

January 2017

**CURRICULUM VITAE**

Lawrence S. Engel, PhD

**Education**

1999	Ph.D.	Epidemiology, University of Washington, Seattle, WA
1996	M.S.	Epidemiology, University of Washington, Seattle, WA
1986	B.S.	Genetics, University of California, Berkeley, CA

**Professional Experience**

2011-present	Associate Professor, Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, NC
2010-present	Associate Scientist; Epidemiology Branch, National Institute of Environmental Health Sciences, Research Triangle Park, NC
2009-2011	Associate Attending Epidemiologist, Department of Epidemiology and Biostatistics, Memorial Hospital, New York, NY
2009-2011	Associate Member, Memorial Sloan-Kettering Cancer Center, New York, NY
2003-2009	Assistant Attending Epidemiologist, Department of Epidemiology and Biostatistics, Memorial Hospital, New York, NY
2003-2009	Assistant Member, Memorial Sloan-Kettering Cancer Center, New York, NY
1999-2003	Postdoctoral Fellow, Occupational and Environmental Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rockville, MD
1994-1996	Co-Instructor (Research Methods), Northwest Institute of Acupuncture and Oriental Medicine (NIAOM), Seattle, WA

**Other Employment**

1989-1993	Senior Programmer/Analyst and Project Leader, Shared Medical Systems, Inc. (SMS), Oakland, CA
1991-1992	Instructor, Arrowsmith Academy, Berkeley, CA
1987-1988	Senior Programmer, Innovative Interfaces, Inc., Berkeley, CA
1982-1987	Computer Programmer, Sterling Software, Inc., Ames Research Center, Mountain View, CA
1981-1982	Computer Programmer, Lexidata Corp., Billerica, MA
1980	Computer Programmer, Conceptual Designs Software Corp., Framingham, MA

**HONORS**

2011	NIH Director's Award for the Gulf Long-term Follow-up Study (GuLF STUDY)
2010	National Institutes of Health Merit Award
2006	American Cancer Society Research Scholar
2004	Outstanding Poster Award, Society for Epidemiologic Research Annual Meeting, Salt Lake City, UT

2001	National Cancer Institute Fellowship Achievement Award
2001	National Cancer Institute Technology Transfer Award
1994-1998	National Institute of Environmental Health Sciences Predoctoral Fellowship
1982-1986	McDonald Scholarship, Kraft Scholarship, Wrass Scholarship, UC Berkeley Scholarship, University of California, Berkeley
1980	National Merit Scholarship Finalist

### Memberships

2000-present	American Association for Cancer Research
2002-present	Molecular Epidemiology Group (MEG/AACR)
2002-present	International Society for Environmental Epidemiology
2013-present	Lineberger Comprehensive Cancer Center, University of North Carolina
2013-present	Center for Environmental Health and Susceptibility, University of North Carolina

### Publications

\* = student or fellow

#### *In Press*

1. Kwok RK, **Engel LS** (co-first author), Miller A, Curry MD, Blair A, Birnbaum L, Sandler DP. The GuLF STUDY: a prospective study of persons involved in Deepwater Horizon oil spill response and clean-up. *Environ Health Perspect*.
2. Groth C, Banerjee S, Ramachandran G, Stenzel MR, Stewart PA, Sandler DP, Blair A, **Engel LS**, Kwok RK. Bivariate Left-Censored Bayesian Model for Predicting Exposure: Preliminary Analysis of Worker Exposure during the Deepwater Horizon Oil Spill. *Annals of Occupational Hygiene*.
3. **Engel LS**, Kwok RK (co-first author), Miller A, Curry MD, Gaunt EE, Ramsey S, Payne J, Blair A, Birnbaum L, Sandler DP. Biospecimen collection in the Gulf Long-Term Follow-Up Study (GuLF STUDY). *J Toxicol Environ Health A*. Submitted pages: 30.
4. Stewart PA, Stenzel MR, Ramachandran G, Banerjee S, Huynh T, Groth C, Kwok RK, Blair A, **Engel LS**, Sandler DP. Development of an Ordinal Job-Exposure Matrix for Workers Responding to the Deepwater Horizon Disaster: The GuLF STUDY. Submitted pages: 33.
5. Taylor KW, Baird DD, Herring AH, **Engel LS**, Nichols HB, Sandler DP, Troester MA. Associations among personal care product use patterns and exogenous hormone use in the NIEHS Sister Study. *J Expo Sci Environ Epidemiol*.

#### *In Print*

1. Parada H, Jr., Steck SE, Bradshaw PT, **Engel LS**, Conway K, Teitelbaum SL, Neugut AI, Santella RM, Gammon MD. Grilled, Barbecued, and Smoked Meat Intake and Survival Following Breast Cancer. *J Natl Cancer Inst* 2017;109(6). PMID:PMC5214623
2. White AJ, Chen J, Teitelbaum SL, McCullough LE, Xu X, Hee Cho Y, Conway K, Beyea J, Stellman SD, Steck SE, Mordukhovich I, Eng SM, Beth Terry M, **Engel LS**, Hatch M,

- Neugut AI, Hibshoosh H, Santella RM, Gammon MD. Sources of polycyclic aromatic hydrocarbons are associated with gene-specific promoter methylation in women with breast cancer. *Environ Res* 2016;145:93-100. PMID:PMC4706465
3. White AJ, Bradshaw PT, Herring AH, Teitelbaum SL, Beyea J, Stellman SD, Steck SE, Mordukhovich I, Eng SM, **Engel LS**, Conway K, Hatch M, Neugut AI, Santella RM, Gammon MD. Exposure to multiple sources of polycyclic aromatic hydrocarbons and breast cancer incidence. *Environ Int* 2016;89-90:185-92. PMID:PMC4818720
  4. Satagopan JM, Sen A, Zhou Q, Lan Q, Rothman N, Langseth H, **Engel LS**. Bayes and empirical Bayes methods for reduced rank regression models in matched case-control studies. *Biometrics* 2016;72(2):584-95. PMID:PMC4870158
  5. Petrick JL, Freedman ND, Demuth J, Yang B, Van Den Eeden SK, **Engel LS**, McGlynn KA. Obesity, diabetes, serum glucose, and risk of primary liver cancer by birth cohort, race/ethnicity, and sex: Multiphasic health checkup study. *Cancer Epidemiol* 2016;42:140-6. PMID:PMC4899157
  6. Parada H, Jr., Wolff MS, **Engel LS**, White AJ, Eng SM, Cleveland RJ, Khankari NK, Teitelbaum SL, Neugut AI, Gammon MD. Organochlorine insecticides DDT and chlordane in relation to survival following breast cancer. *Int J Cancer* 2016;138(3):565-75. PMID:4715584
  7. Parada H, Jr., Wolff MS, **Engel LS**, Eng SM, Khankari NK, Neugut AI, Teitelbaum SL, Gammon MD. Polychlorinated biphenyls and their association with survival following breast cancer. *Eur J Cancer* 2016;56:21-30. PMID:PMC4769903
  8. Parada H, Bradshaw PT, **Engel LS**, Conway K, Steck SE, Teitelbaum SL, Neugut AI, Santella RM, Gammon MD. Environmental Tobacco Smoke Exposure and Survival Following Breast Cancer. *Cancer Epidemiol Biomarkers Prev* 2016.
  9. Mordukhovich I, Beyea J, Herring AH, Hatch M, Stellman SD, Teitelbaum SL, Richardson DB, Millikan RC, **Engel LS**, Shantakumar S, Steck SE, Neugut AI, Rossner P, Jr., Santella RM, Gammon MD. Polymorphisms in DNA repair genes, traffic-related polycyclic aromatic hydrocarbon exposure and breast cancer incidence. *Int J Cancer* 2016;139(2):310-21.
  10. Mordukhovich I, Beyea J, Herring AH, Hatch M, Stellman SD, Teitelbaum SL, Richardson DB, Millikan RC, **Engel LS**, Shantakumar S, Steck SE, Neugut AI, Rossner P, Santella RM, Gammon MD. Vehicular Traffic-Related Polycyclic Aromatic Hydrocarbon Exposure and Breast Cancer Incidence: The Long Island Breast Cancer Study Project (LIBCSP). *Environ Health Perspect* 2016;124(1):30-8. PMID:4710589
  11. Lowe SR, Kwok RK, Payne J, **Engel LS**, Galea S, Sandler DP. Why Does Disaster Recovery Work Influence Mental Health?: Pathways through Physical Health and Household Income. *American journal of community psychology* 2016;58(3-4):354-64.
  12. Huynh T, Quick H, Ramachandran G, Banerjee S, Stenzel M, Sandler DP, **Engel LS**, Kwok RK, Blair A, Stewart PA. A Comparison of the beta-Substitution Method and a Bayesian Method for Analyzing Left-Censored Data. *Ann Occup Hyg* 2016;60(1):56-73. PMID:4715251

13. \*Lebov JF, **Engel LS**, Richardson D, Hogan SL, Hoppin JA, Sandler DP. Pesticide use and risk of end-stage renal disease among licensed pesticide applicators in the Agricultural Health Study. *Occup Environ Med* 2016;73(1):3-12.
14. \*Beard JD, **Engel LS**, Richardson DB, Gammon MD, Baird C, Umbach DM, Allen KD, Stanwyck CL, Keller J, Sandler DP, Schmidt S, Kamel F. Military service, deployments, and exposures in relation to amyotrophic lateral sclerosis etiology. *Environ Int* 2016;91:104-15. PMID:PMC4876822
15. Resnik DB, Miller AK, Kwok RK, **Engel LS**, Sandler DP. Ethical Issues in Environmental Health Research Related to Public Health Emergencies: Reflections on the GuLF STUDY. *Environ Health Perspect* 2015;123(9):A227-31. PMID:PMC4559957
16. Petrick JL, Steck SE, Bradshaw PT, Trivers KF, Abrahamson PE, **Engel LS**, He K, Chow WH, Mayne ST, Risch HA, Vaughan TL, Gammon MD. Dietary intake of flavonoids and oesophageal and gastric cancer: incidence and survival in the United States of America (USA). *Br J Cancer* 2015;112 Suppl:1291-300. PMID:4385952
17. Petrick JL, Steck SE, Bradshaw PT, Chow WH, **Engel LS**, He K, Risch HA, Vaughan TL, Gammon MD. Dietary flavonoid intake and Barrett's esophagus in western Washington State. *Ann Epidemiol* 2015;25(10):730-5 e2. PMID:4567908
18. Pearce N, Blair A, Vineis P, Ahrens W, Andersen A, Anto JM, Armstrong BK, Baccarelli AA, Beland FA, Berrington A, Bertazzi PA, Birnbaum LS, Brownson RC, Bucher JR, Cantor KP, Cardis E, Cherrie JW, Christiani DC, Cocco P, Coggon D, Comba P, Demers PA, Dement JM, Douwes J, Eisen EA, **Engel LS**, Fenske RA, Fleming LE, Fletcher T, Fontham E, Forastiere F, Frentzel-Beyme R, Fritschi L, Gerin M, Goldberg M, Grandjean P, Grimsrud TK, Gustavsson P, Haines A, Hartge P, Hansen J, Hauptmann M, Heederik D, Hemminki K, Hemon D, Hertz-Picciotto I, Hoppin JA, Huff J, Jarvholm B, Kang D, Karagas MR, Kjaerheim K, Kjuus H, Kogevinas M, Kriebel D, Kristensen P, Kromhout H, Laden F, LeBailly P, LeMasters G, Lubin JH, Lynch CF, Lynge E, t Mannelje A, McMichael AJ, McLaughlin JR, Marrett L, Martuzzi M, Merchant JA, Merler E, Merletti F, Miller A, Mirer FE, Monson R, Nordby KC, Olshan AF, Parent ME, Perera FP, Perry MJ, Pesatori AC, Pirastu R, Porta M, Pukkala E, Rice C, Richardson DB, Ritter L, Ritz B, Ronckers CM, Rushton L, Rusiecki JA, Rusyn I, Samet JM, Sandler DP, de Sanjose S, Schernhammer E, Costantini AS, Seixas N, Shy C, Siemiatycki J, Silverman DT, Simonato L, Smith AH, Smith MT, Spinelli JJ, Spitz MR, Stallones L, Stayner LT, Steenland K, Stenzel M, Stewart BW, Stewart PA, Symanski E, Terracini B, Tolbert PE, Vainio H, Vena J, Vermeulen R, Victora CG, Ward EM, Weinberg CR, Weisenburger D, Wesseling C, Weiderpass E, Zahm SH. IARC Monographs: 40 Years of Evaluating Carcinogenic Hazards to Humans. *Environ Health Perspect* 2015;123(6):507-14. PMID:4455595
19. Lowe SR, Kwok RK, Payne J, **Engel LS**, Galea S, Sandler DP. Mental health service use by cleanup workers in the aftermath of the Deepwater Horizon oil spill. *Soc Sci Med* 2015;130:125-34. PMID:4363993
20. \*Starling AP, **Engel LS**, Calafat AM, Koutros S, Satagopan JM, Yang G, Matthews CE, Cai Q, Buckley JP, Ji BT, Cai H, Chow WH, Zheng W, Gao YT, Rothman N, Xiang YB, Shu XO. Predictors and long-term reproducibility of urinary phthalate metabolites in middle-aged men and women living in urban Shanghai. *Environ Int* 2015;84:94-106. PMID:4570864

21. \*Lebov JF, **Engel LS**, Richardson D, Hogan SL, Sandler DP, Hoppin JA. Pesticide exposure and end-stage renal disease risk among wives of pesticide applicators in the Agricultural Health Study. *Environ Res* 2015;143(Pt A):198-210. PMID:PMC4662544
22. \*Koutros S, Langseth H, Grimsrud TK, Barr DB, Vermeulen R, Portengen L, Wacholder S, Beane Freeman LE, Blair A, Hayes RB, Rothman N, **Engel LS**. Prediagnostic Serum Organochlorine Concentrations and Metastatic Prostate Cancer: A Nested Case-Control Study in the Norwegian Janus Serum Bank Cohort. *Environ Health Perspect* 2015;123(9):867-72. PMID:4559951
23. Quick H, Groth C, Banerjee S, Carlin BP, Stenzel MR, Stewart PA, Sandler DP, **Engel LS**, Kwok RK. Exploration of the use of Bayesian modeling of gradients for censored spatiotemporal data from the oil spill. *Spat Stat* 2014;9:166-79. PMID:4294982
24. O'Brien KM, Cole SR, Poole C, Bensen JT, Herring AH, **Engel LS**, Millikan RC. Replication of breast cancer susceptibility loci in whites and African Americans using a Bayesian approach. *Am J Epidemiol* 2014;179(3):382-94. PMID:3895095
25. O'Brien KM, Cole SR, **Engel LS**, Bensen JT, Poole C, Herring AH, Millikan RC. Breast cancer subtypes and previously established genetic risk factors: a Bayesian approach. *Cancer Epidemiol Biomarkers Prev* 2014;23(1):84-97. PMID:3947131
26. McGlynn KA, Divine GW, Sahasrabudhe VV, **Engel LS**, VanSlooten A, Wells K, Yood MU, Alford SH. Statin use and risk of hepatocellular carcinoma in a U.S. population. *Cancer Epidemiol* 2014;38(5):523-7. PMID:4188715
27. Huynh T, Ramachandran G, Banerjee S, Monteiro J, Stenzel M, Sandler DP, **Engel LS**, Kwok RK, Blair A, Stewart PA. Comparison of methods for analyzing left-censored occupational exposure data. *Ann Occup Hyg* 2014;58(9):1126-42. PMID:4271092
28. **Engel LS**, Satagopan J, Sima CS, Orlov I, Mujumdar U, Coble J, Roy P, Yoo S, Sandler DP, Alavanja MC. Sun exposure, vitamin D receptor genetic variants, and risk of breast cancer in the Agricultural Health Study. *Environ Health Perspect* 2014;122(2):165-71. PMID:3915256
29. **Engel LS**, Buckley JP, Yang G, Liao LM, Satagopan J, Calafat AM, Matthews CE, Cai Q, Ji BT, Cai H, Engel SM, Wolff MS, Rothman N, Zheng W, Xiang YB, Shu XO, Gao YT, Chow WH. Predictors and variability of repeat measurements of urinary phenols and parabens in a cohort of Shanghai women and men. *Environ Health Perspect* 2014;122(7):733-40. PMID:4080538
30. \*Strelitz J, **Engel LS**, Keifer MC. Blood acetylcholinesterase and butyrylcholinesterase as biomarkers of cholinesterase depression among pesticide handlers. *Occup Environ Med* 2014;71(12):842-7. PMID:4224972
31. \*O'Brien KM, Orlov I, Antonescu CR, Ballman K, McCall L, DeMatteo R, **Engel LS**. Gastrointestinal stromal tumors, somatic mutations and candidate genetic risk variants. *PLoS One* 2013;8(4):e62119. PMID:3630216

32. \*O'Brien KM, Orlow I, Antonescu CR, Ballman K, McCall L, Dematteo R, **Engel LS**. Gastrointestinal stromal tumors: a case-only analysis of single nucleotide polymorphisms and somatic mutations. *Clin Sarcoma Res* 2013;3(1):12. PMID:3827940
33. Hosgood HD, 3rd, Chapman RS, Wei H, He X, Tian L, Liu LZ, Lai H, **Engel LS**, Chen W, Rothman N, Lan Q. Coal mining is associated with lung cancer risk in Xuanwei, China. *Am J Ind Med* 2012;55(1):5-10. PMID:3308012
34. **Engel LS**, Orlow I, Sima CS, Satagopan J, Mujumdar U, Roy P, Yoo S, Sandler DP, Alavanja MC. Vitamin D receptor gene haplotypes and polymorphisms and risk of breast cancer: a nested case-control study. *Cancer Epidemiol Biomarkers Prev* 2012;21(10):1856-67. PMID:3483029
35. \*Purdue MP, **Engel LS**, Langseth H, Needham LL, Andersen A, Barr DB, Blair A, Rothman N, McGlynn KA. Prediagnostic serum concentrations of organochlorine compounds and risk of testicular germ cell tumors. *Environ Health Perspect* 2009;117(10):1514-9. PMID:2790503
36. Kamel F, **Engel LS**, Gladen BC, Hoppin JA, Alavanja MC, Sandler DP. Neurologic symptoms in licensed pesticide applicators in the Agricultural Health Study. *Hum Exp Toxicol* 2007;26(3):243-50.
37. **Engel LS**, Lan Q, Rothman N. Polychlorinated biphenyls and non-Hodgkin lymphoma. *Cancer Epidemiol Biomarkers Prev* 2007;16(3):373-6.
38. **Engel LS**, Laden F, Andersen A, Strickland PT, Blair A, Needham LL, Barr DB, Wolff MS, Helzlsouer K, Hunter DJ, Lan Q, Cantor KP, Comstock GW, Brock JW, Bush D, Hoover RN, Rothman N. Polychlorinated Biphenyl Levels in Peripheral Blood and Non-Hodgkin's Lymphoma: A Report from Three Cohorts. *Cancer Res* 2007;67(11):5545-52.
39. \*Fortuny J, Johnson CC, Bohlke K, Chow WH, Hart G, Kucera G, Mujumdar U, Ownby D, Wells K, Yood MU, **Engel LS**. Use of anti-inflammatory drugs and lower esophageal sphincter-relaxing drugs and risk of esophageal and gastric cancers. *Clin Gastroenterol Hepatol* 2007;5(10):1154-9 e3. PMID:2140196
40. Kang D, Gridley G, Huang WY, **Engel LS**, Winn DM, Brown LM, Bravo-Otero E, Wu T, Diehl SR, Hayes RB. Microsatellite polymorphisms in the epidermal growth factor receptor (EGFR) gene and the transforming growth factor-alpha (TGFA) gene and risk of oral cancer in Puerto Rico. *Pharmacogenet Genomics* 2005;15(5):343-7.
41. Kamel F, **Engel LS**, Gladen BC, Hoppin JA, Alavanja MC, Sandler DP. Neurologic symptoms in licensed private pesticide applicators in the Agricultural Health Study. *Environ Health Perspect* 2005;113(7):877-82. PMID:1257649
42. **Engel LS**, Hill DA, Hoppin JA, Lubin JH, Lynch CF, Pierce J, Samanic C, Sandler DP, Blair A, Alavanja MC. Pesticide Use and Breast Cancer Risk among Farmers' Wives in the Agricultural Health Study. *Am J Epidemiol* 2005;161(2):121-35.
43. Takaro TK, **Engel LS**, Keifer M, Bigbee WL, Kavanagh TJ, Checkoway H. Glycophorin A is a potential biomarker for the mutagenic effects of pesticides. *Int J Occup Environ Health* 2004;10(3):256-61.

44. Monge P, Wesseling C, **Engel LS**, Keifer M, Zuurbier M, Rojas M, Partanen T. An icon-based interview for the assessment of occupational pesticide exposure in a case-control study of childhood leukemia. *Int J Occup Environ Health* 2004;10(1):72-8.
45. **Engel LS**, Chow WH, Vaughan TL, Gammon MD, Risch HA, Stanford JL, Schoenberg JB, Mayne ST, Dubrow R, Rotterdam H, West AB, Blaser M, Blot WJ, Gail MH, Fraumeni JF, Jr. Population attributable risks of esophageal and gastric cancers. *J Natl Cancer Inst* 2003;95(18):1404-13.
46. **Engel LS**, Vaughan TL, Gammon MD, Chow WH, Risch HA, Dubrow R, Mayne ST, Rotterdam H, Schoenberg JB, Stanford JL, West AB, Blot WJ, Fraumeni JF, Jr. Occupation and risk of esophageal and gastric cardia adenocarcinoma. *Am J Ind Med* 2002;42(1):11-22.
47. **Engel LS**, Taioli E, Pfeiffer R, Garcia-Closas M, Marcus PM, Lan Q, Boffetta P, Vineis P, Autrup H, Bell DA, Branch RA, Brockmoller J, Daly AK, Heckbert SR, Kalina I, Kang D, Katoh T, Lafuente A, Lin HJ, Romkes M, Taylor JA, Rothman N. Pooled analysis and meta-analysis of glutathione S-transferase M1 and bladder cancer: a HuGE review. *Am J Epidemiol* 2002;156(2):95-109.
48. **Engel LS**, Rothman N, Knott C, Lynch CF, Logsden-Sackett N, Tarone RE, Alavanja MC. Factors associated with refusal to provide a buccal cell sample in the Agricultural Health Study. *Cancer Epidemiol Biomarkers Prev* 2002;11(5):493-6.
49. Coble J, Hoppin JA, **Engel L**, Elci OC, Dosemeci M, Lynch CF, Alavanja M. Prevalence of exposure to solvents, metals, grain dust, and other hazards among farmers in the Agricultural Health Study. *J Expo Anal Environ Epidemiol* 2002;12(6):418-26.
50. Zahm SH, Colt JS, **Engel LS**, Keifer MC, Alvarado AJ, Burau K, Butterfield P, Caldera S, Cooper SP, Garcia D, Hanis C, Hendrikson E, Heyer N, Hunt LM, Krauska M, MacNaughton N, McDonnell CJ, Mills PK, Mull LD, Nordstrom DL, Outterson B, Slesinger DP, Smith MA, Stallones L, Stephens C, Sweeney A, Sweitzer K, Vernon SW, Blair A. Development of a life events/icon calendar questionnaire to ascertain occupational histories and other characteristics of migrant farmworkers. *Am J Ind Med* 2001;40(5):490-501.
51. Mull LD, **Engel LS**, Outterson B, Zahm SH. National farmworker database: establishing a farmworker cohort for epidemiologic research. *Am J Ind Med* 2001;40(5):612-8.
52. Lan Q, Chow WH, Lissowska J, Hein DW, Buetow K, **Engel LS**, Ji B, Zatonski W, Rothman N. Glutathione S-transferase genotypes and stomach cancer in a population-based case-control study in Warsaw, Poland. *Pharmacogenetics* 2001;11(8):655-61.
53. **Engel LS**, Seixas NS, Keifer MC, Longstreth WT, Jr., Checkoway H. Validity study of self-reported pesticide exposure among orchardists. *J Expo Anal Environ Epidemiol* 2001;11(5):359-68.
54. **Engel LS**, Keifer MC, Zahm SH. Comparison of a traditional questionnaire with an icon/calendar-based questionnaire to assess occupational history. *Am J Ind Med* 2001;40(5):502-11.

55. **Engel LS**, Keifer MC, Thompson ML, Zahm SH. Test-retest reliability of an icon/calendar-based questionnaire used to assess occupational history. *Am J Ind Med* 2001;40(5):512-22.
56. **Engel LS**, Checkoway H, Keifer MC, Seixas NS, Longstreth WT, Jr., Scott KC, Hudnell K, Anger WK, Camicioli R. Parkinsonism and occupational exposure to pesticides. *Occup Environ Med* 2001;58(9):582-9.
57. Colt JS, **Engel LS**, Keifer MC, Thompson ML, Zahm SH. Comparability of data obtained from migrant farmworkers and their spouses on occupational history. *Am J Ind Med* 2001;40(5):523-30.
58. **Engel LS**, O'Meara ES, Schwartz SM. Maternal occupation in agriculture and risk of limb defects in Washington State, 1980-1993. *Scand J Work Environ Health* 2000;26(3):193-8.
59. **Engel LS**, Keifer MC, Checkoway H, Robinson LR, Vaughan TL. Neurophysiological function in farm workers exposed to organophosphate pesticides. *Arch Environ Health* 1998;53(1):7-14.
60. Zahm SH, Blair A, Alvarado A, Butterfield P, Cooper S, DeStefano F, Egan J, **Engel L**, Garcia D, Hendrikson E, Heppel M, Heyer N, Hunt L, Keifer MC, Krauska M, McDonnell C, Mills P, Mountain K, Mull LD, Nordstrom D, Outterson B, Rottenberg L, Ryder R, Slesinger DP, Smith MA, Stallones L, Stephens C, Stevens D, Sweeney A, Torres LR, Vernon S, Wilk V. Cancer feasibility studies among migrant farmworkers. *Am J Ind Med* 1997;32(3):301-2.

#### **Submitted**

1. Rusiecki JA, Schwartz E, Alexander MS, Wang L, Funk R, Weems L, **Engel LS**. The Deepwater Horizon Response Coast Guard Cohort Study. *Lancet Public Health*.
2. Parada H, Bradshaw PT, Steck SE, **Engel LS**, Conway K, Teitelbaum SL, Neugut AI, Santella RM, Gammon MD. Post-diagnosis changes in cigarette smoking and survival following breast cancer. *Br J Cancer*.
3. Taylor KW, Troester MA, Herring AH, **Engel LS**, Nichols HB, Sandler DP, Baird DD. Associations between personal care product use patterns and breast cancer risk among white and black women in the NIEHS Sister Study. *Environ Health Perspect*.
4. Furlong M, Engel SM, Goldman B, Daniels JL, Wolff MS, **Engel LS**, Herring AH. Early life characteristics and neurodevelopmental phenotypes in the Mount Sinai Children's Environmental Health Center. *Infant Behav Dev*.
5. Furlong M, Engel SM, Buckley JP, Goldman B, Daniels JL, **Engel LS**, Wolff MS, Chen J, Wetmur J, Barr DM, Herring AH. Prenatal Exposure to Organophosphorus Pesticides and Childhood Neurodevelopmental Phenotypes
6. **Engel LS**, Werder E, Sima CS, Satagopan J, Xu Y, Sandler DP, Beane-Freeman L, Alavanja MC. Insecticide use and breast cancer risk among farmers' wives in the Agricultural Health Study. *Environ Health Perspect*.



7. Kwok RK, **Engel LS**, Curry MD, Stewart PA, Stenzel MR, McGrath J, Jackson W, Jensen R, Lichtveld M, Miller A, Sandler D. Lung function in oil spill response workers 1-3 years after the Deepwater Horizon disaster. *Environ Int.*
8. McGowan CJ, Kwok RK, **Engel LS**, Stenzel MR, Stewart PA, Sandler DP. Respiratory, dermal, and eye irritation symptoms associated with Corexit EC9527A/EC9500A following the Deepwater Horizon oil spill: Findings from the GuLF STUDY. *Environ Health Perspect.*
9. Li N, Petrick JL, Steck SE, Bradshaw PT, McClain KM, Niehoff NM, **Engel LS**, Shaheen NJ, Risch HA, Vaughan TL, Wu AH, Gammon MD. Dietary sugar/carbohydrate intake and esophageal and gastric cardia adenocarcinoma - a pooled analysis. *Gastroenterology*

### ***In Preparation***

1. Werder EJ, Gam KG, **Engel LS**, Kwok RK, Ekenga CC, Curry MD, Chambers DM, Blair A, Miller A, Birnbaum LS, Sandler DP. Predictors of BTEX compounds measured in blood among Gulf coast residents.
2. \*Werder E, **Engel LS**, Satagopan J, Sima CS, Xu Y, Alavanja MC, Beane-Freeman L, Sandler DP. Herbicide, fungicide, and fumigant use and breast cancer risk among farmers' wives in the Agricultural Health Study.
3. Nethery RC, Sandler DP, Zhao S, **Engel LS**, Kwok RK. A Joint Spatial Factor Analysis Model to Accommodate Data from Misaligned Nested Areal Units with Application to Louisiana Social Vulnerability.
4. \*Beard JD, **Engel LS**, Richardson DB, Gammon MD, Baird C, Umbach DM, Allen KD, Stanwyck CL, Keller J, Sandler DP, Schmidt S, Kamel F. Military Service, Deployments, and Exposures in Relation to Amyotrophic Lateral Sclerosis Survival.
5. **Engel LS**, Van Den Eeden S, Satagopan J, Zabor E, Turner W, Needham LL, O'Brien T, Rothman N, Widell A, Grimsrud T. Polychlorinated biphenyl levels in peripheral blood and risk of primary liver cancer.
6. **Engel LS**, Zabor E, Grimsrud T, Turner W, Needham LL, Widell A, O'Brien T, Rothman N, Van Den Eeden S, Satagopan J. Serum levels of organochlorine pesticides and risk of primary liver cancer.
7. Van Den Eeden S, Quesenberry CP, Shan J, Widell A, Wild C, Gong Y, **Engel LS**. Aflatoxin-albumin adducts and risk of primary liver cancer.
8. Stewart P, Stenzel M, Blair A, Ramachandran G, Cherrie J, Gorman Ng M, Sleuwenhoek A, Banerjee S, **Engel LS**, Kwok RK, Sandler DP. Overview of the exposure assessment for oil-related chemical exposures among offshore workers participating in the GuLF STUDY.
9. \*Doherty B, Kwok RK, Miller A, Sandler DP, **Engel LS**. Associations between Blood BTEXS Concentrations and Hematologic Parameters among Adult Residents of the U.S. Gulf States.
10. \*Strelitz J, **Engel LS**, Kwok RK, Blair A, Miller A, Sandler DP. Oil spill clean-up work and cardiovascular disease in the GuLF STUDY.

11. \*Strelitz J, **Engel LS**, Kwok RK, Blair A, Miller A, Sandler DP. Ambient BTEX exposure and coronary heart disease in the GuLF STUDY.
12. \*Parada H, **Engel LS**, Miller A, Kwok RK, Blair A, Sandler DP. Oil spill clean-up exposures and risk of diabetes in the GuLF STUDY.
13. Kwok RK, Lowe SR, **Engel LS**, McGrath J, Payne J, Galea S, Sandler DP. Mental Health Effects Associated with the 2010 Deepwater Horizon Oil-Spill Cleanup Response.
14. \*Huiber K, **Engel LS**, Richardson D, Thomas N, Gammon M, Wolff MS, Langseth H, Grimsrud TK, Barr DB, Vermeulen R, Portengen L, Rothman N, Blair A. Prediagnostic serum concentrations of organochlorine compounds and risk of melanoma.
15. \*Huiber K, **Engel LS**, Richardson D, Thomas N, Gammon M, Wolff MS, Turner W, Van Den Eeden S. Predictors of baseline serum concentrations and longitudinal changes in concentration of organochlorines in a general population cohort.
16. Alexander MS, **Engel LS**, Schwartz E, Wang L, Rusiecki JA. Sleep deprivation and health effects among United States Coast Guard first responders in the Deepwater Horizon oil spill.
17. Bassig BA, **Engel LS**, Langseth H, Grimsrud TK, Cantor KP, Vermeulen R, Purdue MP, Barr DB, Wong JYY, Seow WJ, Blair A, Rothman N, Lan Q. Pre-diagnostic Serum Concentrations of Organochlorines and Risk of Myeloid Leukemia: a Nested Case-control Study in the Norwegian Janus Serum Bank Cohort

### Editorials, Letters, And Other Publications

1. Savitz DA, **Engel LS**. Lessons for study of the health effects of oil spills. *Ann Intern Med* 2010;153(8):540-1.
2. Kamel F, Gladen BC, Hoppin JA, Sandler DP, **Engel LS**, Alavanja MCR. Pesticides and neurologic symptoms: Kamel et al. respond. *Environmental Health Perspectives* 2005;113(12):A800+.

### Presentations

- |      |   |
|------|---|
| 2016 | Invited speaker, "The GuLF STUDY and the State of Disaster Research Response", UNC Center for Environmental Health and Susceptibility Stakeholder Advisory Board meeting, Chapel Hill, NC   |
| 2016 | Invited speaker, "The GuLF STUDY: Preliminary Observations in a Study of Health Effects among Oil Spill Clean-up Workers", UNC Institute for the Environment, Chapel Hill, NC   |
| 2014 | Invited speaker, "The GuLF STUDY: Design, Challenges, and Preliminary Observations in a Study of Health Effects among Oil Spill Clean-up Workers", NC State University College of Veterinary Medicine Population Medicine seminar series, Raleigh, NC |

- 2012 Invited speaker/panel member, “Challenges and Lessons Learned in the Study of Deepwater Horizon Oil Spill Clean-up Workers (GuLF STUDY)”, International Society for Biological and Environmental Repositories, Vancouver, Canada
- 2011 “Capitalizing on available monitoring data to inform exposure assessment in the GuLF STUDY” International Society for Environmental Epidemiology Annual Meeting, Barcelona, Spain
- 2010 Invited speaker, “Pesticides, persistent organic pollutants, and cancer” University of North Carolina, Chapel Hill, NC
- 2009 “Sun exposure, vitamin D receptor polymorphisms, and breast cancer risk” American Association for Cancer Research Annual Meeting, Denver, CO
- 2009 Invited speaker, “Environmental and occupational risk factors for cancer” City College of New York/Memorial Sloan-Kettering Partnership, New York, NY
- 2009 “Organochlorines and cancer: recent findings and possible mechanisms.” International Society for Environmental Epidemiology Annual Meeting, Dublin, Ireland
- 2008 “DNA repair polymorphisms, environmental exposures, and soft tissue sarcoma: A pilot study.” American Association for Cancer Research Annual Meeting, San Diego, CA
- 2008 Invited speaker, “Environmental and occupational risk factors for cancer” City College of New York/Memorial Sloan-Kettering Partnership, New York, NY
- 2008 “Serum concentrations of organochlorines and risk of malignant melanoma: results of a prospective analysis.” International Society for Environmental Epidemiology Annual Meeting, Pasadena, CA
- 2006 “PCBs and non-Hodgkin’s lymphoma: a report from three cohorts.” American Association for Cancer Research Annual Meeting, Washington, DC
- 2006 “PCBs and non-Hodgkin’s lymphoma: a report from three cohorts.” International Society for Environmental Epidemiology Annual Meeting, Paris, France
- 2005 “A nested case-control study of prediagnostic serum PCB congener concentrations and risk of non-Hodgkin’s lymphoma” American Association for Cancer Research Annual Meeting, Anaheim, CA
- 2004 “Pesticide use and breast cancer risk among farmers’ wives in the Agricultural Health Study” Society for Epidemiologic Research Annual Meeting, Salt Lake City, UT
- 2002 Invited speaker, “Pesticides and cancer” University of Washington Northwest Center for Occupational Health and Safety, Seattle, WA

- 2002 Invited speaker, “Pooled analysis and meta-analysis of GSTM1 and bladder cancer” University of North Carolina Department of Epidemiology, Chapel Hill, NC
- 2002 “Occupation and risk of esophageal and gastric cardia adenocarcinoma” International Society for Environmental Epidemiology Annual Meeting, Vancouver, British Columbia
- 2001 “Meta-analysis of the GSTM1 null genotype and risk of bladder cancer” American Association for Cancer Research Annual Meeting, New Orleans, LA
- 2001 Invited speaker, “Questionnaires and work history assessment” 10th Annual Western Migrant Stream Forum, Portland, OR
- 2000 Invited speaker, “Use of an icon/calendar-based questionnaire to assess occupational history” National Advisory Council on Migrant Health Meeting, Washington, DC
- 2000 “Validity study of self-reported pesticide exposure among orchardists” Society for Epidemiologic Research Annual Meeting, Seattle, WA
- 1998 “Comparison of a traditional questionnaire with an icon/calendar-based questionnaire to assess occupational history” Society for Epidemiologic Research Annual Meeting, Chicago, IL
- 1998 “Test-retest reliability of an icon/calendar-based questionnaire used to assess occupational history” 4th International Symposium: Rural Health and Safety in a Changing World, Saskatoon, Saskatchewan, Canada
- 1998 Invited speaker, “Comparison of a traditional questionnaire with an icon/calendar-based questionnaire to assess occupational history” 10th Annual UBC-UW Occupational and Environmental Health Conference, Blaine, WA
- 1996 “Neurophysiological function in farm workers exposed to organophosphate pesticides” American Public Health Association Annual Meeting, New York, NY
- 1995 “Maternal occupation in agriculture and risk of adverse birth outcomes in Washington State” Society for Epidemiologic Research Annual Meeting, Snowbird, UT

## Teaching Activities

### **Course Responsibilities – University of North Carolina at Chapel Hill**

2012-present Instructor, Environmental Epidemiology (EPID 785), School of Public Health, Spring; 8-12 students per semester

### **Lectures – University of North Carolina at Chapel Hill**

2017 “Biospecimen Collection in the GuLF STUDY”, EPID 742 (Biomarkers In Population-Based Research)

- 2016 “Pesticide exposure and end-stage renal disease risk”, ENVR 601 (Epidemiology for Environmental Scientists and Engineers)
- 2015 “Biomarkers in the GuLF STUDY: Challenges and Opportunities in a Study of the Health Effects of the BP Oil Spill / Deepwater Horizon Disaster”, EPID 742 (Biomarkers In Population-Based Research)
- 2013 “Pesticides, Neurological Outcomes, and Gene-Environment Interactions”, ENVR 630 (Systems Biology in Environmental Health)
- 2012 “Biospecimen Collection in the GuLF STUDY”, EPID 690 (Problems in Epidemiology: Integrating Biomarkers in Population-Based Research)
- 2012 “The GuLF STUDY: Challenges and Opportunities in Investigating the Human Health Effects of the Deepwater Horizon Disaster”, ENVR 890 (Problems in Environmental Sciences and Engineering)

**Course Responsibilities – Other**

- 2014 Instructor, Environmental Epidemiology, Internationaler Kurs der Epidemiologie, Summer Course, five 3 hour sessions, Universität Ulm, Ulm, Germany
- 2008-2010 Lecturer, Advanced Epidemiology: Case-Control Study Design, New York University School of Medicine
- 2004-2009 Lecturer, Community and Population-Based Epidemiology, Memorial Sloan-Kettering Cancer Center
- 1998 Lecturer, Epidemiologic Methods, Universidad Nacional, Heredia, Costa Rica
- 1996 Teaching Assistant, Introduction to Epidemiology, University of Washington
- 1994-1996 Co-Instructor, Introduction to Research Methods, Northwest Institute of Acupuncture and Oriental Medicine, Seattle, WA

**Mentoring*****Postdoctoral/Junior Faculty***

- 2005-2006 Joan Fortuny, MD, PhD; Post-Doctoral Research Fellowship at MSKCC.

***Predoxal Student Dissertation/Thesis Committee Chair***

- 2016-present Geira Jones, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology.
- 2016-present Joyce Rhoden, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology.
- 2016-present Giehae Choi, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology.

- 2016-present Kenny Chen Da Zhe, BS; University of North Carolina at Chapel Hill, School of Public Health, MSPH student, Department of Epidemiology.
- 2013-present Jean Strelitz, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology.
- 2013-present Emily Werder, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Spatial analysis of BTEX compounds and neurological symptoms in the GuLF Study.
- 2012-2014 Jill Lebov, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Pesticide exposures and risk of end stage renal disease. Graduated 6/2014.
- 2012-2015 John Beard, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Military exposures and risk of amyotrophic lateral sclerosis (ALS). Graduated 6/2015.
- 2011-present Kirstin Huiber, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Serum concentrations of organochlorines and risk of melanoma in a prospective cohort.
- 2011-2013 Jean Strelitz, BS; University of North Carolina at Chapel Hill, School of Public Health, MSPH student, Department of Epidemiology. Interaction between paraoxonase-1 activity level and organophosphate/carbamate exposure in relation to butyl cholinesterase depression.
- 2011-2012 Damon Ogburn, BS; University of North Carolina at Chapel Hill, School of Public Health, MSPH student, Department of Epidemiology. Risk factors for hepatitis B and C in a prospective cohort from the 1960s.

***Predoctoral Student Dissertation/Thesis Committee Member***

- 2016-present Cynthia Lin, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Potential drinking water contamination events and human health: impact of harmful algae and main breaks
- 2015-present Kathleen McClain, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Polyunsaturated fatty acids and the Barrett's esophagus-adenocarcinoma continuum.
- 2014-2017 Nan Li, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Sugar/Carbohydrate intake and the Barrett's esophagus-adenocarcinoma continuum.

- 2014-2015 Alexandra White, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Patterns of long-term PAH exposure, DNA methylation and breast cancer risk. Graduated 8/2015.
- 2014-2016 Melissa Furlong, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Prenatal exposure to organophosphate pesticides and other xenobiotics and neurodevelopmental patterns in childhood.
- 2013-2016 Kyla Taylor, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Personal care products and breast cancer in the NIEHS Sister Study.
- 2012-2016 Humberto Parada, MPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Smoking and diet-related exposure to polycyclic aromatic hydrocarbons (PAHs) and survival following breast cancer.
- 2012-2013 Katie O'Brien, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. A Bayesian approach to the replication of breast cancer susceptibility loci in whites and African-Americans. Graduated 4/2013.
- 2012-2013 Irina Mordukhovich, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Vehicular traffic exposure to polycyclic aromatic hydrocarbons and breast cancer risk. Graduated 10/2013.
- 2011-2014 Jessica Petrick, MSPH; University of North Carolina at Chapel Hill, School of Public Health, PhD student, Department of Epidemiology. Intake of dietary flavonoids, Barrett's Esophagus incidence, and esophageal and gastric cancer incidence and survival. Graduated 3/2014.

***Other Predoctoral Mentoring***

2002 Caroline Hoffman, BS; Pre-Doctoral Internship at NCI

**Contracts & Grants*****Current***

- R01 ES020874 (Multiple-PI: L. Engel, J. Rusiecki) 3/1/2012 – 02/28/2018  
NIH/NIEHS \$158,213 (Total subcontract directs)

Health Effects of the Deepwater Horizon Disaster: the Coast Guard Responder Cohort

The goal of this study is to investigate potential short- and long-term health effects from oil spill clean-up work exposures among the approximately 7,000 Coast Guard personnel who were deployed to the Gulf of Mexico in response to the Deepwater Horizon disaster.

- IPA (PI: D. Sandler, Co-PI: L. Engel) 7/1/2010 – 4/30/2018  
NIH/NIEHS \$53,550

Prospective Cohort Study of Long-Term Health Effects of Exposures among Gulf of Mexico Oil Spill Clean-up Workers

The purpose of this NIH-sponsored study is to investigate the short-, medium-, and long-term health effects of spill-related exposures among workers involved in the clean-up of the Deepwater Horizon oil spill in the Gulf of Mexico. We enrolled almost 33,000 workers and are administering questionnaires, collecting biospecimens, and performing clinical tests at baseline and at regular intervals during long-term follow-up.

**Completed**

- R01 CA140754 (PI: C. Johnson, Consultant: L. Engel) 4/1/2010 - 3/31/2015  
NIH/NCI \$37,350 (Total)

Statins & Lymphoid Malignancy Risk in a Large Multi-Site Population-Based Cohort

- R01 CA137420 (PI: J. Satagopan, Co-Investigator: L. Engel) 7/1/2009 - 4/30/2014  
NIH/NCI \$800,000 (Total directs)

Study of Exposures, Behaviors, and Biomarkers in Cancer Epidemiology

- CSTI571BUS249 (PI: L. Engel) 5/1/2007 - 7/31/2013  
Novartis Pharmaceuticals Corporation \$164,394 (Total directs)

Genetic Risk Factors for Gastrointestinal Stromal Tumors (GIST)

- R03 CA137824 (PI: L. Engel) 7/1/2009 - 6/30/2013  
NIH/NCI \$100,000 (Total directs)

Pesticide Use & Breast Cancer Risk in Large Cohort of Female Agriculture Workers

- R01 ES014662 (PI: L. Engel) 8/1/2007 - 4/30/2012  
NIH/NIEHS \$1,370,625 (Total directs)

Serum Organochlorine Levels and Primary Liver Cancer: A Nested Case-Control Study

- RSG-06-016-01 (PI: L. Engel) 1/1/2006 - 12/31/2008  
American Cancer Society \$188,361 (Total directs)

Sunlight, Exertion, VDR Gene, and the Risk of Breast Cancer

- R03 CA115211 (PI: L. Engel) 9/30/2005 - 8/31/2007  
NIH/NCI \$100,000 (Total directs)

\*Sunlight, Exertion, VDR Gene, and Risk of Breast Cancer



*\*This award was formally declined in December of 2005. The study was instead supported by an American Cancer Society award.*

- MSKCC Society Pilot Award (PI: L. Engel) 10/1/2003 - 12/31/2007  
MSKCC \$45,000 (Total directs)

Pilot Study of Soft Tissue Sarcoma in Relation to Serum Levels of Dioxins and Other Organochlorines

## Service To The University

### ***Intramural Committees/Programs – University of North Carolina***

2011- present Member, Admissions Committee, Department of Epidemiology  
2011-present Member, Population Sciences Pilot Project Review Committee,  
Lineberger Comprehensive Cancer Center  
2015-2016 Member, Faculty Search Committee, Department of Epidemiology  
2017-present Member, Curriculum Committee, Department of Epidemiology

### ***Intramural Committees/Programs – Memorial Sloan-Kettering Cancer Center***

2008-2011 Chair, MSKCC Epidemiology Service meetings and Journal Club,  
Department of Epidemiology and Biostatistics

### ***Intramural Committees/Programs – National Cancer Institute DCEG***

2001-2002 Member, NCI Division of Cancer Epidemiology and Genetics Committee  
of Scientists

## Service To The Profession

### ***Extramural Grant Reviews***

2012 Temporary Member, Special Emphasis Panel/Scientific Review Group  
2013/01 ZRG1 PSE-Q (02) M, October 31, 2012, Videoconference  
2010 Temporary Member, Special Emphasis Panel/Scientific Review Group  
2010/10 ZRG1 PSE-B (02) M, May 19, 2010, Dulles, VA  
2009 Temporary Member, Special Emphasis Panel/Scientific Review Group  
2009/10 ZCA1 SRLB-D (01) R, June 18-19, 2009, Bethesda, MD

### ***Extramural Committees***

2016-present Member, External Advisory Board of the Center for Translational  
Environmental Health Research, Texas A&M University, Texas A&M  
Health Science Center, Baylor College of Medicine, and University of  
Houston  
2011-present Member, Editorial Board of *Frontiers in Cancer Epidemiology and  
Prevention*

### ***Other Extramural Committees***

2012 Member, Review Committee, EPA Review on Epidemiological Studies of  
Health Impacts Associated with Surface Coal Mining Operations in  
Appalachia

2010-2011          Poster Committee, 2011 North American Congress of Epidemiology,  
Montreal, Canada

***Extramural Faculty Evaluations***

Fred Hutchinson Cancer Research Center  
Harvard University

***Manuscript Reviews***

American Journal of Epidemiology  
American Journal of Industrial Medicine  
Biomarkers  
Blood  
Cancer  
Cancer Causes and Control  
Cancer Epidemiology, Biomarkers, and Prevention  
Cancer Genetics and Cytogenetics  
Cancer Research  
Environmental Health Perspectives  
Environment International  
Epidemiology  
JAMA  
Journal of Health Care for the Poor and Underserved  
Lung Cancer  
National Institute of Occupational Safety and Health external review  
New England Journal of Medicine  
Occupational and Environmental Medicine  
PLOS ONE