levy JI, Welker-Hood LK, Clougherty JE, Dodson RE, Steinbach S, Hynes HP. Lung function, asthma symptoms, and quality of life for children in public housing in Boston: a case-series analysis. *Environmental Health*. 2004; 3 (1):13. PMID: 15585065.
2. Clougherty JE, Levy JI, Hynes HP, Spengler JD. A longitudinal analysis of the efficacy of environmental interventions on asthma-related quality of life and symptoms among children in urban public housing. *Journal of Asthma*. 2006; 43 (5):335-43. PMID: 16801137.
3. Levy JI, Baxter LK, Clougherty JE. The air quality impacts of road closures associated with the 2004 Democratic National Convention in Boston. *Environmental Health*. 2006; 5:16. PMID: 16729881.
4. Levy JI, Brugge D, Peters JL, Clougherty JE, Saddler SS. A community-based participatory research study of multifaceted in-home environmental interventions for pediatric asthmatics in public housing. *Social Science & Medicine*. 2006 Oct; 63 (8):2191-203. PMID: 16781807.
5. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Predictors of hypertension and heart

- disease among white- and blue-collar employees in the Alcoa Aluminum Manufacturing Cohort. *Occupational and Environmental Medicine*. 2007; 64:31.
6. Clougherty JE, Levy JI, Kubzansky LD, Ryan PB, Suglia SF, Canner MJ, Wright RJ. Synergistic effects of traffic-related air pollution and exposure to violence on urban asthma etiology. *Environmental Health Perspectives*. 2007 Aug; 115 (8):1140-6. PMID: 17687439.
 7. Baxter LK, Clougherty JE, Laden F, Levy JI. Predictors of concentrations of nitrogen dioxide, fine particulate matter, and particle constituents inside of lower socioeconomic status urban homes. *Journal of Exposure Science & Environmental Epidemiology*. 2007 Aug; 17 (5):433-44. PMID: 17051138.
 8. Baxter LK, Clougherty JE, Paciorek CJ, Wright RJ, Levy JI. Predicting residential indoor concentrations of nitrogen dioxide, fine particulate matter, and elemental carbon using questionnaire and geographic information system based data. *Atmospheric Environment*. 2007 Oct; 41 (31):6561-6571. PMCID: PMC2760735. PMID: 19830252.
 9. Clougherty JE, Wright RJ, Baxter LK, Levy JI. Land use regression modeling of intra-urban residential variability in multiple traffic-related air pollutants. *Environmental Health*. 2008; 7:17. PMCID: PMC2397396. PMID: 18485201.
 10. Clougherty JE, Houseman EA, Levy JI. Examining Intra-Urban Variability in PM_{2.5} Constituents for Source Apportionment, using GIS and Constrained Factor Analysis. *Atmospheric Environment*. 2009; 43:5545-5555.
 11. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Workplace status and risk of hypertension among hourly and salaried aluminum manufacturing employees. *Social Science & Medicine*. 2009 Jan; 68 (2):304-13. PMCID: PMC2659853. PMID: 19027215.
 12. Clougherty JE, Kubzansky LD, Spengler JD, Levy JI. Ancillary benefits for caregivers of children with asthma participating in an environmental intervention study to alleviate asthma symptoms. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2009 Mar; 86 (2):214-29. PMCID: PMC2648883. PMID: 19184446.
 13. Clougherty JE, Kubzansky LD. A framework for examining social stress and susceptibility to air pollution in respiratory health. *Environmental Health Perspectives*. 2009 Sep; 117 (9):1351-8. PMCID: PMC2737009. PMID: 19750097.
 14. Clougherty JE. A growing role for gender analysis in air pollution epidemiology. *Environmental Health Perspectives*. 2010 Feb; 118 (2):167-76. PMCID: PMC2831913. PMID: 20123621.
 15. Clougherty JE, Rossi CA, Lawrence J, Long MS, Diaz EA, Lim RH, McEwen B, Koutrakis P, Godleski JJ. Chronic social stress and susceptibility to concentrated ambient fine particles in rats. *Environmental Health Perspectives*. 2010 Jun; 118 (6):769-75. PMID: 20194079.
 16. Levy JI, Clougherty JE, Baxter LK, Houseman EA, Paciorek CJ, HEI Health Review Committee. Evaluating heterogeneity in indoor and outdoor air pollution using land-use regression and constrained factor analysis. *Health Effects Institute (HEI) Research report*. 2010 Dec. PMID: 21409949.
 17. Clougherty JE, Eisen EA, Slade MD, Kawachi I, Cullen MR. Gender and sex differences in job status and hypertension. *Occupational and Environmental Medicine*. 2011 Jan; 68 (1):16-23. PMID: 20864467.
 18. Clougherty JE, Houseman EA, Levy JI. Source apportionment of indoor residential fine particulate matter using land use regression and constrained factor analysis. *Indoor Air*. 2011 Feb; 21 (1):53-66. PMID: 20887392.
 19. Ross Z, Kheirbek I, Clougherty JE, Ito K, Matte T, Markowitz S, Eisl H. Noise, air pollutants and traffic: continuous measurement and correlation at a high-traffic location in New York City. *Environmental Research*. 2011 Nov; 111 (8):1054-63. PMID: 21958559.
 20. Clougherty JE, Kheirbek I, Eisl H, Ross Z, Pezeshki G, Gorczynski J, Johnson S, Markowitz S, Kass D, Matte T. Intra-urban spatial variability in wintertime street-level concentrations of multiple combustion-related air pollutants: The New York City Community Air Survey (NYCCAS). *Journal of Exposure Science & Environmental Epidemiology*. 2013 May-Jun; 23(3):232-40. doi: 10.1038/jes.2012.125. Epub 2013 Jan 30.

21. Tunno BJ, Shields KN, Liroy P, Chu N, Kadane JB, Parmanto B, Pramana G, Zora J, Davidson C, Holguin F, Clougherty JE. Understanding intra-neighborhood patterns in fine particulate air pollution using mobile monitoring in Braddock, PA. *Environmental Health*. 2012; 11 (76).
22. Ross Z, Ito K, Johnson S, Yee M, Pezeshki G, Clougherty JE, Savitz D, Matte T. Spatial and temporal interpolation of air pollutants in New York City: exposure assignment for use in a birth outcomes study. *Environmental Health*. 2013; 12 (51). (*Highly accessed*)
23. Rabinowitz PM, Galusha D, Dixon-Ernst C, Clougherty JE, Neitzel RL. The dose-response relationship between in-ear occupational noise exposure and hearing loss. *Occupational & Environmental Medicine*. 2013; 70 (10):716-21.
24. Matte T, Ross Z, Kheirbek I, Eisl H, Johnson S, Gorczynski J, Kass D, Markowitz S, Pezeshki G, Clougherty JE. Monitoring intra-urban spatial patterns of multiple combustion air pollutants in New York City: Design and Implementation. *Journal of Exposure Science and Environmental Epidemiology*. 2013 23(3):223-31. doi: 10.1038/jes.2012.126.
25. Felix JD, Elliott EM, Gish T, Maghirang R, Cambal L, Clougherty JE. Examining the transport of ammonia emissions across landscapes using nitrogen isotope ratios. *Atmospheric Environment*. 2014. 95: 563-570.
26. Savitz DA, Bobb J, Carr JL, Clougherty JE, Dominici F, Elston B, Ito K, Ross Z, Yee M, Matte TD. Ambient fine particulate matter, nitrogen dioxide, and term birth weight in New York City. *Am J Epidemiol*. 2014. 179(4):457-66. doi: 10.1093/aje/kwt268.
27. Shmool JLC, Kubzansky LD, Ito K, Dotson-Newman O, Spengler JD, Shepard P, Clougherty JE. Spatial correlations across community social stressors and outdoor air pollution in New York City: A GIS-based approach for social-environmental epidemiology. *Environmental Health*. 2014; 13:91. (*Highly accessed*)
28. Shmool J, Michanowicz AR, Cambal L, Tunno BJ, Eisl H, Gorczynski JE, Howell J, Gillooly SE, Roper C, Tripathy S, Chubb L, Holguin F, Shields KN, Clougherty JE. Saturation sampling for spatial variability in multiple air pollutants across an inversion-prone metropolitan area of complex terrain. *Environmental Health*. 2014; 13 (28). doi: 10.1186/1476-069X-13-28.
29. Tunno BJ, Michanowicz AR, Shmool JLC, Kinnee E, Cambal L, Tripathy S, Gillooly SE, Roper C, Chubb L, Clougherty JE. Spatial variation in inversion-focused measures of fine particulate matter and elemental carbon in Pittsburgh, PA. *Journal of Exposure Science and Environmental Epidemiology*. 2016; 26, 385–396; doi:10.1038/jes.2015.59.
30. Sheffield PE, Shmool JLC, Zhou J, Clougherty JE. Ambient ozone exposure and children’s acute asthma in New York City: A Case-Crossover Analysis. *Environmental Health* 2015; 14(25). doi: 10.1186/s12940-015-0010-2. PMID: PMC4373115. (*Highly accessed*)
31. Talbott E, Arena V, Rager JR, Clougherty JE, Michanowicz, AR, Sharma RK, Stacy SL. Fine Particulate Matter and the Risk of Autism Spectrum Disorder. *Environmental Research* 2015. 140: 414-420. DOI: 10.1016/j.envres.2015.04.021.
32. Savitz DA, Elston B, Bobb J, Clougherty JE, Dominici F, Ito K, Johnson S, McAlexander T, Ross Z, Shmool JL, Matte T, Wellenius G. Ambient fine particulate matter, nitrogen dioxide, and hypertensive disorders of pregnancy in New York City. *Epidemiology*. 2015. 26(5):748–757.
33. Shmool JL, Yonas MA, Newman OD, Kubzansky LD, Calloway C, Joseph E, Parks A, Shepard P, Clougherty JE. Identifying perceived neighborhood stressors across diverse communities in New York City. *American Journal of Community Psychology*. 2015. doi: 10.1007/s10464-015-9736-9.
34. Tunno BJ, Cambal L, Dalton R, Tripathy S, Howell J, Michanowicz AR, Shields KN, Holguin F, Liroy P, Clougherty JE. Indoor air sampling for multiple pollutants in industrial communities in Pittsburgh. *Science of the Total Environment*. 2015. 536:108-15. doi: 10.1016/j.scitotenv.2015.06.117.
35. Shmool JL, Bobb JF, Savitz DA, Matte TD, Johnson S, Elston B, Ito K, Ross Z, Dominici F,

- Clougherty JE. Area-level socioeconomic deprivation, nitrogen dioxide exposure, and term birth weight in New York City. *Environmental Research* 2015; 142: 624-632.
36. Tunno BJ, Michanowicz AR, Shmool JL, Kinnee E, Tripathy S, Cambal L, Dalton R, Clougherty JE. Spatial patterning in PM_{2.5} constituents under an inversion-focused sampling design across an urban area of complex terrain. *Journal of Exposure Science and Environmental Epidemiology* 2016 26(4):385-96.
 37. Roper C, Tunno B, Cambal L, Chubb L, Clougherty JE, Mischler S. Characterization of ambient and extracted PM_{2.5} collected on filters for toxicology applications. *Inhalation Toxicology* 2015. 27(13). doi:10.3109/08958378.2015.1092185.
 38. Johnson S, Bobb JF, Ito K, Savitz DA, Elston B, Shmool JLC, Dominici F, Ross Z, Clougherty JE, Matte TD. Ambient fine particulate matter, nitrogen dioxide, and preterm birth in New York City. *Environmental Health Perspectives* 2016. 124(8) DOI:10.1289/ehp.1510266.
 39. Michanowicz AR, Shmool JLC, Cambal L, Tunno B, Gillooly S, Olson Hunt JM, Tripathy S, Naumoff Shields K, Clougherty JE. Incorporating line source dispersion into a land use regression model for predicting NO₂. *Transportation Research Part D: Transport and Environment* 2016. 43: 181-91.
 40. Payne-Sturges DC, Korfmacher KS, Cory-Slechta DA, Jimenez M, Symanski, Shmool JLC, Dotson-Newman O, Clougherty JE, French R, Levy JI, Laumbach R, Rodgers K, Bongiovanni R, Scammell MK. Engaging communities in research on cumulative risk and social stress-environment interactions: Lessons learned from EPA's STAR Program. *Environmental Justice*. 2015, 8(6): 203-212.
 41. Shmool JLC, Kinnee E, Zhou J, Sheffield PE, Clougherty JE. Spatio-temporal ozone variation in a case-crossover analysis of childhood asthma hospital visits in New York City. *Environmental Research*. 2016 May;147:108-14. doi: 10.1016/j.envres.2016.01.020.
 42. Péter S, Holguin F, Wood LG, Clougherty JE, Raederstorff D, Antal M, Weber P, Eggersdorfer M. Nutritional solutions to reduce risks of negative health impacts of air pollution. *Nutrients*. 2015; 7(12):10398-416. doi:10.3390/nu7125539.
 43. Michanowicz DR, Shmool JLC, Tunno B, Tripathy S, Gillooly S, Kinnee E, Clougherty JE. A hybrid land use regression / AERMOD framework for predicting intra-urban variation in PM_{2.5} *Atmospheric Environment*. 2016; 131:307-15. doi:10.1016/j.atmosenv.2016.01.045.
 44. Tunno BJ, Dalton R, Cambal L, Holguin F, Liroy P, Clougherty JE. Indoor Source Apportionment in Urban Communities near Industrial Sites. *Atmospheric Environment* 2016; 139: 30-36. doi:10.1016/j.atmosenv.2016.04.039.
 45. Ito K, Johnson S, Kheirbek I, Clougherty JE, Pezeshki G, Ross Z, Eisl H, Matte T. Intra-urban variation of fine particle elemental concentrations in New York City. *Environmental Science & Technology* 2016. 50(14):7517-26. doi: 10.1021/acs.est.6b00599.
 46. Gillooly SE, Shmool JLC, Michanowicz DR, Bain DJ, Cambal LK, Shields KN, Clougherty JE. Framework for using deciduous tree leaves as biomonitors for intraurban particulate air pollution in exposure assessment. *Environmental Monitoring and Assessment*, 188(8), 1-23. doi: 10.1007/s10661-016-5482-1
 47. Tunno BJ, Shmool JLC, Michanowicz DR, Tripathy S, Chubb LG, Kinnee E, Cambal L, Roper C, Clougherty JE. Spatial variation in diesel-related elemental and organic PM_{2.5} components during workweek hours across a downtown core. *Sci Total Environ*. 2016 Aug 18;573:27-38. doi: 10.1016/j.scitotenv.2016.08.011.
 48. Paterson, J, Iusitini L, Tautolo E-S, Taylor S, Clougherty J. Pacific Islands Families (PIF) Study: Housing and psychological distress among Pacific mothers. *Australian and New Zealand Journal of*

Public Health (accepted).

49. Shmool JLC, Johnson IL, Dodson Z, Keene R, Gradeck B, Beach SR, Clougherty JE. Developing a GIS-based online survey instrument to elicit perceived neighborhood geographies to address the Uncertain Geographic Context Problem. *The Professional Geographer (accepted).*

Invited Review Papers

1. Clougherty JE, Souza K, Cullen MR. Work and its role in shaping the social gradient in health. *Annals of the New York Academy of Sciences*. 2010 Feb; 1186:102-24. PMID: 20201870.
2. Clougherty JE, Shmool JL, Kubzansky LD. The role of non-chemical stressors in mediating socioeconomic susceptibility to environmental chemicals. *Current Environ Health Reports*. 2014; 1(4): 302-313. doi: 10.1007/s40572-014-0031-y.

Editorials/ Letters to the Editor

1. Clougherty JE, Kubzansky LD. Traffic-Related Air Pollution and Stress: Effects on Asthma. *Environ Health Perspectives*. 2008; 116 (9): A376-A377. doi: 10.1289/ehp.11863.

Invited Book Chapters

1. Clougherty JE. Efficacy of environmental interventions on asthma-related quality of life. In: Preedy V, Watson RR, editors. *Handbook of Disease Burdens and Quality of Life Measures*. p 3073-3083. New York: Springer, 2009.
2. Clougherty JE, Levy JI. Psychosocial and Chemical Stressors. In: Rider C, Simmons JE, editors. *Mixtures Toxicology and Risk Assessment*. Springer, 2016 (*in press*).

Government Reports/ Other Publications

1. Johnson S, Kheirbek I, Pezeshki G, Jacobson JB, Kass D, Freed A, Strickland CH, Eisl HM, Gorczynski J, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Vanderpool S, Markowitz S, Clougherty JE, Matte T, Ross Z, Kitson H, Stevens LM (2011). The New York City Community Air Survey: Results from Year One Monitoring, 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. <http://www.nyc.gov/html/doh/downloads/pdf/eode/comm-air-survey-report.pdf> (*Government report*).
2. Michanowicz D, Malone S Ferrar K, Kelso M, Clougherty JE, Fabisiak JP, Kriesky J. Pittsburgh Regional Environmental Threat Analysis (PRETA): Particulate Matter. Public report commissioned by Heinz Endowments: http://www.chec.pitt.edu/documents/PRETA/PRETA_PM.pdf.
3. Levy JI, Clougherty JE, deFur P (2011). Integrating Chemical and Non-Chemical Stressors in Cumulative Risk Assessment. U.S. EPA Risk Assessment Forum, Research Triangle Park, NC. Government white paper commissioned by U.S. EPA. (*Invited*).
4. Michanowicz A, Malone S, Ferrar KJ, Kelso M, Clougherty JE, Kriesky J, Fabisak JP Pittsburgh Regional Environmental Threats Analysis Report: Hazardous Air Pollutants. Public report commissioned by Heinz Endowments: http://www.heinz.org/UserFiles/Library/PRETA_HAPS.pdf.
5. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl HM, Gorczynski J, Ross Z, Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2010). The New York City Community Air Survey: Results from Summer Monitoring 2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. <http://www.nyc.gov/html/doh/downloads/pdf/eode/nyccas-report-summer09.pdf> (*Government report*).
6. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl H, Gorczynski J, Ross Z, Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A,

Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2010). The New York City Community Air Survey Supplemental report: Nickel Concentrations in Ambient Fine Particles: Winter Monitoring, 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability.

<http://www.nyc.gov/html/doh/downloads/pdf/eode/nyccas-ni-report0510.pdf> (*Government report*).

7. Clougherty JE, Kheirbek I, Johnson S, Pezeshki G, Jacobson JB, Eisl HM, Gorczynski J, Ross Z, Kitson H, Benson A, Camacho A, Werbe-Fuentes J, Haviland-Markowitz J, Munoz R, Tilles A, Strickland CH, Charles-Guttman K, Markowitz S, Kass D, Matte T (2009). The New York City Community Air Survey: Results from Winter Monitoring 2008-2009. New York City Department of Health and Mental Hygiene, and NYC Mayor's Office for Long-Term Planning and Sustainability. http://nyc.gov/html/om/pdf/2009/pr_538_nyccas_report.pdf (*Government report*).
8. Tunno BJ, Clougherty JE. (Characterizing the Spatial Variation in Diesel Particulate Matter in Downtown Pittsburgh. Allegheny County Health Department (ACHD). (*Government Report*).
9. Longley I, Tunno BJ, Clougherty JE. Spatially Resolved Technique for Source Apportionment in New Zealand: Auckland. National Institute of Water & Atmospheric Research Ltd (NIWA).
10. Committee on the Review of the Department of Veterans Affairs Airborne Hazards and Open Burn Pitt Registry; National Academies of Sciences, Engineering, and Medicine. *Review of the Department of Veterans Affairs Airborne Hazards and Open Burn Pitt Registry*. National Academies Press, Washington D.C., 2016.

Link to peer-reviewed publications listed in NCBI:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/jane.clougherty.1/bibliography/50364355/public/?sort=date&direction=ascending>

RESEARCH

Current research support:

Funding Agency: National Institutes of Health (NIH)
Grant Number: 1R01HL114536-01
Title of Grant: Validating GIS-based methods to address spatial uncertainty in clinical trials
Principal Investigator: JE Clougherty, F Holguin
Role on Grant: PI (multiple)
Years Inclusive: 8/2012 - 7/2017 (NCE to 7/2018)
Percent Effort: 30.0 %
Total Direct Costs: \$1,250,000
Total Amount Awarded: \$1,858,479

Funding Agency: Health Effects Institute (HEI)
Title of Grant: Susceptibility to Multiple Air Pollutants in Cardiovascular Disease
Principal Investigator: Clougherty
Role on Grant: Principal Investigator
Years Inclusive: 5/2017 - 4/2019
Percent Effort: 15%
Total Amount Awarded: \$400,000

Funding Agency: NIH
Title of Grant: Integrating individual and community exposures for cancer risk in urban and rural areas of western PA
Principal Investigator: Jian-Min Yuan
Role on Grant: Co-Investigator

Years Inclusive: 9/1/16 – 8/31/17
Percent Effort: 5%
Total Direct Costs: \$7,869
Total Amount Awarded: \$12,139

Funding Agency: NIH
Grant number: 1UG3OD023365-01
Title of Grant: Pre-adolescent and Late-adolescent Follow-up of the CHARGE Study
Children

Principal Investigator: Hertz-Picciotto, Bennett, Schweitzer
Role on Grant: Co-Investigator
Years Inclusive: 10/1/16 - 9/30/23
Percent Effort: 10%
Total Direct Costs (Yr 1): \$999,636.
Total Direct Costs (project) \$22,992,233.
Total Amount Awarded (Yr 1): \$1,569,429.
Total Amount Awarded
(project): \$36,007,583.

Funding Agency: Drexel University Urban Health Collaborative (UHC)
Title of Grant: Design and Implementation for Spatially-Distributed Air Monitoring
Campaigns in Philadelphia

Principal Investigator: Clougherty
Role on Grant: PI
Years Inclusive: 6/2017 – 5/2018
Total Direct Costs: \$25,000

Funding Agency: Drexel University Scholarly and Creative Research Award
Title of Grant: Monitoring Spatial Variation in Air Pollution across Urban Areas:
Auckland, New Zealand

Principal Investigator: Clougherty
Role on Grant: PI
Years Inclusive: 6/2017 – 5/2018
Total Direct Costs: \$17,700

Funding Agency: University of Pittsburgh/ UPMC Clinical Translational Sciences Institute
(CTSI) Translational Research Pilot

Title of Grant: PM_{2.5} and Atrial Fibrillation in Allegheny County
Principal Investigator: Magnani
Role on Grant: Co-Investigator
Years Inclusive: 7/2017 – 6/2018
Total Direct Costs: \$25,000

Past research support:

Funding Agency: Mascaro Center for Sustainable Innovation
Title of Grant: Quantifying Reductions in Diesel-Related Air Pollution Exposures across
Downtown Pittsburgh

Principal Investigator: JE Clougherty
Role on Grant: PI
Years Inclusive: 2015-2016
Total Amount Awarded: \$50,000

Funding Agency: U.S. Environmental Protection Agency
Grant Number: R834576
Title of Grant: Community Stressors and Susceptibility to Air Pollution in Urban Asthma
Principal Investigator: Clougherty
Role on Grant: PI (sole)
Years Inclusive: 3/2011 - 3/2016 (NCE)
Percent Effort: 15.0 %
Total Direct Costs: \$1,226,206

Funding Agency: Allegheny County Health Department (ACHD)
Grant Number: 138884
Title of Grant: Characterizing the Spatial Variation in Diesel Particulate Matter in Downtown Pittsburgh
Principal Investigator: JE Clougherty
Role on Grant: PI (sole)
Years Inclusive: 9/2012 - 9/2015
Percent Effort: 10.0 %
Total Direct Costs: \$860,000

Funding Agency: National Institutes of Health (NIH)
Grant Number: 1 R21 ES021429-01
Title of Grant: Children's Health and Vulnerability to Heat and Ozone in NYC
Principal Investigator: JE Clougherty, P Sheffield
Role on Grant: PI (multiple)
Years Inclusive: 6/2012 - 5/2015 (NCE)
Percent Effort: 10.0 %
Total Direct Costs: \$137,960
Total Amount Awarded: \$209,012

Funding Agency: National Resources Defense Council (NRDC)
Title of Grant: Airborne Coal Ash Monitoring and Analysis
Principal Investigator: JE Clougherty
Role on Grant: PI
Years Inclusive: 10/2015 - 8/2016
Percent Effort: 5.0 %
Total Amount Awarded: \$21,559

Funding Agency: National Institutes of Health (NIH)
Grant Number: 5R01ES19955-3
Title of Grant: Air Pollution and Pregnancy Outcomes in New York City
Principal Investigator: Savitz
Role on Grant: Co-Investigator
Years Inclusive: 8/2011 - 6/2014
Percent Effort: 10.0 %
Total Direct Costs: \$71,345

Funding Agency: Manners Award - University Center for Social and Urban Research
Title of Grant: Social Stressors, Air Pollution, and Cancer across Allegheny County, PA
Principal Investigator: Robertson, L
Role on Grant: Co-Investigator
Years Inclusive: 2014-2015

Total Amount Awarded:	\$10,000
Funding Agency:	University of Pittsburgh Central Research Development Fund Faculty Award 2012
Title of Grant:	Validating tree leaf use as a novel method to reduce exposure misclassification
Principal Investigator:	Shields
Clougherty Role on Grant:	Co-Investigator
Years Inclusive:	6/2012 - 6/2014
Total Direct Costs:	\$16,000
Funding Agency:	Heinz Endowments
Title of Grant:	Incorporating Metals Analysis into Spatial Mapping of Multiple Air Pollutants across Pittsburgh
Principal Investigator:	Robinson
Clougherty Role on Grant:	PI (multiple)
Years Inclusive:	6/2012 - 5/2014
Percent Effort:	5.0 %
Total Direct Costs:	\$132,211
Funding Agency:	New Zealand National Institute of Water and Atmospheric Research
Grant Number:	SA131152
Title of Grant:	Visiting Scientist Travel Award for Dr. Jane E. Clougherty
Principal Investigator:	Ian Longley
Clougherty Role on Grant:	PI (multiple)
Years Inclusive:	8/2012 - 8/2013
Total Direct Costs:	\$20,360
Funding Agency:	Heinz Endowments
Grant Number:	C1627
Title of Grant:	Case-Control Study of Personal and Environmental Risk Factors for Childhood Autism in Southwestern Pennsylvania
Principal Investigator:	Talbott
Clougherty Role on Grant:	Co-Investigator
Years Inclusive:	8/2011 - 8/2013
Percent Effort:	5.0 %
Total Direct Costs:	\$780,915
Total Amount Awarded:	\$780,915
Funding Agency:	University of Pittsburgh Central Research Development Fund
Grant Number:	CRDF Faculty Pilot Award 2011
Title of Grant:	Developing a GIS-based survey instrument to examine multiple exposures in neighborhood health research
Principal Investigator:	Clougherty
Clougherty Role on Grant:	PI (sole)
Years Inclusive:	6/2011 - 8/2013
Total Direct Costs:	\$16,000
Funding Agency:	University of Pittsburgh Center for Social and Urban Research (UCSUR)
Grant Number:	Manners Faculty Development Award 2011
Title of Grant:	A novel geospatial modeling technique to predict individual-level chronic stress in urban communities

Principal Investigator: Clougherty
Clougherty Role on Grant: PI (sole)
Years Inclusive: 6/2011 - 6/2013
Total Direct Costs: \$10,000
Funding Agency: National Institute for Occupational Health Sciences
Grant Number: (NIOSH/CDC) K-01 (1-K01-OH-009589-01)
Title of Grant: Chronic Occupational Noise, Stressors, and Susceptibility in Cardiovascular Illness

Principal Investigator: Clougherty
Clougherty Role on Grant: PI (sole)
Years Inclusive: 2009 – 2013
Percent Effort: 50.0 %
Total Direct Costs: \$300,000
Total Amount Awarded: \$321,513

Funding Agency: National Institute for Environmental Health (NIEHS)
Harvard School of Public Health (HSPH) Particle Center Pilot Program
Title of Grant: Physiologic Mechanisms to Explain Observed Differential Susceptibilities to Air Pollution by Social Stress in Rats

Principal Investigator: Clougherty
Clougherty Role on Grant: PI (sole)
Years Inclusive: 2007 – 2008
Total Direct Costs: \$25,000

Funding Agency: New Zealand Health Research Council (HRC) Feasibility Grant
Title of Grant: Family Stressors and Susceptibility to Traffic-Related and Indoor Air Pollution: The Pacific Islands Families Study

Principal Investigator: Paterson
Clougherty Role on Grant: Co-Investigator
Years Inclusive: 2006 – 2007
Total Direct Costs: \$128,000

Funding Agency: American Lung Association: Lung Health Dissertation Grant
Title of Grant: The Roles of Social Stress and Air Pollution Exposures in Exacerbation and Etiology of Childhood Asthma

Principal Investigator: Clougherty
Clougherty Role on Grant: PI (sole)
Years Inclusive: 2005 – 2006
Percent Effort: 100.0 %
Total Direct Costs: \$25,000

OTHER SCHOLARLY ACTIVITIES

Manuscript and Grant Reviewer:

2008 – Present *Environmental Health Perspectives*
2012 - Present - Editorial Board Member
2016 - Present - Associate Editor
2008 – Present *Journal of Exposure Science and Environmental Epidemiology*
2014 – Present - Editorial Board Member
2011 – Present *Environmental Health*

2016 – Present	- Editorial Board Member National Institutes of Health (NIH) Study Section:
2016 – Present	Neurological, Aging and Musculoskeletal Epidemiology Study Section (NAME) - <i>Ad hoc reviewer</i>
2008 – Present	<i>Indoor Air</i>
2010 – Present	<i>American Journal of Public Health</i>
2010 – Present	<i>Social Science and Medicine</i>
2010 – Present	<i>Atmospheric Environment</i>
2011 – Present	<i>European Respiratory Journal</i>
2011 – 2012	<i>Psychological Science</i>
2011 – Present	<i>BMJ</i>
2012 – 2013	<i>Psychosomatic Medicine</i>
2012 – Present	<i>International Journal of Environmental Research and Public Health</i>
2015 -2016	Clean Air Regulatory Agenda (CARA) Program, Health Canada.
2016 - Present	Health Effects Institute (HEI) grant reviewer

INVITED PRESENTATIONS

1. Clougherty JE. The Role for Gender Analysis in Environmental Health: Exposure to violence as a determinant of air pollution susceptibility. Presented at: HSPH Advanced Seminar in Women, Gender, and Health; 2004-2006; Boston, MA.
2. Clougherty JE. Gender and Sex Differences in the Role of Job Grade on Hypertension Outcomes. Presented at: MacArthur Network on Socioeconomic Status and Health; 2008; Phoenix, AZ.
3. Clougherty JE. Chronic Disease Onset in the Alcoa Aluminum Manufacturing Cohort. Presented at: MacArthur Network on Socioeconomic Status and Health; 2008; Cambridge, MA.
4. Clougherty JE. Combined Effects of Chronic Stress and Air Pollution. Presented at: North Carolina Environmental Justice Summit; 2009; Bricks, NC.
5. Clougherty JE, The New York City Community Air Survey (NYCCAS): Briefing for EPA. EPA Region II. 2009 Jan 28; New York, NY.
6. Clougherty JE. Year-Round Intra-Urban Variability in Air Pollution: The New York City Community Air Survey (NYCCAS). Presented at: Harvard School of Public Health: Exposure, Epidemiology, and Risk Seminar; 2010; Boston MA.
7. Clougherty JE. Combined Effects of Air Pollution and Social Stressors on Health in Communities Affected by Natural Gas Fracturing. Presented at: Conference on Health Effects of Shale Gas Extraction: What is Known and What We Can Predict; 2010; University of Pittsburgh, PA.
8. Clougherty JE. Examining Year-Round Intra-Urban Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: Harvard School of Public Health: Biostatistics Seminar; 2010; Boston, MA.
9. Clougherty JE. Intra-Urban Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: Hunter College of the City University of New York; 2010
10. Clougherty JE, Kubzansky L. A Framework for Examining Social Stress and Susceptibility to Environmental Pollutants. Presented at: U.S. Environmental Protection Agency (EPA) Symposium: The Science of Environmental Justice; 2010 Mar; Washington, DC.
11. Clougherty JE, Godleski J. Stress-Related Susceptibility to Air Pollution, with Application in an Animal Model. Presented at: Conceptualizing Gene-Environment Interactions in Obesity Research: Complex Pathways to Health Disparities, Harvard/MGH Center on Genomics, Vulnerable Populations, and Health Disparities; 2011; Boston MA.
12. Clougherty JE. Examining Health Effects of Urban Air Pollution using Land-Use Regression Modeling Methods. Presented at: Carnegie Mellon University; 2011; Pittsburgh, PA.
13. Clougherty JE, Levy JI, deFur P. An Example for Integrating a Non-chemical Stressor into Cumulative Risk Assessment: Exposure to Violence and Air Pollution in Childhood Asthma. Presented at: Integrating Chemical and Non-Chemical Stressors in Cumulative Risk Assessment'

- U.S. EPA Risk Assessment Forum; 2011; Research Triangle Park, NC.
14. Clougherty JE, Lawrence J, Diaz E, Long M, McEwen B, Koutrakis P, Godleski J. Chronic Social Stress and Differential Susceptibility to Concentrated Air Pollution in Rats. Presented at: U.S. Environmental Protection Agency (EPA) Symposium: The Science of Environmental Justice; 2011; Washington, DC.
 15. Clougherty JE, Levy JI, Carr JL, deFur P. Using Epidemiological (and Toxicological) Evidence to Incorporate Non-Chemical Stressors into Cumulative Risk Assessment, in symposium: 'Is Epidemiology Really the Key to Cumulative Risk Assessment?'. Presented at: International Society for Environmental Epidemiology (ISEE); 2012; Columbia, SC.
 16. Clougherty JE. Quantification of Air Pollution in Pittsburgh. Presented at: Pittsburgh Asthma Summit: West Penn Allegheny Health System; 2012; Pittsburgh, PA.
 17. Clougherty JE, Carr JL, Shepard P. Disentangling Spatial Patterns in Social and Environmental Exposures for Epidemiology. Presented at: EPA Workshop on Interactions between Social Stressors and Environmental Hazards; 2012 May; Washington DC.
 18. Clougherty JE. Multiple-Pollutant Air Monitoring and Source Identification in Pittsburgh, PA. Presented at: Mid-Atlantic Regional Air Managers (MARAMA) Air Toxics Workshop; 2012 Aug 1; Baltimore, MD.
 19. Clougherty JE. Assessment of Non-Chemical Stressor Exposures for Environmental Health Research. Presented at: International Society for Exposure Science (ISES); 2012 Oct; Seattle WA.
 20. Carr JL, Newman OD, Joseph E, Chubb L, Parks A, Callaway C, Kubzansky LD, Spengler JD, Shepard P, Clougherty JE. Exploring the relevance of publicly-available indicators of social stressors through a spatially-informed, community-based qualitative process across NYC. Presented at: WE ACT for Environmental Justice Researcher Roundtable; 2012 Oct 1; New York, NY.
 21. Gillooly SE, Cambal L, Clougherty JE, Shields KN. Validating tree leaf use as a novel method to reduce exposure misclassification. Presented at: University of Minnesota Institute for Rock Magnetism; 2012 Oct 1; Minneapolis, MN.
 22. Clougherty JE. Health Effects of Shale Gas Extraction Conference (Moderator). Presented at: University of Pittsburgh; 2012 Nov 9; Pittsburgh, PA.
 23. Gillooly SE, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno BJ, Clougherty JE, Shields KN. Development and Validation of a Method Using Deciduous Tree Leaves to Capture Air Pollution Variation in Pittsburgh, PA. Poster presented at: Health Across the Lifespan: Allegheny County 2012 conference; 2012 Dec 2; Pittsburgh, PA.
 24. Michanowicz AR. Sustainability: Air pollution within the context of public health equity. Presented at: Sustainability EXPOsed: Rediscovering sustainability - ideas and innovations that are making business, governance, and community better for our region; 2013; Pittsburgh, PA.
 25. Clougherty JE, Holguin F. Validating GIS-based methods to address spatial uncertainty in clinical trials. Presented at: NIH AsthmaNet Steering Committee; 2013 Jan 8; Chicago, IL.
 26. Clougherty JE. Diesel Monitoring throughout Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Air Advisory Committee; 2013 Jan 23; Pittsburgh, PA.
 27. Clougherty JE, Carr JL, Johnson I. Developing a GIS-based survey tool to elicit perceived neighborhood information for environmental health research. Presented at: University Center for Social and Urban Research (UCSUR); 2013 Feb 1; Pittsburgh, PA.
 28. Clougherty JE. Health Disparities, Multiple Pollutants, and Pollution Susceptibility, across Pittsburgh, PA. Presented at: GSPH Board of Visitors; 2013 Mar 28; Pittsburgh, PA.
 29. Clougherty JE. Intra-Urban Air Pollution Exposure Assessment for Epidemiology. Presented at: National Institutes for Water and Atmospheric Research (NIWA) Research Symposium; 2013 Apr 20; Auckland, New Zealand.
 30. Clougherty JE. Intra-Urban Variation in Air pollution and Susceptibility. Presented at: Clean Air Society of Australia and New Zealand (CASANZ); 2013 May 6; Christchurch, New Zealand.
 31. Clougherty JE. Intra-Urban Variation in Air Pollution and Susceptibility. Presented at: Auckland Council; 2013 May 10; Auckland, New Zealand.
 32. Clougherty JE. Intra-Urban Variation in Air Pollution and Health Effects. Presented at: Unitech

- University; 2013 May 14; Auckland, New Zealand.
33. Carr JL, Clougherty JE. Chronic Social Stressors and Susceptibility to Air Pollution across NYC. Presented at: New York City Community Air Network (NYCCAN); 2013 Jun 19; New York, NY.
 34. Clougherty JE, Tunno B, Cambal L, Roper C, Chubb L. Monitoring for Spatial Variation in Multiple Air Pollutants in Pittsburgh, PA and New Zealand. Presented at: National Institutes for Water and Air Research (NIWA); 2014; Auckland NZ.
 35. Clougherty JE, Tunno B, Cambal L, Chubb L, Roper C. Monitoring for Spatial Variation in Multiple Air Pollutants in Pittsburgh, PA and New Zealand. Presented at: National Institutes for Water and Air Research (NIWA) Speaker Series; 2014; Christchurch, New Zealand.
 36. Clougherty JE. GIS-Based Methods for the Analysis of Clinical Trials Data. Presented at: Hillman Cancer Center Speakers' Series; 2014; Pittsburgh, PA.
 37. Carr JL, Clougherty JE. Validating community stressors using individual survey data on perceived stress across New York City. Presented at: Pittsburgh Biobehavioral Medicine Community Idea Series; 2014 Feb 13; Pittsburgh, PA.
 38. Clougherty JE. Organics Monitoring in Downtown Pittsburgh. Presented at: EPA Region III Air Director's Annual Meeting; 2014 May 29; Pittsburgh, PA.
 39. Clougherty JE. Air Monitoring and Modelling across Pittsburgh, PA. Presented at: Breathe Project Advisory Committee; 2014 Jun 5; Pittsburgh, PA.
 40. Clougherty JE. Spatial Variation in Diesel-Related Organics in Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Clean Air Advisory Committee; 2014 Jun 17; Pittsburgh, PA.
 41. Clougherty JE, Shmool JL. Validating administrative social stressor indicators using survey data on perceived stress across New York City, in Symposium on 'Exposure Assessment for Non-Chemical Stressors'. Presented at: International Society for Exposure Science (ISES); 2014 Sep 12; Cincinnati, Ohio.
 42. Clougherty JE. Implications of Intra-Urban Variation in Air Pollution for Nutritional Interventions. Presented at: DSM Workshop on Nutritional Interventions for Health Effects of Air Pollution; 2014 Sep 22; Valencia, Spain.
 43. Clougherty JE. Intra-Urban Variation in Air Pollution - Implications for Nutritional Interventions. Presented at: Nutrition & Food Sciences Congress; 2014 Sep 23-25; Valencia, Spain.
 44. Clougherty JE. Mobile and Saturation Monitoring for Multiple Pollutants and Source Identification in Pittsburgh, PA, in Health Effects Institute (HEI) workshop on mobile and saturation monitoring. Presented at: International Society for Exposure Science (ISES); 2014 Oct 12; Cincinnati, Ohio.
 45. Shmool JL, Clougherty JE. Area-level socioeconomic deprivation, air pollution, and term birth weight in New York City, in Symposium on 'Exposure Assessment for Non-Chemical Stressors'. Presented at: International Society of Exposure Science (ISES); 2014 Oct 12; Cincinnati, OH.
 46. Clougherty JE. Community Stressors and Susceptibility to Air Pollution in Urban Asthma. Presented at: US Environmental Protection Agency Grantee Workshop; 2014 Oct 23; Boston, MA.
 47. Clougherty JE. Exposure Assessment for Unconventional Natural Gas Development -- A Case Study. Presented at: Harvard School of Public Health (HSPH) Environmental Health Fellows Workshop; 2014 Nov 5; Boston, MA.
 48. Clougherty JE. Differential Susceptibility to Urban Air Pollution by Chronic Stress. Presented at: Harvard School of Public Health (HSPH) Environmental Health Fellows Workshop; 2014 Nov 5; Boston, MA.
 49. Clougherty JE, Kinnee E, Holguin F. Key Sources of Intra-urban Spatial Variability in Geocoded Residential Addresses. Presented at: NIH Webinar Series on Spatial Uncertainty: Data, Modeling and Communication; 2014 Nov 6; Bethesda, MD.
 50. Clougherty JE. Spatial Modeling of Diesel-Related Air Pollutants in Downtown Pittsburgh. Presented at: Mid-Atlantic Regional Air Managers' Association. 2014 Dec 10. Charlottesville, VA.
 51. Clougherty JE, Tripathy SH. Introduction to Environmental Health. Presented at: Urban League of Pittsburgh. 2015 Jan 26; Pittsburgh PA.
 52. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Presented at: Allegheny

- County Health Department Air Advisory Committee. 2015 Feb 10; Pittsburgh PA.
53. Clougherty JE. Intra-Urban Variation in Air Pollution in Pittsburgh. Presented at: University of Pittsburgh Department of Geology and Environmental Science; 2015 Feb 12; Pittsburgh PA.
 54. Clougherty JE. A Framework for Examining Social Stress and Susceptibility to Air Pollution in Respiratory Health. Presented at: Evaluating and Quantifying Stress for Inclusion in Cumulative Risk Assessment Symposium, at Society of Toxicology (SOT); 2015 Mar 23; San Diego, CA.
 55. Clougherty JE. Intra-Urban Variation in Air Pollution Exposures and Susceptibility. Presented at: Curtin University; 2015 Mar 27; Perth, Australia.
 56. Clougherty JE. Intra-Urban Air Pollution and Differential Susceptibility. Presented at: University de Bordeaux; 2015 Apr 10; Bordeaux, France.
 57. Clougherty JE. La Pollution de l'Air Urbaine et l'Asthme des Enfants. Presented at: Centre National de Recherche Scientifique (CNRS); 2015 Apr 13; Paris, France.
 58. Clougherty JE. Chronic Social Stressors and Susceptibility to Air Pollution in New York City, in Symposium on Intersection of Environmental and Social Epidemiology. Presented at: Society for Epidemiologic Research (SER); 2015 Jun 16-19; Denver, CO.
 59. Clougherty JE. Intra-Urban Variation in Air Pollution Exposures and Susceptibility. Presented at: University of California at Davis; 2015 July 6; Davis, CA.
 60. Clougherty JE, Longley I. Spatial Variation in Multiple Air Pollutants and Source Identification across Auckland and Christchurch. GNS Science. 2015 July 15. Auckland, New Zealand.
 61. Clougherty JE, Longley I. Spatial Variation in Multiple Air Pollutants and Source Identification across Auckland Central Business District. Auckland Council/ Auckland Transport. 2015 July 16. Auckland, New Zealand.
 62. Shmool, JLC, Reid C, Kubzansky LD, Spengler JD, Clougherty JE. Symposium on Integrating greenspace measures into environmental epidemiology, in symposium Greenspace and Health. International Society for Environmental Epidemiology (ISEE); 2015 Aug; Sao Paulo, Brazil.
 63. Clougherty JE, Carr Shmool JL, Hajat A. Measuring the Neighborhood Social Environment: Implications for Environmental Epidemiology. Pre-Conference Workshop, International Society for Environmental Epidemiology. 2015 Aug; Sao Paulo, Brazil.
 64. Shmool, JLC, Reid C, Kubzansky LD, Spengler JD, Clougherty JE. Symposium on Integrating methods for greenspace exposure assessment. Presented at: International Society of Exposure Science (ISES); 2015 Oct; Henderson, NV.
 65. Clougherty JE. Environmental Health in Social Context. University of Pittsburgh Office of the Provost -- Green Speakeasy Seminar Series. 2015 Nov 2. Pittsburgh, PA.
 66. Clougherty JE. Characterizing Spatial Variation in Diesel-Related Particulate Matter in Downtown Pittsburgh. Allegheny County Health Department (ACHD) Air Advisory Committee. 2016 Jan 20.
 67. Robertson L, Shmool JLC, Clougherty JE. Spatial Variation in Social Stressors, Air Pollution, and Cancer. University Center on Social and Urban Research. 2016 20 Jan; Pittsburgh, PA.
 68. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. Drexel University Dornsife School of Public Health. 2016 Feb 10, Philadelphia, PA.
 69. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. National Institute for Environmental Health Sciences, Epidemiology Branch. 2016 Apr; Research Triangle Park, NC.
 70. Holguin F, Clougherty JE. Incorporating GIS-based Indicators for Air Pollution and Chronic Stressors into Interpretation of Clinical Trials. 1 May 2016. Chicago, IL.
 71. Clougherty JE. Accounting for Social and Psychosocial Factors at Health Effects Institute (HEI) Annual Meeting: Traffic and Air Pollution Workshop. 3 May 2016. Denver, CO.
 72. Clougherty JE. Spatial Variation in Airborne Metals in Pittsburgh. Making the Connection: Air Pollution and Brain Health. Phipps Conservatory, 12 May 2016, Pittsburgh PA.
 73. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Allegheny County Health Department Monitoring and Compliance Subcommittee. 13 May 2016. Pittsburgh, PA.
 74. Clougherty JE. Intra-urban variation in air pollution and social susceptibility. Old Dominion University, 14 May 2016; Norfolk VA.
 75. Clougherty JE. Intra-urban Variation in Air Pollution and Health Impacts. City of Philadelphia Air

- Pollution Control Board Meeting. 2 June 2016; Philadelphia PA.
76. Clougherty JE. Social and Psychosocial Susceptibility to Urban Air Pollution. Plenary speaker: International Conference on Indoor Air. Ghent, Belgium, July 2016.
 77. Clougherty JE. Spatial variation in nighttime exposures to woodsmoke-related organic air pollution. National Institute for Water and Atmospheric Research (NIWA) Woodsmoke workshop. July 2016. Wellington, New Zealand.
 78. Clougherty JE. Spatial variation in nighttime exposures to woodsmoke-related organic air pollution in Christchurch. Environment Canterbury. July 2016. Christchurch, New Zealand.
 79. Clougherty JE. Exposures to diesel-related air pollution in downtown Pittsburgh. Invited presentation to Allegheny County Board of Health. September 15, 2016.
 80. Clougherty JE. Non-chemical stressors in cumulative risk assessment. Society of Toxicology (SOT) RASS Risk Assessment webinar series. 14 Sept 2016.
 81. Clougherty JE. The link between exposure to traffic-related pollution and SES, in Health Effects Institute (HEI) symposium: Real-time measurements and integrated models to estimate traffic exposures in complex urban environments, at International Society of Exposure Science (ISES); Utrecht, Netherlands, Oct 2016.
 82. Clougherty JE. Social and psychosocial factors in CRA. In symposium: Integrating Cumulative Risk Assessment into Occupational Safety and Health. Society for Risk Analysis (SRA) Annual Meeting, Dec 2016; San Diego, CA.
 83. Clougherty JE. Diesel-Related Air Pollution in Downtown Pittsburgh. Mid-Atlantic Diesel Collaborative (MDC). Mid-Atlantic Regional Air Managers' Association. January 2017.
 84. Clougherty JE. Combined Effects of Social Stressors and Environmental Pollution on Urban Health. Penn Injury Science Center. February 2017.
 85. Clougherty JE. Spatial Variation in Diesel-Related Organics in a Downtown Core. Mid-Atlantic Regional Air Managers' Association. Webinar. February 28, 2017.
 86. Clougherty JE. Saturation Sampling for Spatial Variation in Diesel-Related Pollution. Environmental Defense Fund webinar. April 3, 2017.
 87. Clougherty JE. Susceptibility to Multiple Pollutants in Cardiovascular Disease. Health Effect Institute (HEI) annual meeting. Poster presentation. Alexandria, VA. May 1, 2017.
 88. Clougherty JE. Psychosocial stress, air pollution, and respiratory disease. In symposium: Air Pollution and Psychosocial Stress and the Origin of Lung Disease. American Thoracic Society (ATS). Washington, D.C., May 24, 2017.
 89. Clougherty JE. The role of psychosocial stressors in mediating socioeconomic susceptibility to air pollution. In symposium: Social Determinants of Health, Environmental Exposures, and Disproportionately Impacted Communities: What We Know and How We Tell Others. International Society for Exposure Science (ISES) Annual Meeting. Research Triangle Park, NC.
 90. Clougherty JE. What is the evidence? What are the gaps? University of Albany-T.H. Chan Harvard School of Public Health workshop: What is the joint contribution of environmental and social determinants of health in explaining health and disease over the life course? Building the field and identifying research priorities. Saratoga Springs, NY. October 2017.
 91. Clougherty JE. Gender, chronic stress, and susceptibility to air pollution in chronic respiratory illness. Conference on Women's Health. Amity University. Lucknow, India. November 2017.
 92. Clougherty JE. Integrating Nonchemical Stressors into Cumulative Risk Assessment. Society for Risk Analysis (SRA)-International Society for Exposure Science (ISES) Webinar Series. February 2018.

OTHER PRESENTATIONS

1. Clougherty JE. Evaluating the Efficacy of Indoor Environmental Intervention to Improve Health Outcomes in Children. Presented at: Central and Eastern European Conference on Indoor Air Quality; 2004; Tatras-Patry, Slovakia.
2. Clougherty JE. The Healthy Public Housing Initiative: Indoor Environmental Intervention to Improve Health Outcomes in Children. Presented at: American Public Health Association (APHA); 2004; Washington, DC.

3. Clougherty JE. Estimating Intra-Urban Variability in Traffic-Related Air Pollutants. Presented at: International Society for Exposure Analysis (ISEA); 2005; Tucson, AZ.
4. Clougherty JE. Effect Modification of Indoor Environmental Interventions to Reduce Childhood Asthma Symptoms. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2005; Johannesburg, South Africa.
5. Clougherty JE. Modeling Intra-Urban Variability in Outdoor PM_{2.5}, EC, and NO₂. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2006; Paris, France.
6. Clougherty JE. GIS-Based Retrospective Exposure Estimation, and Social-Environmental Synergy in Asthma Etiology. Presented at: 15th Conference of the International Society for Environmental Epidemiology (ISEE); 2006; Paris, France.
7. Clougherty JE. GIS-based Retrospective Exposure Estimation, and Social-Environmental Synergy in Asthma Etiology. Presented at: Environmental Justice Symposium, Conference of the International Society for Environmental Epidemiology (ISEE); 2007; Mexico City, Mexico.
8. Clougherty JE. The Effect of Job Status on Hypertension incidence in an Industrial Setting: The Alcoa Aluminum Manufacturing Cohort. Presented at: 19th Annual Conference on Epidemiology in Occupational Health (EpiCOH); 2007; Banff, Alberta Canada.
9. Clougherty JE, Levy JI, Houseman A. Modeling Intra-Urban Variability in PM_{2.5} Constituents for Source Apportionment, using GIS and Independent Components Analysis (ICA). Presented at: International Society for Exposure Analysis (ISEA); 2007; Durham, NC.
10. Clougherty JE. Chronic Disease Onset in the Alcoa Aluminum Manufacturing Cohort. Presented at: MacArthur Network on Socioeconomic Status and Health Meeting; 2007 May; Cambridge, MA.
11. Clougherty JE. Traffic-Related Air Pollution, Acculturative Stress, and Childhood Respiratory Health in Urban New Zealand: Pacific Islands Families Study. Presented at: International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Analysis (ISEA); 2008; Pasadena, CA.
12. Clougherty JE. Social Stress and Susceptibility to Concentrated Particulate Air Pollution (CAPs) in Rats. Presented at: International Society for Environmental Epidemiology (ISEE)/ International Society for Exposure Analysis (ISEA); 2008; Pasadena, CA.
13. Clougherty JE. Job Strain and Hypertension in Manufacturing Settings: The Alcoa Aluminum Manufacturing Cohort. Presented at: Conference on Epidemiology in Occupational Health (EpiCOH); 2008; San Jose, Costa Rica.
14. Levy JI, Clougherty JE, Hausman A. Modeling Intra-Urban Variability in PM_{2.5} Constituents for Source Apportionment, using GIS and Positive Matrix Factorization. Poster presented at: Health Effects Institute (HEI) Annual Conference; 2008; Philadelphia, PA.
15. Clougherty JE. Modeling Intra-Urban Variability in PM_{2.5} Constituents for Source Apportionment, using GIS and Constrained Factor Analysis. Presented at: International Society for Exposure Analysis (ISEA); 2009; Minneapolis, MN.
16. Clougherty JE. Chronic Stress and Respiratory Response to Concentrated Particulate Air Pollution (CAPs) in Rats. Presented at: International Society for Environmental Epidemiology (ISEE); 2009; Dublin, Ireland.
17. Clougherty JE. The New York City Community Air Survey: Design and Preliminary Results. Presented at: International Society for Environmental Epidemiology (ISEE); 2009; Dublin, Ireland.
18. Clougherty JE. Temporal and Spatial Sampling Allocation for Year-Round Variability in Multiple Pollutants: The New York City Community Air Survey. Poster presented at: Health Effects Institute (HEI) Annual Meeting; 2009; Portland, OR.
19. Clougherty JE. Wintertime Spatial and Temporal Variability in Multiple Air Pollutants: The New York City Community Air Survey (NYCCAS). Presented at: International Society for Exposure Analysis (ISEA); 2009; Minneapolis, MN.
20. Clougherty JE. Temporal and Spatial Sampling Allocation for Year-Round Variability in Multiple Pollutants: The New York City Community Air Survey (NYCCAS). Poster presented at: Health Effects Institute (HEI) Annual Meeting; 2009 Nov; Minneapolis, MN.

21. Clougherty JE. Spatial Variability in Wintertime Concentrations of Multiple Pollutants and PM_{2.5} Constituents: The New York City Community Air Survey (NYCCAS). Presented at: American Association for Aerosol Research (AAAR); 2010; San Diego, CA.
22. Clougherty JE. Chronic Social Stress and Susceptibility to Fine Particulate Air Pollution in Rats. Presented at: American Association for Aerosol Research (AAAR); 2010; San Diego, CA.
23. Clougherty JE. Validated Measures of Chronic Occupational Noise Exposure, as Predictors of Hypertension. Presented at: International Society for Environmental Epidemiology (ISEE); 2011; Barcelona, Spain.
24. Tunno B, Cambal L, Howell J, Dalton R, Michael A, Tripathy S, Shields KN, Holguin F, Clougherty JE. Indoor Air Sampling for Particulate Matter and Nitrogen Dioxide in Pittsburgh Communities Near Active Steel Mills. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2012 Aug 20; Columbia SC.
25. Carr JL, Newman OD, Joseph E, Chubb L, Parks A, Callaway C, Kubzansky LD, Spengler JD, Shepard P, Clougherty JE. Exploring the relevance of publicly-available indicators of social stressors through a spatially-informed, community-based qualitative process across New York City. Poster presented at: International Society of Environmental Epidemiology (ISEE); 2012 Aug 24; Columbia SC.
26. Clougherty JE. Cardiovascular Response to Chronic Social Stress in Rats. Presented at: International Society for Exposure Science (ISES); 2012 Oct; Seattle, WA.
27. Carr JL, Kubzansky LD, Ito K, Newman OD, Spengler JD, Shepard P, Clougherty JE. GIS-based methods for characterizing spatial relationships among social stressors across New York City. Presented at: International Society of Exposure Science (ISES); 2012 Oct 1; Seattle WA.
28. Carr JL, Clougherty JE. Community Stressors, Air Pollution, and Childhood Asthma across NYC. Poster presented at: Pittsburgh International Lung Conference; 2012 Oct 5; Pittsburgh, PA.
29. Gillooly SE, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno B, Clougherty JE, Shields KN. Development and Validation of a Method Using Deciduous Tree Leaves to Capture Air Pollution Variation in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES) annual conference; 2012 Oct 28; Seattle, WA.
30. Clougherty JE, Carr JL, Levy JI. Assessment of Non-Chemical Stressor Exposures for Environmental Health Research (Symposium). Presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.
31. Cambal L, Elliott E, Felix D, Tunno B, Howell J, Michanowicz AR, Carr JL, Gillooly S, Shields KN, Clougherty JE. Developing Methods to Determine the Nitrogen Isotopic Composition (d₁₅N) in NO₂ for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.
32. Cambal L, Clougherty JE. Intra-Urban Relationships between Ambient Ozone (O₃) and Nitrogen Dioxide (NO₂) Concentrations in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
33. Shields KN, Clougherty JE. Evaluation of the Spiroscout, a novel device to record spatially and temporally resolved asthma exacerbation events, near Braddock, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
34. Tunno B, Cambal L, Carr JL, Michael A, Howell J, Gillooly S, Tripathy S, Roper C, Misquitta A, Shields KN, Gorczynski J, Eisl H, Clougherty JE. Spatial Variation in Inversion-Focused Seasonal Measures of Fine Particulate Matter and Elemental Carbon in Pittsburgh, PA. Poster presented at: International Society for Exposure Science (ISES); 2012 Oct 28; Seattle WA.
35. Michanowicz AR, Carr JL, Cambal L, Tunno B, Gillooly S, Howell J, Shields KN, Clougherty JE. Efficacy of line source dispersion modeling within an area of complex terrain (Pittsburgh, PA) for improving spatial concentration estimates for nitrogen dioxide in land use regression modeling. Poster presented at International Society for Exposure Science (ISES); 2012 Oct 28; Seattle, WA.
36. Clougherty JE. Spatial Variation for Diesel-Related Organics in Downtown Pittsburgh. Presented at: Mid-Atlantic Regional Air Manger's Association (MARAMA); 2013; Richmond, VA.
37. Carr JL, Johnson I, Keene R, Gradeck R, Landry P, Lucht J, Beach SR, Clougherty JE. Developing

- and validating an online GIS-based instrument to elicit perceived neighborhood information for public health research: A pilot study in New York City and Pittsburgh. Poster presented at: Dean's Day, University of Pittsburgh Graduate School of Public Health.; 2013 Apr 1; Pittsburgh, PA.
38. Roper C, Latoche J, Chubb L, Cambal L, Tunno B, Carr JL, Howell J, Tripathy S, Michanowicz AR, Gillooly S, Fattman CL, Clougherty JE. Diesel Fine Particulate Composition of PM_{2.5} in Downtown Pittsburgh, PA and the Effects on Inflammatory Responses in Mice. Presented at: 27th Annual Meeting of the Allegheny-Erie Society of Toxicology, Toxicity of Air, Ground, and Water Pollutants; 2013 May 30; Morgantown, WV.
 39. Clougherty JE. Chronic Social Stress and Cardiovascular Function in Rats. Presented at: International Society for Environmental Epidemiology (ISEE); 2013 Aug 20; Basel, Switzerland.
 40. Gillooly S, Cambal L, Yonas MA, Kriesky J, Schmid J, Moore J, Clougherty JE, Shields K. A Community-Based Participatory Research (CBPR) Approach to Characterize Perceived Air Pollution "Hot Spots" Using Tree Leaves as Biomonitors. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 41. Tunno B, Cambal L, Roper C, Tripathy S, Michanowicz AR, Carr JL, Howell J, Gillooly S, Chubb L, Gorczynski J, Eisl H, Clougherty JE. Comparison of 24-hour vs. Inversion-Period Integrated Samples of PM_{2.5} and Elemental Carbon in Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 42. Tunno B, Cambal L, Carr JL, Roper C, Tripathy S, Chubb L, Michanowicz AR, Howell J, Gillooly S, Gorczynski J, Eisl H, Clougherty JE. Exposure Assessment and Spatial Variation of PM_{2.5} and Elemental Carbon in Downtown Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 43. Gillooly S, Cambal L, Feinberg J, Jackson M, Carr JL, Michanowicz AR, Tunno B, Clougherty JE, Shields KN. Development and Validation of a Magnetic Method Using Deciduous Tree Leaves to Obtain Spatially-Resolved Air Pollution Measurements in Pittsburgh, PA, USA. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 44. Cambal L, Elliott E, Felix D, Tunno B, Clougherty JE. Using the Nitrogen Isotopic Composition of NO₂ (d¹⁵N-NO₂) for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 45. Cambal L, Gillooly SE, Tunno B, Michanowicz AR, Bain DJ, Clougherty JE, Shields KN. A Comparison of Trace Elements Accumulation and Spatial Variability in Leaves of Norway Maple Trees to Co-located PM_{2.5} Filters in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 46. Carr JL, Bobb J, Yee M, Matte T, Savitz D, Clougherty JE. Influence of spatial heterogeneity in socioeconomic deprivation on birth outcomes and air pollution epidemiology in New York City, USA. Poster presented at: International Society for Environmental Epidemiology Annual Conference; 2013 Aug 20; Basel, Switzerland.
 47. Michanowicz AR, Carr JL, Cambal L, Tunno B, Gillooly S, Howell J, Tripathy S, Roper C, Shields KN, Clougherty JE. A hybrid Land Use Regression/AERMOD Model for Predicting PM_{2.5}. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 48. Michanowicz AR, Cambal L, Carr JL, Tunno B, Gillooly S, Howell J, Tripathy S, Roper C, Shields KN, Clougherty JE. A Hybrid Land Use Regression/ CALINE3 Model for Predicting NO₂: A Seasonal Comparison. Poster presented at: International Society for Exposure Science (ISES); 2013 Aug 20; Basel, Switzerland.
 49. Carr JL, Kubzansky LD, Newman OD, Spengler JD, Shepard P, Clougherty JE. Validating community stressors using individual data on perceived stress across New York City (NYC). Poster presented at: International Society for Environmental Epidemiology (ISEE) Annual Conference; 2013 Aug 20; Basel, Switzerland.
 50. Shmool JL, Clougherty JE, Robertson LB, Sharma R, Simon B, Yuan J, Bovbjerg D. Social stress, air pollution, and cancer in Allegheny County, PA. Presented at: University of Pittsburgh Cancer Institute Research Retreat; 2014; Greensburg, PA.
 51. Michanowicz A, Shmool J, Tunno BJ, Clougherty JE. A hybrid land use regression/AERMOD

- model for predicting PM_{2.5}. Presented at: International Society of Exposure Science (ISES); 2014; Cincinnati, OH.
52. Rubright RT, Gillooly S, Tripathy S, Kasunic A, Gilliam ST, Wallace JM, Yonas MA, Clougherty JE. Transects Modeling from Bisecting Roadways for PM_{2.5}, Elemental Carbon (EC), and Nitrogen Dioxide (NO₂) in Homewood, PA. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
 53. Chubb L, Tunno B, Cambal L, Roper C, Somervell E, Edwards S, Olivares G, Gray S, Coulson G, Longley I, Clougherty JE. Spatial contrasts in PM_{2.5} Collected During Daytime and Nighttime Hours in Christchurch, New Zealand. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
 54. Zhou J, Shmool JL, Clougherty JE, Sheffield P. Ambient ozone and children's acute asthma in New York City: A comparison of time-series and case-crossover analyses with spatially-resolved air pollution metrics. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
 55. Tunno B, Cambal L, Chubb L, Roper C, Edwards S, Coulson G, Longley I, Clougherty JE. Spatial Variation in Fine Particulate Matter and Black Carbon across Auckland, New Zealand. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
 56. Tripathy S, Tunno B, Shmool JL, Michanowicz A, Manuck S, Gianaros PJ, Clougherty JE. Residential Outdoor Air Pollution and Brain Morphology in the Adult Health and Behavior (AHAB II) Cohort in Pittsburgh. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
 57. Cambal L, Elliott E, Felix JD, Tunno BJ, Roper C, Michanowicz A, Clougherty JE. Using the Nitrogen Isotopic Composition of NO₂ ($\delta^{15}\text{N-NO}_2$) for Source Apportionment in an Urban Area. Poster presented at: International Society for Exposure Science (ISES); 2014; Cincinnati, OH.
 58. Gillooly S, Tripathy S, Rubright RT, Kasunic A, Zuberi A, Gilliam ST, Lopez D, Wallace JM, Morris K, Yonas MA, Clougherty JE. Using Community-Based Participatory Research (CBPR) to Identify Areas of Concern Regarding Neighborhood Children's Exposures to Air Pollution Using Tree Leaves as Biomonitors. Poster presented at: International Society for Environmental Epidemiology (ISEE); 2014; Seattle, WA.
 59. Clougherty JE. Spatial variation in organic tracers of diesel exposures during high-traffic hours in Downtown Pittsburgh. Presented at: Allegheny County Health Department (ACHD) Criteria Monitoring Subcommittee; 2014 Feb 10; Pittsburgh, PA.
 60. Michanowicz AR, Clougherty JE. Hybrid land use regression/ AERMOD model for predicting PM_{2.5}. Presented at: International Society for Exposure Science (ISES); 2014 Oct 12; Cincinnati OH
 61. Gilliam S, Burry K, Lopez D, Yonas MA, Kasunic A, Zuberi A, Boddie S, Bamwine P, Wallace JM, Gillooly SE, Tripathy S, Rubright RT, Clougherty JE. Healthy Living, Healthy Learning, Healthy Lives: Using CBPR Approaches to Examine How Diverse Contexts Influence Children's Asthma. Poster presented at: 142nd APHA Annual Meeting and Exposition; 2014 Nov 15-19; New Orleans, LA.
 62. Tripathy S, Tunno B, Michanowicz DR, Shmool JLC, Gianaros PJ, Clougherty JE. Spatial Variation in Lead and Manganese Metal Constituents of Fine Particulate Matter. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo, Brazil.
 63. Shmool JLC, Kinnee EJ, Sheffield PS, Clougherty JE. Incorporating Spatially-Resolved Exposure Metrics in a Case-Crossover Analysis of Ozone and Child Asthma Exacerbations. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo, Brazil.
 64. Shmool JLC, Bobb JF, Ito K, Elston B, Savitz DA, Ross Z, Matte TD, Johnson S, Dominici F, Clougherty JE. Area-Level Socioeconomic Deprivation, Air Pollution, and Term Birth Weight. Presented at: International Society for Environmental Epidemiology (ISEE); 2015 Oct; Sao Paulo, Brazil.
 65. Tunno B, Tripathy S, Shmool JLC, Michanowicz D, Kinnee E, Gillooly S, Clougherty JE. Source Apportionment on Organic Compounds and Trace Elements across Downtown Pittsburgh, PA, USA. Presented at: International Society for Exposure Science (ISES); 2015 Oct; Henderson, NV.

66. Kinnee E, Shmool JLC, Tripathy S, Holguin F, Sheffield P, Clougherty JE. Spatial uncertainty in geocoding methods, exposure misclassification, and urban structure. Presented at: International Society for Exposure Science (ISES); 2015 Oct; Henderson, NV.
67. Kinnee E, Shmool JLC, Holguin F, Clougherty JE. Spatial Variation in Social and Environmental Exposures and Implications for Asthma-Related Clinical Trials, at International Society of Exposure Science (ISES); Utrecht, Netherlands, Oct 2016.
68. Tripathy SH, Gianaros PJ, Clougherty JE. Airborne Metals and Associations with Brain Inflammation in Pittsburgh Adults. International Society for Environmental Epidemiology (ISEE); 2016 Aug; Rome, Italy.
69. Erqou S, Clougherty JE, Reis S. Exposures to environmental pollutants in racial disparities in pre-clinical cardiovascular risk. American Heart Association (AHA). 2016 July; Phoenix, AZ.
70. Reid CE, Clougherty JE, Shmool JLC, Li J, Kubzansky LD. It's Not Easy Assessing Greenness: A Comparison of the Effects of Spatial Resolution of NDVI and Buffer Sizes on Self-Reported Health. American Association of Geographers (AAG). 2017 April; Boston, MA.
71. Orak N, Small M, Clougherty JE. A Probabilistic Methodology for Risk Assessment of Nitrogen Dioxide Exposure and Adverse Reproductive Outcomes: A New York City Case Study. World Environment and Water Resources Congress. 2017; Sacramento CA.
72. Lee S, Moore J, Mady L, Clougherty JE. Air Pollution and Chronic Rhinosinusitis: Are there Modifiable Risk Factors for Disease Expression? American Rhinologic Society Annual Meeting April 2017.
73. Reid CE, Shmool JLC, Kubzansky LD, Clougherty JE. What Measure of Greenness Matters: the role of self-described neighborhoods and different measures of greenness with health in NYC. GeoMed. September 2017; Lisbon, Portugal.
74. Clougherty JE, Shmool JLC, Kinnee E, Sheffield PS. Chronic Social Stressors and Susceptibility to Short-term Variation in Urban Ozone: A Case-Crossover Analysis of Childhood Asthma Exacerbations in NYC. International Society for Environmental Epidemiology (ISEE) Annual Meeting. September 2017. Sydney, Australia.
75. Mady L, Lee S, Moore J, Kinnee E, Dodson Z, Tripathy S, Clougherty JE. Air Pollutants may be Modifiable Factors in Allergic Rhinitis and Chronic Rhinosinusitis. American Academy of Otolaryngic Allergy's Annual Scientific Meeting. Chicago IL. September 2017.
76. Mady L, Lee S, Moore J, Kinnee E, Dodson Z, Tripathy S, Clougherty JE. Air Pollutants may be Modifiable Factors in Allergic Rhinitis and Chronic Rhinosinusitis. American Rhinologic Society Annual Meeting. Chicago IL. September 2017.
77. Clougherty JE, Kinnee EJ, Shmool JLC, Sheffield PE. Violence, Poverty, and Differential Susceptibility to Ambient Ozone in Childhood Asthma. Drexel University Urban Health Collaborative (UHC) Fall symposium. September 2017.

TEACHING

Undergraduate-level Courses:

Year(s)	Course Number & Title	Role
1996 – 1997	<i>University of Chicago:</i> Environmental Studies Academic Program	Academic Coordinator
Fall 1997	<i>McMaster University:</i> Physical Geography of North America	Teaching Assistant

Graduate-level Courses:

Harvard School of Public Health:

Spring 2003	Air Pollution	Teaching Assistant
Spring 2004	Exposure Assessment/ Analytic Chemistry	Teaching Assistant
Fall 2004 – 2006	Lifecycle Analysis and Risk Assessment	Teaching Assistant
Spring 2007	Advanced Topics in Women, Gender and Health	Primary Instructor

University of Pittsburgh:

Spring 2011	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Spring 2011	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Instructor
Fall 2011	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Summer 2012	Environmental Epidemiology (EPI 2220)	Guest Lecturer
Spring 2012	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Instructor
Fall 2012	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2013	Fate and Transport of Environmental Contaminants (EOH 2122)	Co-Instructor
Fall 2013	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Summer 2014	Environmental Epidemiology (EPI 2220)	Guest Lecturer
Fall 2014	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2015	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Fall 2015	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor
Spring 2016	Environmental Health and Disease (EOH 2013)	Guest Lecturer
Spring 2016	Applied Spatial Analysis in Environmental/Community Epidemiology (EPI 2220)	Guest Lecturer
Fall 2016	Principles of Environmental Exposure Assessment (EOH 2504)	Primary Instructor

Drexel University:

Spring 2017	Environmental Hazard Assessment (EOH 620)	Primary Instructor
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MENTORING AND ADVISING

Undergraduate Students

Year(s)	Mentee	Role
6/2011 - 8/2011	Hanna Giacomini Personal sampling for air pollution	Mentor (summer intern)
6/2011 - 8/2011	Nijole Pollock Personal sampling for air pollution	Mentor (summer intern)
6/2011 - 8/2012	Isaac Johnson GIS-based online survey development	Mentor (student employee)
6/2012	Rehima Jordan	Mentor (Pitt-STEER)

	Socioeconomic patterns in air pollution exposures from Marcellus Shale operations	high school student)
6/2012 – 6/2013	Rebecca Dalton Elemental source markers in urban fine particles	Mentor
1/2013 – 6/2013	Jessica McDonald Monitoring and modeling volatile organic compound (VOC) concentrations across Downtown Pittsburgh	Mentor

Master's Students

Year(s)	Mentee	Role
2010 – 2011	Laalithya Konduru MS (Completed 2011) Biomarkers of Chronic Stress	Thesis Advisor
2011 – 2013	Jeff Howell MPH (Completed 2013) Pittsburgh air monitoring and youth focus groups	Mentor
2011 – 2013	Lauren Chubb MPH (Completed 2013) Organic markers of diesel particulate exposures across Downtown Pittsburgh	Primary Advisor
2011 – 2013	Leah Cambal MPH (Completed 2013) Gaseous pollutant source apportionment across Pittsburgh	Primary Advisor
2011 – 2015	Sara Gillooly MS (Completed April 2015) Development of a method for using tree leaves for urban source identification <i>Award: Delta Omega Honor Society Inductee 2015 Delta Omega Outstanding Masters' Thesis 2015</i>	Primary Advisor
6/2013 - 4/2015	Ryan Tyler Rubright MS (Completed April 2015) Variation in PM _{2.5} and pre-clinical markers of cardiovascular illness in Pittsburgh, PA	Primary Advisor
8/2016-9/2016	Brian Adams DrPH (Behavioral and Community, Health Scis) Examining intimate partner violence support services for gay and bisexual men	Qualifying Exam Committee Member
2/2016 - Present	Guning Liu Air pollution exposures and self-reported health among prisoners in a facility near a coal ash dump	Research rotation
8/2016-Present	Heng Bai	Research rotation

Social status as a modifier of immune and respiratory response to air pollution during California wildfires in large primates

Doctoral Students

Year(s)	Mentee	Role
2010 – 2013	Brett Tunno DrPH (completed November 2013) Modeling Spatial Variation in Ambient PM _{2.5} and EC across Pittsburgh <i>Award: International Society for Environmental Epidemiology (ISEE) Outstanding Student Poster Presentation 2011</i>	Primary Advisor
2010 – 2014	Jessie L. Carr Shmool DrPH (completed December 2014) Exposure Assessment for Non-Chemical Stressors in Environmental Health <i>Award: Outstanding Student, EOH</i> <i>Award: Delta Omega Honor Society Inductee 2015</i> <i>Award: Delta Omega Honor Society Outstanding Doctoral Thesis</i>	Primary Advisor
2011 – 2014	Andrew Michanowicz DrPH (completed December 2014) Integration of source dispersion modeling into land use regression models across complex terrain <i>Award: Delta Omega Honor Society</i> <i>Award: International Society for Exposure Science Outstanding Student Poster 2012</i>	Primary Advisor
2012 - Present	Sheila Tripathy PhD (completed April 2017) Hybrid Land use Regression Modeling of Fine Particulate Matter and Metal Components for Application in two Pittsburgh Cohorts <i>Award: Tri-State Chapter International Society of Exposure Science (ISES) travel award</i>	Primary Advisor
2011 – 2012	Shantanu Kathar PhD (completed 2012) Secondary particle formation from diesel engines	PhD Committee Member (Carnegie Mellon University Engineering & Public Policy)
2011 – 2012	Tim Gordon PhD (completed 2012) Treatment effects on fine particulate composition from heavy-duty engines	PhD Committee Member (Carnegie Mellon University Engineering & Public Policy)
2015	Tao Xue PhD (completed January 2015) Time-Series analysis of air pollution and	Research Rotation - 2012

cardiovascular outcomes

Postdoctoral Fellows

Year(s)	Mentee
1/2013 – 1/2015	Jiang Zhou, PhD Case-crossover analyses of spatiotemporal variance in air pollution and childhood asthma in NYC
1/2014 – 1/2016	Brett Tunno Monitoring and modeling for multiple constituents and source apportionment in Auckland and Christchurch, New Zealand
8/2016 – Present	Nur Orak, PhD Bayesian Belief Network models for combined effects of air pollution and chronic stressors on birth outcomes in NYC
5/2017 – Present	Sheila Tripathy, PhD A model for capturing spatial variation in nitrogen dioxide (NO ₂) across Philadelphia, PA Spatial variation in ports-related emissions across Auckland, New Zealand
8/2017 - Present	Jamie Humphrey, PhD Social susceptibility to multiple air pollutants in cardiovascular disease in NYC

SERVICE

Departmental Committees

2011 – 2016	<i>University of Pittsburgh:</i> Departmental Graduate Program Committee, member
2011 – 2016	Departmental Environmental Epidemiology Faculty Search Committee, member

School and University Committees

2011 – 2014	<i>University of Pittsburgh:</i> GSPH Educational Policies and Curriculum Committee (EPCC) Alternate Departmental Representative
2011 – 2012	GSPH Conference on the Health Effects of Natural Gas Extraction Member, Planning committee
August 2012 – 2016	University of Pittsburgh Committee on Race and Social Problems (RAP) Health Research Advisory Committee Member
October 2013 – 2014	GSPH Salk Centennial Celebration Planning Committee Member
October 2013 – 2016	University of Pittsburgh Provost's Sustainability Task Force (Mascaro Center for Sustainable Innovation) -- Invited Member

August 2014 –2016 GSPH Educational Policies and Curriculum Committee (EPCC)
Departmental Representative

September 2014 -2015 Association for Schools and Programs of Public Health (ASPPH)
Invited Faculty Objective Reviewer

October 2014 –2015 Council on Education for Public Health (CEPH) GSPH re-accreditation process
Internal reviewer

October 2016 – Dec 2016 Graduate School of Public Health
Faculty Appointments, Promotion, and Tenure Committee (FAPTC)

July 2017 - Present *Drexel University:*
Drexel University Senate Committee for Faculty Affairs (SCFA)

February 2017 – Present Dornsife School of Public Health Educational Coordinating Committee (ECC)

April 2017 - Present Dornsife School of Public Health Program Alignment and Review (PAR)
Self-Study team

External Committees

August 2016 – Present *National Institutes of Health (NIH) Study Sections:*
Neurological, Aging and Musculoskeletal Epidemiology Study Section (NAME)
Ad hoc member

April 2017 - Present Community Influences on Health and Behavior (CIHB)
Ad hoc member

April 2017 – Present Systemic Injury by Environmental Exposure (SIEE)
Write-in reviewer

November 2016 - Present Norwegian Institute of Public Health (NIPH)
*Advisory Board: HEALTHSCAPES – The Impact of Urban Green Landscapes
on Citizen Health and Wellbeing*

August 2016 – Dec 2016 Allegheny County Department of Health (ACHD) Air Advisory Committee

2012 – Present *Environmental Health Perspectives (journal)*
Editorial Review Board

2016 – Present Associate Editor

8/2012 – 8/2015 International Society for Exposure Science (ISES):
Elected Academic Councilor/ Board Member

8/2015 – Present Publications Committee Liaison

8/2012 – 8/2015 Mentor, Students and New Researchers Program

6/2017 - Present Quarterly Newsletter Editorial Review Board

2013 – Present *Journal of Exposure Science & Environmental Epidemiology (journal)*
Editorial Review Board

2016 – Present *Environmental Health (journal)* -- Editorial Review Board

National Academy of Sciences (NAS):

2014 – 2016 Institute of Medicine (IOM) -- Department of Veterans Affairs
Scientific Committee on Impacts of Open Burn Pits
on Health of Veterans of Wars in Iraq and Afghanistan

2015 – Present National Institute for Occupational Safety and Health (NIOSH) / Centers for
Disease Control (CDC) Working Group: Occupational Factors in Cumulative
Risk Assessment

2015 - 2016 Green Buildings Alliance (GBA) Pittsburgh Health Advisory Council

2015 – 2016 City of Pittsburgh Office of Sustainability –
Pittsburgh Climate Action Plan -- Climate/ Resilience Project
Public Health & Wellbeing Expert Group

2012 – 2013 West Harlem Environmental Action (WE ACT for Environmental Justice)
Clean Heat Buildings Council, Board Member

2013 – 2014 New York City Clean Air Network (NYCCAN) member