

BIOGRAPHICAL SKETCH

Peter S. Thorne, PhD

Peter S. Thorne, PhD, Professor and Head, Department of Occupational & Environmental Health
Director, Environmental Health Sciences Research Center

A. Education and Training

INSTITUTION AND LOCATION	DEGREE	YEARS	FIELD OF STUDY
University of Wisconsin, Madison, WI	B.S.	1974-78	Chemical Engineering
University of Wisconsin, Madison, WI	M.S.	1978-80	Biomedical Engineering
University of Wisconsin, Madison, WI	Ph.D.	1980-84	Environmental Toxicology
University of Pittsburgh, Pittsburgh, PA	Post-Doc	1984-87	Immunotoxicology

B. Personal Statement

Dr. Thorne is the Director of the Environmental Health Sciences Research Center and Director of the UI Pulmonary Toxicology Facility. He has served as PI of many pulmonary biology and inhalation toxicology studies of biological and therapeutic agents. He has performed extensive research using in vitro and whole animal models to elucidate mechanisms of responsiveness to inhaled agents and the generation of aerosols for gene delivery. Dr. Thorne's laboratory has worked to characterize the environmental influences on the progression of lung diseases. His Pulmonary Toxicology Facility provides facilities and training for carrying out studies on gene delivery and pulmonary host defense in animal models and in vitro systems with exposure at the air-liquid interface. Dr. Thorne also has extensive experience leading community-based participatory research and translating science to the public. Since 2000 Dr. Thorne has mentored 75 junior faculty, graduate students and post docs and served on 50 thesis committees.

C. Positions and Honors

Positions

1978-1982	Research Assistant and Teaching Assistant in Veterinary Science, Chemical Engineering, and Environmental Toxicology, University of Wisconsin, Madison, WI
1982-1984	National Research Service Award trainee in Environmental Toxicology, University of Wisconsin
1984-1987	Research Associate Immunotoxicologist, University of Pittsburgh, Pittsburgh, PA
1987-1988	Assistant Professor of Industrial Environmental Health Sciences, University of Pittsburgh
1988-1992	Assistant Professor of Toxicology and Industrial Hygiene, University of Iowa, Iowa City, IA
1992-1997	Associate Professor of Toxicology and Industrial Hygiene, University of Iowa
1993-2000	Deputy Director, Environmental Health Sciences Research Center, University of Iowa
1994-present	Director, Pulmonary Toxicology Facility, University of Iowa
1997-1999	Professor of Toxicology, UI College of Medicine
1997-present	Professor of Environmental Health (secondary appt.), College of Engineering, Univ. of Iowa
1999-present	Professor of Toxicology, UI College of Public Health (founded in 1999)
2001-present	Director, Environmental Health Sciences Research Center, University of Iowa
2009-2010	Acting Head, Department of Occupational and Environmental Health, University of Iowa
2010-present	Head, Department of Occupational and Environmental Health, University of Iowa

Honors (since 2003)

2003	Whitehead Memorial Lecturer, Children's Hospital of Pittsburgh, UPMC, PA
2003-2007	National Advisory Environmental Health Sciences Council, NIH
2004	Recipient of the Thomas Bedford Memorial Prize, British Occupational Hygiene Society
2006-2007	Visiting Professor, University of Utrecht, Institute for Risk Assessment Sciences, Netherlands
2007	Visiting Professor, University of Aarhus, Dept. Environmental Occupational Medicine, Denmark
2010	Elected to Delta Omega Honorary Public Health Society
2010	John Doull Award, Central States Chapter of the Society of Toxicology
2011-2014	U.S. Environmental Protection Agency, Science Advisory Board
2013-2015	National Academy of Sciences, Board on Environmental Studies and Toxicology
2013	Distinguished Faculty Award, University of Iowa, College of Public Health

D. Selected Peer-Reviewed Publications (since Jan 2009; from over 200)

1. Klösener J, Peters TM, Adamčaková-Dodd A, Teesch L, Thorne PS, Robertson LW, Luthé G. Innovative application of fluoro tagging to trace airborne particulate and gas-phase polybrominated diphenyl ether exposures. *Chem Res Toxicol*, 22(1):179-186, 2009. PMID: 19111055
2. Trompette A, Divanovic S, Visintin A, Blanchard C, Hegde RS, Madan R, Thorne PS, Wills-Karp M, Giannini TL, Weiss JP, Karp CL. Allergenicity resulting from functional mimicry of a Toll-like receptor complex protein. *Nature*, 457(7229):585-8, 2009. PMID: 19060881
3. Thorne PS, Cohn R, Mav D, Arbes Jr. SJ, Zeldin DC. Predictors of endotoxin levels in U.S. housing. *Environ Health Perspect*, 117(5):763-771, 2009. PMID: 19479019
4. Thorne PS, Ansley A, Perry SS. Concentrations of bioaerosols, odors and hydrogen sulfide inside and downwind from two types of swine livestock operations. *J Occup Environ Hyg*, 6(4):211-220, 2009. PMID: 19177273
5. Kulhankova K, George CLS, Kline JN, Snyder JM, Darling M, Field EH, Thorne PS. Early life co-administration of cockroach allergen and endotoxin augments pulmonary and systemic responses. *Clin Exper Allergy*, 39(7):1069-79, 2009. PMID: 19438589
6. Norström K, Czub G, McLachlan MS, Hu D, Thorne PS, Hornbuckle KC. External exposure and bioaccumulation of PCBs in humans living in a contaminated urban environment. *Environ Int*, 36(8):855-61. 2009. PMID: 19394084
7. Zhao, H, Adamčaková-Dodd A, Hu D, Hornbuckle KC, Just CL, Robertson LW, Thorne PS and Lehmler H-J. Development of a synthetic PCB mixture resembling the average polychlorinated biphenyl profile in Chicago air. *Environ Int*, 36(8):819-27. 2010. PMID: 19375801
8. Reynolds SJ, Nakatsu J, Tillery M, Keefe T, Mehaffy J, Thorne PS, Donham KJ, Nonnenmann M, Golla V, O'Shaughnessy PT. Field and wind tunnel comparison of four aerosol samplers using agricultural dusts. *Ann Occup Hyg*, 53(6):585-94, 2009. PMID: 19443852
9. Murthy S, Adamčaková-Dodd A, Perry SS, Tephly LA, Keller RM, Metwali N, Meyerholz DK, Wang Y, Glogauer M, Thorne PS, Carter AB. Modulation of reactive oxygen species by Rac1 or catalase prevents asbestos-induced pulmonary fibrosis. *Am J Physiol Lung Cell Mol Physiol*, 297(5):L846-55, 2009. PMID: 19684199
10. Persky V, Piorkowski J, Hernandez E, Chavez N, Wagner-Cassanova C, Freels S, Vergara C, Pelzel D, Hayes R, Gutierrez S, Busso A, Coover L, Thorne PS, Ownby D. The effect of low cost modification of the home environment on the development of respiratory symptoms in the first year of life. *Ann Allergy Asthma Immunol*, 103(6):480-7, 2009. PMID: 20084841
11. Noss I, Wouters IM, Bezemer G, Metwali N, Sander I, Raulf-Heimsoth M, Heederik DJ, Thorne PS and Doekes G. β -(1,3)-glucan exposure assessment by passive airborne dust sampling and new sensitive immunoassays. *Appl Environ Microbiol*, 76(4):1158-1167, 2010. PMID: 20038709
12. Semple S, Devakumar D, Fullerton DG, Thorne PS, Metwali N, Costello A, Gordon SB, Manadhar DS, Ayres JG. Airborne endotoxin concentrations in homes burning biomass fuel. *Environ Health Perspect*, 118(7):988-991, 2010. PMID: 20308032
13. Manzel LJ, Shi L, O'Shaughnessy PT, Thorne PS, Look DC. Cigarette smoke inhibition of the NF- κ B-dependent response to bacteria in the airway. *Am J Respir Cell Mol Biol*, 44(2):155-165; 2010. PMID 20348206
14. Noss I, Doekes G, Sander I, Heederik DJJ, Thorne PS, Wouters IM. Passive airborne dust sampling with the electrostatic dustfall collector: optimization of storage and extraction procedures for endotoxin and glucan measurement. *Ann Occup Hyg*, 54(6):651-658, 2010. PMID 20354054
15. Thorne PS, Perry SS, Saito R, O'Shaughnessy PT, Mehaffy J, Metwali N, Keefe T, Donham KJ, Reynolds SJ. Evaluation of the *Limulus* amoebocyte lysate and recombinant Factor C assays for assessment of airborne endotoxin. *Appl Environ Microbiol*, 76(15):4988-4995, 2010. PMID: 20525858
16. Trupin L, Balmes JR, Chen H, Eisner MD, Hammond SK, Katz PP, Lurmann F, Quinlan PJ, Thorne PS, Yelin EH, Blanc PD. An integrated model of environmental factors in adult asthma severity and quality of life. *Environ Health*, 20:9:24, 2010. PMID: 20487557
17. Hu X, Adamčaková-Dodd A, Lehmler HJ, Hu D, Kania-Korwel I, Hornbuckle KC, Thorne PS. Time course of congener uptake and elimination in rats after short-term inhalation exposure to an airborne polychlorinated biphenyl(PCB) mixture. *Environ Sci Technol*, 44(17):6893-6900, 2010. PMID: 20698547

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18. Stebounova L, Adamčaková-Dodd A, Kim JS, Park H, O'Shaughnessy PT, Grassian VH, Thorne PS. Nanosilver induces minimal lung toxicity or inflammation in a subacute murine inhalation model. *Part Fibre Toxicol*, 25;8(1):5, 2011. PMID: 21266073
19. Moniruzzaman S, Hägerhed Engman L, James P, Sigsgaard T, Thorne PS, Sundell J, Bornehag CG. Levels of endotoxin in 390 Swedish homes: determinants and the risk for respiratory symptoms in children. *Int J Environ Health Res*, 22(1):22-36, 2012. PMID: 21707246
20. Kim JS, Adamčaková-Dodd A, O'Shaughnessy PT, Grassian VH, Thorne PS. Effects of copper nanoparticle exposure on host defense in a murine pulmonary infection model. *Part Fibre Toxicol*, 8(1):29, 2011. PMID 21943386
21. Semple S, Garden C, Coggins M, Galea KS, Whelan P, Cowie H, Sanchez-Jimenez A, Thorne PS, Hurley JF, Ayres JG. Contribution of solid fuel, gas combustion, or tobacco smoke to indoor air pollutant concentrations in Irish and Scottish homes. *Indoor Air*, 22(3):212-223, 2012. PMID: 22007695
22. Hađina S, Wohlford-Lenane CL, Thorne PS. Comparison of In Vivo bioluminescence imaging and lavage biomarkers to assess pulmonary inflammation. *Toxicology*, 291(1-3):133-8, 2012. PMID: 22133556
23. Coggins MA, Hogan VJ, Kelly M, Fleming GT, Roberts N, Tynan T, Thorne PS. Workplace exposure to bioaerosols in podiatry clinics. *Ann Occup Hyg*, 56(6):746-53, 2012. PMID: 22291206
24. Reed MD, McCombie BE, Sivillo AE, Thorne PS, Welsh MJ, March TH, McDonald JD, Seilkop SK, Zabner J, Durairaj L. Safety assessment of nebulized xylitol in beagle dogs. *Inhal Toxicol*, 24(6):365-72, 2012. PMID: 22564094
25. Hoppe KA, Metwali N, Perry SS, Hart T, Kostle PA, Thorne PS. Assessment of airborne exposures and health in flooded homes undergoing renovation. *Indoor Air*, 22(6):446-56, 2012. PMID: 22519834
26. Kulhankova K, George CLS, Kline JN, Darling M, Thorne PS. Endotoxin inhalation alters lung development in neonatal mice. *Am J Ind Med*, 55(12):1146-58, 2012. PMID: 22576659
27. Noss I, Doekes G, Thorne PS, Heederik DJ, Wouters IM. Comparison of the potency of a variety of β -glucans to induce cytokine production in human whole blood. *Innate Immun*. 2012 May 30. [Epub ahead of print] 19(1):10-19; 2013. PMID: 22653750.
28. Adamčaková-Dodd A, Stebounova LV, O'Shaughnessy PT, Kim JS, Grassian VH, Thorne PS. Murine pulmonary responses after sub-chronic exposure to aluminum oxide-based nanowhiskers. *Part Fibre Toxicol*. 9:22, 2012. PMID: 22713230
29. Kim JS, Peters TM, O'Shaughnessy PT, Adamčaková-Dodd A, Thorne PS. Validation of an *in vitro* exposure system for toxicity assessment of air-delivered nanomaterials. *Toxicol in Vitro*. 27:164-73, 2012. PMID: 22981796 PMC3950355
30. Hu X, Adamčaková-Dodd A, Lehmler HJ, Hu D, Hornbuckle K, Thorne PS. Subchronic inhalation exposure study of an airborne polychlorinated biphenyl mixture resembling the Chicago ambient air congener profile. *Environ Sci Technol*, 14(59):9653-62, 2012. PMID: 22846166
31. Pavilonis BT, Anthony TR, O'Shaughnessy PT, Humann MJ, Merchant JA, Moore G, Thorne PS, Weisel CP, Sanderson WT. Indoor and outdoor particulate matter and endotoxin concentrations in an intensely agricultural county. *J Expo Sci Environ Epidemiol*. 1-7, 2013. PMID: 23321860
32. King EM, Filep S, Smith B, Platts-Mills T, Hamilton RG, Schmechel D, Sordillo JE, Milton D, van Ree R, Krop EJ, Heederik DJ, Metwali N, Thorne PS, Zelding DC, Sever ML, Calatroni A, Arbes SJ Jr, Mitchell HE, Chapman MD. A multi-center ring trial of allergen analysis using fluorescent multiplex array technology. *J Immunol Methods*. Epub ahead of print. 2012, 387:89-95, 2013. PMID: 23085532
33. Brooks CR, Siebers R, Crane J, Noss I, Sander I, Thorne PS, Metwali N, Douwes J. Measurement of β -(1,3)-Glucan in household dust samples using *Limulus* amoebocyte assay and enzyme immunoassays: an inter-laboratory comparison. *Environmental Science: Processes and Impacts*. 2013, 15, 405-411.
34. Caraballo JC, Borcherding J, Thorne PS, Comellas AP. PKC- ζ mediates diesel exhaust particles-induced lung injury. *Am J Respir Cell Mol Biol*. 2013 Mar;48(3):306-13 Epub ahead of print. Dec 2012. PMID: 23221045
35. Wang J, Cozen W, Thorne PS, Berhane K, Cerhan JR, Hartge P, Ward MH, DeRoos AJ, Severson R, Morton LM, Bernstein L, Linet M, Colt JS. Household endotoxin levels and the risk of non-Hodgkin lymphoma. *Cancer Causes & Control* Epub ahead of print 2012, 24(2):357-364, 2013. PMID: 23277417

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36. Hu X, Lehmler H-J, Adamcakova-Dodd A, Thorne PS. Elimination of inhaled 3,3'-dichlorobiphenyl (PCB11) and the formation of the 4-hydroxylated metabolite. *Environ Sci Technol*. 2013 May 7;47(9):4743-4751. doi: 10.1021/es30449114l. Epub 2013 Apr 25. PMID: 23582014
37. Marek RF, Thorne PS, Wang K, DeWall J Hornbuckle KC. PCBs and OH-PCBs in serum from children and mothers in urban and rural U.S. communities. *Environ Sci Technol*. 2013 Apr 2;47(7):3353-3361. doi: 10.1021/es304455k. Epub 2013 Mar 14. PMID: 23452180
38. Pavilonis BT, O'Shaughnessy PT, Altmaier R, Metwali N, Thorne, PS. Passive monitors to measure hydrogen sulfide near concentrated animal feeding operations. *Environ Sci Process Impacts*. 2013 May 29; 15(6):1271-8. doi: 10.1039/c3em00082f. PMID: 23681048
39. Dhakal K, Adamcakova-Dodd A, Lehmler HJ, Thorne PS, Robertson LW. Sulfate conjugates are urinary markers of inhalation exposure to 4-Cholorbiphenyl (PCB3). *Chem Res Toxicol*. 2013 Jun 17; 26(6): 853-5. doi: 10.1021/tx4001539. Epub 2013 May 28. PMID: 23713983
40. Worthington KLS, Adamcakova-Dodd A, Wongrakpanich A, Mudunkotuwa IA, Mapuskar KA, Joshi VB, Guymon CA, Spitz DR, Grassian VH, Thorne PS, Salem AK. The effect of chitosan coating of copper nanoparticles on their toxicity. *Nanotechnology* 24(39):1-10, 2013. PMID: 24008224
41. Hu X, Adamcakova-Dodd A, Thorne, PS. The fate of inhaled 14C-labelled PCB11 and it metabolites *in vivo*. *Environment International* 63:92-100, 2014. doi: 10.1016/j.envint.2013.10.017. PMID: 2427506
42. Choi H, Byrne S, Suldrup Larsen L, Sigsgaard T, Thorne PS, Larsson L, Sebastian A, Bornehag C-G. Residential mold concentration in dust is not associated with asthma, rhinitis or eczema diagnosis in children. *Indoor Air*, December, 2013. doi: 10.1111/ina.12068. PMID: 24016225
43. Wongrakpanich A, Adamcakova-Dodd A, Xie W, Joshi VB, Mapuskar KA, Geary SM, Spitz DR, Thorne PS, Salem AK. The absence of CpG in plasmid DNA-chitosan polyplexes enhances transfection efficiencies and reduces inflammatory responses in murine lungs. *Mol Pharm* Feb 4, 2014 Epub ahead of print. PMID: 24494979
44. Kim JS, Klösener J, Flor S, Peters T, Ludewig G, Thorne PS, Robertson LW, Luthe, G. Toxicity assessment of air-delivered particle-bound polybromination diphenyl ethers. *Toxicology* 317:31-39, 2014. PMID: 24451063 PMC3975599
45. Adamčaková-Dodd A, Stebounova LA, Kim JS, Vorrink SU, Ault AP, O'Shaughnessy PT, Grassian VH, Thorne PS. Toxicity assessment of ZnO nanoparticles using sub-acute and sub-chronic murine inhalation models. *Part Fibre Toxicol*. 2014 Apr 1:11(1):15. PMC3994238
46. Black DW, Manlick CF, Fuortes LJ, Stein MA, Subramanian P, Thorne PS, Reynolds SJ. Psychological distress, job dissatisfaction, and nonspecific somatic symptoms in office workers: Six non-problem buildings in the Midwest. *Ann Clin Psych*. *In Press* 2014.
47. Blatter J, Forno E, Brehm J, Acosta-Perez E, Alvarez M, Colon-Semidey A, Thorne P, Metwali N, Canino G, Celedon J. Fungal exposure, atopy and asthma exacerbations in Puerto Rican children. *Ann Am Thorac Soc* June 10, 2014. [Epub ahead of print]. PMID:24915164
48. Park JH, Mudunkotuwa IA, Kim JS, Stanam A, Thorne PS, Grassian V, Peters TM. Physicochemical characterization of simulated welding fume from a spark discharge system. *Aerosol Science and Technology* *In Press* 2014.
49. O'Shaughnessy PT, Adamcakova-Dodd A, Altmaier R, Thorne PS. Assessment of the Aerosol Generation and Toxicity of Carbon Nanotubes. *Nanomaterials* *In Press* 2014.
50. Liu L, Urch B, Poon R, Szyszkowicz M, Speck M, Gold DR, Wheeler AJ, Scott JA, Brook JR, Thorne PS, Silverman F. Effects of ambient coarse, fine and ultrafine particles and their biological constituents on systemic biomarkers: a controlled human exposure study. *In Press* 2014.
51. Joshi VB, Dodd AA, Jing X, Wongrakpanich A, Katherine N, Gibson-Corley KN, Thorne PS, Salem AK. Development of a poly (lactic-co-glycolic acid) particle vaccine to protect against house dust mite induced allergy. *American Association of Pharmaceutical Scientists Journal*. *In Press* 2014.
52. Adar S, D'Souza J, Mendelsohn-Victor K, Jacobs DR, Cushman M, Thorne PS, Sheppard L, Burke GL, Daviglius M, Sapiro A, Diez Roux AV, Kaufman JD, Larson TV. Long-term exposure to coarse particulate matter, inflammation, and coagulation: a cross-sectional analysis from the multi-ethnic study of atherosclerosis. *Environmental Health Perspectives* *In Press* 2014