CURRICULUM VITAE
Jon Wakefield
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Biographical Information

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Education

- University of Nottingham, Nottingham, UK, Ph.D., 1992
- University of Nottingham, Nottingham, UK, B.Sc. (Honors), Mathematics with Statistics, 1985

Positions

- Adjunct Professor, Department of Health Metrics Sciences
- Acting Chair, Department of Statistics, University of Washington, September 2014-December 2015
- Chair, Department of Statistics, University of Washington, June 2010-August 2011
- Acting Chair, Department of Statistics, University of Washington, November 2009-June 2010
- Professor, Departments of Statistics and Biostatistics, University of Washington, Seattle, Washington, 2002-present
- Associate Professor, Departments of Statistics and Biostatistics, University of Washington, Seattle, Washington, 1999-2002
- Appointed Reader, Department of Epidemiology and Public Health, Imperial College of Science, Technology and Medicine, St. Mary's Campus, London, June-September 1999
- Senior Lecturer in Statistics, Department of Epidemiology and Public Health, Imperial College of Science, Technology and Medicine, St Mary's Campus, London, April 1996-1999 (while in the Department I supervised the statistics section of the Small Area Health Statistics Unit).
- Appointed Senior Lecturer in Mathematics Department, Imperial College of Science, Technology, and Medicine, University of London, 1996
- Lecturer in Mathematics Department, Imperial College of Science, Technology, and Medicine, University of London, 1990-1995
- Temporary Lecturer, Department of Mathematics, Nottingham University, 1989-1990
- Research Assistant, Department of Mathematics, Nottingham University, funded by the Home Office. Project title: A User-friendly Bayesian Analysis System for Forensic Science Evidence" 1986-88.
- Research Assistant, Department of Mathematics, University of Nottingham, funded by SERC. Project title: Numerical Integration Methods and Uses of Computer Graphics in Bayesian Statistics.1985-1986

Affiliate Positions

- Member of the Technical Advisory Group of the UN Inter-agency Group for Child Mortality Estimation (IGME).
- Training Director and Research Affiliate, Center for Studies in Demography and Ecology (CSDE).
- Affiliate Member in the Vaccine and Infectious Disease Division at the Fred Hutchinson Cancer Research Center.
- Research Affiliate with the Center for Statistics and the Social Sciences (CSSS). Member of the Statistical Genetics Program Faculty

Honors and Awards

- Fellow of the American Statistical Association, 2007
- The Guy Medal in Bronze, The Royal Statistical Society, 2000

Professional Activities Outside of UW

- National Academies of Science committee on Cancer Risk Pilot Planning: 2013-2014.
- National Academies of Science committee, “Panel on Methods for Integrating Multiple Data Sources to Improve Crop Estimates", 2015- 2017.
- Formerly: Associate Editor: Statistical Science, Biometrics, Journal of the American Statistical Association, Genetics, Applied Statistics, Biostatistics. Moderator: arXiv.

Publications

Published Papers

2020

1. Wilson, K. and Wakefield, J. (2020). Child mortality estimation incorporating summary birth history. To appear *Biometrics*.
2. Godwin, J. and Wakefield, J. (2020). Space-time modeling of child mortality at the admin-2 level in a low and middle income countries context. Under revision *Statistics in Medicine*.
3. Paige, J., Fuglstad, G.-A., Riebler, A. and Wakefield, J. (2020). Design- and model-based approaches to small-area estimation in a low and middle income country context: comparisons and recommendations. To appear *Journal of Survey Statistics and Methodology*.
4. Firth,C., Carlini, B., Dilley, J., Wakefield, J., Hajat, A. (2020). What about equity? Neighborhood deprivation and cannabis retailers in Portland, Oregon. To appear *Cannabis*.
5. Fisher, L. and Wakefield, J. (2020). Ecological inference for infectious disease data, with application to vaccination strategies. *Statistics in Medicine*, 39, 220-238.
6. Wilson, K. and Wakefield, J. (2018). Pointless spatial modeling. To appear *Biostatistics*.
7. Liang, P., Mayer, J., Wakefield, J., Chau, T.-S., Kwon, S., Scott, S., Ko, C. (2020). Trends in Sociodemographic Disparities in Colorectal Cancer Staging and Survival: A SEER–Medicare Analysis. Published: January 22, 2020. *Clinical and Translational Gastronenterology*, 11, e00155.

2019

8. Burstein, R., Henry, N.,…, Wakefield,J.,…,Hay, S.I. (2019). Mapping 123 million neonatal, infant and child deaths between 2000 and 2017. Nature. 574, 353-358.
9. Li, Z., Hsiao, Y., Godwin, J., Martin, B., Wakefield, J. and Clark, S. (2019). Changes in the spatial distribution of the under-five mortality rate: small-area analysis of 122 DHS surveys in 262 subregions of 35 countries in Africa. PLoS One. Published January 22, 2019.
10. Wakefield, J., Fuglstad, G.-A., Riebler, A., Godwin, J., Wilson, K. and Clark, S.J. (2018). Estimating under five mortality in space and time in a developing world context. Statistical Methods in Medical Research. Published online, May, 2018.

2018

11. Tarr, G.A.M., Shringi S., Phipps A., Besser T.E., Mayer J., Oltean H.N., Wakefield J., Tarr, P.I. and Rabinowitz P. (2018). Importance of case age in the purported association between phylogenetics and hemolytic uremic syndrome in escherichia coli O157:H7 infections. epidemiology and infection, Published online 19th June, 2018.
12. Cohen-Cline, H., Beresford, SAA, Barrington, W., Matsueda,R., Wakefield, J. and Duncan, G.E. Associations between neighborhood characteristics and depression: a twin study. Journal of Epidemiology and Community Health, 72, 202-207.
13. Bauer, C. and Wakefield, J. (2018). Stratified space-time infectious disease modeling: with an application to hand, foot and mouth disease in China. Journal of the Royal Statistical Society, Series A, Early online May 4.
14. Tarr GAM, Shringi S, Phipps AI, Besser TE, Mayer J, Oltean HN, Wakefield J, Tarr PI, Rabinowitz P. (2018). Geogenomic Segregation and Temporal Trends of Human Pathogenic Escherichia coli O157:H7, Washington, USA, 2005-2014. Emerging Infectious Diseases, 24, 32-39.
15. Cohen-Cline H, Beresford SA, Barrington W, Matsueda R, Wakefield J, Duncan GE (2018). Associations between social capital and depression: A study of adult twins. Health and Place, 50, 162-167.
16. S. J. Clark, J. Wakefield, T. McCormick, M. Ross (2018). Hyak mortality monitoring system: innovative sampling and estimation methods – proof of concept by simulation. Global Health, Epidemiology and Genomics, 3, 1-14.

2017

17. Skinner, C. and Wakefield, J. (2017). Introduction to the design and analysis of complex survey design. *Statistical Science,* 32, 165-175.
18. McCoy, R.C, Wakefield, J. and Akey, J.M. (2017). Impacts of Neanderthal-Introgressed Sequences on the Landscape of Human Gene Expression. *Cell*, 168, 916-927.
19. Fintzi, J., Wakefield, J. and Minin, V. (2016). Efficient Data Augmentation for Fitting Stochastic Epidemic Models to Prevalence Data. *Journal of Statistical Computing*, 26, 918-929.
20. Psoter KJ, DeRoos AJ, Wakefield J, Mayer J, Rosenfeld M. (2017). Air pollution exposure is associated with MRSA acquisition in young U.S. children with cystic fibrosis. BMC Pulm Med., 17, 106.
21. Psoter KJ, DeRoos AJ, Wakefield J, Mayer J, Rosenfeld M. (2017). Seasonality of acquisition of respiratory bacterial pathogens in young children with cystic fibrosis. BMC Infect Dis., 17, 411.

2016

22. Wakefield, J., Simpson, D. and Godwin, J. (2016). ``Comment: Getting into Space with a Weight Problem". Discussion of, ``Model-based Geostatistics for Prevalence Mapping in Low-Resource Settings", by P.J. Diggle and E. Giorgi. *Journal of the American Statistical Association*, 111, 1111-1119.
23. Fisher, L., Wakefield, J., Bauer, C. and Self, S. (2016). Time Series Modeling of Pathogen-Specific Disease Probabilities with Incomplete Data. *Biometrics,* 73, 283-293.
24. Smith, T.R. and Wakefield, J. (2016). A review and comparison of age-period-cohort models for cancer incidence. *Statistical Science*. 31, 591-610.
25. Koepke, A.A., Longini, I.M., Halloran, M.E., Wakefield. J. and Minin, V.N. (2015). Predictive modeling of cholera outbreaks in Bangladesh. *The Annals of Applied Statistics*. 10, 575-592.
26. Liang, P.S., Mayer, J.D., Wakefield, J. and C.W., Ko (2016). Temporal Trends in Geographic and Sociodemographic Disparities in Colorectal Cancer, 1973-2010. *The Journal of Rural Health*. 33, 361-370.
27. Vernot, B., Tucci, S., Kelso, J., Schraiber, J., Wolf, A.B, Gittelman, R.M., Dannemann, M., Grote, S., McCoy, R.C., Norton, H., Scheinfeldt, L.B., Merriwether, D.A., Koki, G., Friedlaender, J.S., Wakefield, J., Paabo, S. and Akey, J.M. (2016). Excavating Neandertal and Denisovan DNA from the genomes of Melanesian individuals. Science*,* May 17, 2016.
28. Psoter KJ, DeRoos AJ, Mayer J, Wakefield J, Bryan M, Rosenfeld M. (2016). Association of environmental factors and risk of initial *Pseudomonas aeruginosa* acquisition in young children with cystic fibrosis. Epidemiol Infect., 144, 1075-83.
29. Kim, A. and Wakefield, J. (2016). Bayesian Method for Cluster Detection with Application to Five Cancer Sites in Puget Sound. Epidemiology, 27, 347-55.
30. Song, L., Mercer, L., Wakefield, J., Laurent, A. and Solet, D. (2016). Using Small-Area Estimation to Calculate the Prevalence of smoking by subcounty geographic areas in King County, Washington, Behavioral Risk Factor Surveillance System, 2009-2013. To appear in Preventing Chronic Disease: Public Health Research, Practice and Policy*.*
31. Mercer, L., Wakefield, J., Pantazis, A., Lutambi, A., Masanja, H. and Clark, S. (2016). Small Area Estimation of Child Mortality in the Absence of Vital Registration. Annals of Applied Statistics, 9, 1889-1905*.*

2015

32. Akullian, A., Ng'eno, E., Matheson, A.I., Macharia, D., Leonard, C., Bigogo, G., Stewart, G., Walson, J., Wakefield, J. and Montgomery, J.M. (2015). Environmental transmission of typhoid fever in an urban slum. PLoS Neglected Tropical Diseases*.*
33. Schaafsma, T., Wakefield, J., Hanisch, R., Bray, F., Schuz, J., Joy, E.J.M., Watts, M.J. and McCormack, V. (2015). Micronutrient intake and the African esphagael cancer belt - ecological insights. PLoS ONE, e0140107.
34. Psoter, K.J., De Roos, A.J., Wakefield, J., Mayer, J.Di., Bryan, M., Rosenfeld, M. (2015). Association of meteorologic and geographic factors and risk of initial Pseudomonas aeruginosa acquisition in young children with cystic fibrosis*.* Epidemiology and Infection. Epub October 9
35. Psoter KJ, DeRoos AJ, Kaufman JD, Mayer JD, Wakefield J, Rosenfeld M. (2015). Fine particulate matter exposure and initial *Pseudomonas aeruginosa* acquisition in cystic fibrosis. Ann Am Thorac Soc., 12, 385-91.

36. Ross, M.E. and Wakefield, J. (2015). Bayesian hierarchical models for smoothing in two-phase studies, with application to small area estimation. Journal of the Royal Statistical Society, Series A. 178, 1009-1023.
37. Smith, T., Wakefield, J. and Dobra, A. (2015). Restricted covariance priors with application in spatial statistics. Bayesian Analysis, 10, 965-990.
38. Chen, C., Wakefield, J., Self, S. and Rue, H. (2016). Bayesian Penalized Spline Models for the Analysis of Spatio-Temporal Count Data. Statistics in Medicine. 35, 1848-1865.

2014

39. Andrie, J.M., Wakefield, J. and Akey, J.M. (2014). Heritable variation of mRNA decay rates in yeast. Genome Research, 24, 2000-2010.
40. Chen, C., Wakefield, J. and Lumley, T. (2014). The use of sampling weights in Bayesian hierarchical models for small area estimation. Spatial and Spatio-temporal Epidemiology, 11, 33-43.
41. Akullian, A, Kohler, P., Kinuthia, J., Laserson, K., Mills, L.A., Okanda, J., Olilo, G., Ombok, M., Odhiambo, F., Rao, D., Wakefield, J. and John-Stewart, G. (2014). Geographic distribution of HIV stigma among women of childbearing age in rural Kenya. AIDS, 28, 1665-1672.
42. Mercer, L., Wakefield, J., Chen, C. and Lumley, T. (2014). A Comparison of spatial smoothing weighting methods for small area estimation. Spatial Statistics, 8, 69-85.
43. Connelly, C.F., Wakefield, J. and Akey, J.M. (2014). Evolution and genetic architecture of chromatin accessibility and function in yeast. PLoS Genetics, Published July 3, 2014, e1004427.
44. Psoter, K, Rosenfeld, M., DeRoos, A.J., Mayer, J.D. and Wakefield, J. (2014). Differential geographical risk of initial Pseudomonas aeruginosa acquisition in young U.S. children with cystic fibrosis. American Journal of Epidemiology, 179, 1503-1513.
45. Wakefield, J.C., Skrivankova, V., Hsu, F.-C., Sale, M. and Heagerty, P. (2014). Detecting signals in pharmacogenomic studies. The Pharmacogenomics Journal, 14, 309-315.
46. Glynn, A. and Wakefield, J. (2014). Alleviating ecological bias in Poisson models using optimal subsampling: The effects of Jim Crow on black illiteracy in the Robinson data". Sociological Methodology, 44, 159-184.

2013

47. Skelly, et al (2013). Integrative phemomics reveals insight into the structure of phenotypic diversity in budding yeast. Genome Research, 23, 1496-1504.
48. Psoter, K.J., de Roos, A.J, Wakefield, J., Mayer, J.D. and Rosenfeld, M. (2013). Season is associated with Pseudomonas aeruginosa acquisition in young children with cystic fibrosis. Clinical Microbiology and Infection, 19, E483-E489.
49. Zheng, Z., Shen, J., Cox, C., Wakefield, J.C., Ehm, M.G., Nelson, M.R. and Weir, B.S. (2013). HIBAG - HLA genotype imputation with attribute bagging. The Pharmacogenomics Journal, 14, 192-200.
50. Shaddick G., Lee D. and Wakefield J. (2013). Ecological bias in studies of the short-term effects of air pollution on health. International Journal of Applied Earth Observation and Geoinformation, 22, 65-74.
51. Wakefield, J. and Kim, A. (2013). A Bayesian model for cluster detection. *Biostatistics,* 14, 752-765.

52. Hoff, P. and Wakefield, J. (2013). A Bayesian sandwich estimator (as a discussion of Stephen Walker's "Bayesian inference with misspecified models"). Journal of Statistical Planning and Inference, 143, 1638-1642.
53. Ross, M.E. and Wakefield, J.C. (2013). Bayesian inference for two-phase studies with categorical covariates. Biometrics, 69, 469-477.
54. Islami, F.,...,Wakefield, J. ... (2013). Smoking water-pipe, chewing nass, and prevalence of heart disease -- A cross-sectional analysis of baseline data from the Golestan cohort study, Iran. Heart , 99, 272278.

2012

55. Wakefield, J. (2012). Genome-wide significance thresholds via Bayes factors. International Journal of Epidemiology, 41, 286-291.
56. Fong, Y., Wakefield, J., De Rosa, S. and Frahm, N. (2012). A robust Bayesian random effects model for nonlinear calibration problems. Biometrics, 68, 1103-1112.
57. Johansson, M.,...,Wakefield, J. and Mckay, J.D. (2012). Using prior information from the medical literature in GWAS of oral cancer identifies novel susceptibility variant on chromosome 4 - the AdAPT method. PLoS ONE, 7, e36888.
58. De Vocht, F, and Cherry, N. and Wakefield, J. (2012). A Bayesian mixture modeling approach for assessing the effects of correlated exposures in case-control studies. Journal of Exposure Science and Environmental Epidemiology, 22, 352-360.
59. Fong, Y., Wakefield, J. and Rice, K. (2012). An efficient Markov chain Monte Carlo method for mixture models by neighborhood pruning. Journal of Computational and Graphical Statistics, 21, 197-216.

2011

60. Skelly, D.A., Johansson, M., Madeoy, J., Wakefield, J. and Akey, J.M. (2012). A powerful and flexible statistical framework for testing hypotheses of allele-specific gene expression from RNA-Seq data. Genome Research. Published online August 26, 2011.
61. Wang, Y., Feng, Z., Yang, Y., Self, S., Gao, Y., Longini, I.M., Wakefield, J., Zhang, J., Wang, L., Chen, C., Yao, L., Stanaway, J.D., Wang, Z. and Yang, W. (2012). Hand, foot and mouth disease in China: patterns of spread and transmissibility during 2008-2009. Epidemiology, 22, 781-792.
62. Wakefield, J., Haneuse, S., Dobra, A. and Teeple, E. (2011). Bayes computation for ecological inference. Statistics in Medicine, 30, 1381-1396

2010

63. Ross, M.E., Wakefield, J., Davis, S. and De Roos, A.J (2010). Spatial clustering of myelodysplastic syndromes (MDS) in the Seattle-Puget sound region of Washington State. Cancer Causes Control, 21, 829-838.
64. Wakefield, J. (2010). Bayesian methods for examining Hardy-Weinberg equilibrium. Biometrics, 66, 257-265.
65. Glynn, A. and Wakefield (2010). Ecological inference in the social sciences. Statistical Methodology, 7, 307-322.
66. Fong, Y., Rue, H. and Wakefield, J. (2010). Bayesian inference for generalized linear mixed models. Biostatistics, 11, 397-412.
67. Fong, Y., Wakefield, J, and Rice, K. (2010). Bayesian mixture modeling using a hybrid sampler with application to protein subfamily identification. Biostatistics, 11, 18-33.
68. Wakefield, J., de Vocht, F. and Hung, R.J. (2010). Bayesian mixture modeling of gene-environment and gene-gene interactions. Genetic Epidemiology, 34, 16-25.

2009

69. Islami, F., Malekshah, A.F., Kimiagar, M., Pourshams, A., Wakefield, J., et al. (2009). Patterns of food and nutrient consumption in Northern Iran, a high-risk area for esophageal cancer, Nutrition and Cancer, 61, 475-483.
70. Wakefield, J. (2009). Multi-level modelling, the ecologic fallacy, and hybrid study designs. International Journal of Epidemiology, 38, 330-336.
71. Islami, F., Kamangar, F., Nasrollahzadeh, D., Aghcheli, K., Sotoudeh, M., Abedi-Ardekani, B., Merat, S., Nasseri-Moghaddam, S., Semnani, S., Sepehr, A., Wakefield, J., et al. (2009). Socio-economic status and oesophageal cancer: results from a population-based case-control study in a high-risk area. International Journal of Epidemiology, 38, 978-988.
72. Wakefield, J. (2009). Bayes factors for genome-wide association studies: comparison with p-values. Genetic Epidemiology, 33, 79-86.

2008

73. Salway, R.E. and Wakefield, J. (2008). Gamma generalized linear models for pharmacokinetic data Biometrics 64, 620-626.
74. Wakefield, J. (2008). Ecologic studies revisited. Annual Review of Public Health 29, 75-90
75. Wakefield, J. (2008). Reporting and interpretation in genome-wide association studies. International Journal of Epidemiology, 37, 641-653.
76. Haneuse, S. and Wakefield, J (2008). Overcoming ecological bias using the two-phase study design. American Journal of Epidemiology, 167, 908-916.
77. McKay, J.D., Hashibe, M., Hung, R.J., Wakefield, J., Gaborieau, V., Szeszenia-Dabrowska, N.,Zaridze, D., Lissowska, J., Rudnai, P., Fabianova, E., Mates, D., Foretova, L., Janout, V.,Bencko, V., Chabrier, A., Hall, J., Boffetta, P., Canzian, F., Brennan, P.(2008). Sequence Variants of NAT1 and NAT2 and Other Xenometabolic Genes and Risk of Lung andAerodigestive Tract Cancers in Central Europe. Cancer Epidemiology and Biomarkers, 17, 141-147.
78. Haneuse, S. and Wakefield, J. (2008). The combination of ecological and case-control data. Journal of the Royal Statistical Society, Series B, 70, 73-93.
79. Glynn, A., Wakefield, J., Handcock, M. and Richardson, T.S. (2008). Alleviating linear ecological bias and optimal design with subsample data. Journal of the Royal Statistical Society, Series A, 171, 179-202.
80. Li, S., Self, S.G., and Wakefield, J. (2008). A Trans-dimensional Bayesian model for pattern recognition in DNA sequence. Biostatistics, 9, 668-685.
81. Haneuse, S., Sheppard, L., and Wakefield, J. (2008). The interpretation of exposure effect estimates in chronic air pollution studies. Statistics in Medicine.
82. Salway, R. and Wakefield, J. (2008). A hybrid model for reducing ecological bias. Biostatistics, 9, 1-17.
83. Haneuse, S., Self, S.G., and Wakefield J. (2008). Geographic-based ecological correlation studies using supplemental case-control data. Statistics in Medicine, 27, 864-887.

2007

84. Wakefield, J. (2007). A Bayesian measure of the probability of false discovery in genetic epidemiology studies. American Journal of Human Genetics, 81, 208-227.

85. Elliott, P., Shaddick, G., Wakefield, J., de Hoogh, C., and Briggs, D.J. (2007). Long-term associations of outdoor air pollution with morality in Great Britain. Thorax, 62, 1088-1094.
86. Wakefield, J. (2007). Ecologic studies revisited. Annual Review of Public Health, 29, 75-90.
87. Glynn, A., Handcock, M., Richardson, T.S., and Wakefield, J. (2007). Alleviating linear ecological bias and optimal design with subsample data. Journal of the Royal Statistical Society, Series A, 171, 179-202.
88. Haneuse, S. and Wakefield, J. (2007). Hierarchical models for combining ecological and case-control data. Biometrics, 63, 128-136.
89. Wakefield, J. (2007). Disease mapping and spatial regression with count data. Biostatistics, 8, 158-183.

2006

90. Shaddick, G. and Wakefield, J. (2006). Health-exposure modelling and the ecological fallacy. Biostatistics, 7, 438-455.
91. Hawkins, N., Self, S., and Wakefield, J (2006). The automated counting of spots for the ELISpot assay. Journal of Immunological Methods, 316, 52-58.
92. Wakefield, J. and Zhou, C. (2006). A Bayesian hierarchical mixture model for curve partitioning. Biometrics, 62, 515-526.
93. Gordian, M.E., Haneuse, S., and Wakefield, J. (2006). An investigation of the association between traffic exposure and the diagnosis of asthma. Journal of Exposure Science and Environmental Epidemiology, 16, 49-55.

2005

94. Best, N., Elliott, P., Fawell, J., Nieuwenhuijsen, M., Whitaker, H., and Wakefield, J. (2005). Modelling exposure to disinfection by-products in drinking water for an epidemiological study of adverse birth outcomes. Journal of Exposure Analysis and Environmental Epidemiology, 15, 138-146.
95. Dabney, A. and Wakefield, J.C. (2005). Issues in the mapping of two diseases. Statistical Methods in Medical Research, 14, 83-112.
96. Salway, R. and Wakefield, J.C. (2005). Sources of bias in ecological studies of non-rare events. Environmental and Ecological Statistics, 12, 321-347.

2004

97. Bottle, R.A. and Wakefield, J.C. (2004). Statistical issues in relation to the modeling of respiratory disease in relation to cokeworks. Statistics in Medicine, 23, 3139-3158.
98. Wakefield, J.C. (2004). Ecological inference for 2x2 tables (with discussion). Journal of the Royal Statistical Society, Series A, 167, 385-445.
99. Wakefield, J. (2004). A critique of statistical aspects of ecological studies in spatial epidemiology. Environmental and Ecological Statistics, 11, 31-54.

2003

100. Baker, A., Elliott, P., Henry, J., Hickman, M., Madden, P., Stimson, G., Wallace, C., and Wakefield, J. (2003). Trends in drug overdose deaths in England and Wales 1993-98: methadone does not kill more people than heroin. Addiction, 98, 41-425.
101. Wakefield, J. (2003). Sensitivity analyses for ecological regression. *Biometrics*, 59, 9-17.

2002

102. Guthrie, K.A., Sheppard, L., and Wakefield, J. (2002). A hierarchical aggregate data model with spatially correlated disease rates. Biometrics, 58, 898-905.
103. Kelsall, J.E. and Wakefield, J.C. (2002). Modeling spatial variation in disease risk: A geostatistical approach. Journal of the American Statistical Association, 97, 692-701.
104. Shaddick, G. and Wakefield, J. (2002). Modelling multivariate pollutant data at multiple sites. Applied Statistics, 51, 351-372.
105. Best, N., Lunn, D.J., Spiegelhalter, D., Thomas, A., and Wakefield, J. (2002). Bayesian analysis of population PK/PD models: General concepts and software. Journal of Pharmacokinetics and Pharmacodynamics, 29, 271-307.
106. Best, N., Elliott, P., Jarup, L., Toledano, M.B., and Wakefield, J. (2002). Geographical epidemiology of prostate cancer in Great Britain. International Journal of Epidemiology, 97, 695-699.
107. Briggs, D., de Hoogh, Elliott, P., C., Jarup, L., Hurt, C., Lewin, A., Maitland, I., Morris, S., and Richardson, S. (2002). Cancer risks in populations living near landfill sites in Great Britain, British Journal of Cancer, 86, 1732-1736.

2001

108. Lunn, D.J., Racine, A., and Wakefield, J.C. (2001). Cumulative logit models for ordinal data: a case study involving allergic rhinitis severity scores. Statistics in Medicine, 20, 2261-2285.
109. Briggs, D., de Hoogh, C., Elliott, P., Hurt, C., Jarup, L., Jensen, T., Maitland, I., Morris, S., Richardson, S., and Wakefield, J. (2001). Risk of adverse birth outcomes in populations living near landfill sites. British Medical Journal, 323, 363-368.
110. Bennett, J.E. and Wakefield, J.C. (2001). Errors-in-variables in joint population pharmacokinetic/ pharmacodynamic modeling. Biometrics, 57, 803-812.
111. Aylin, P., Bottle, A., Elliott, P., Jarup, L., and Wakefield. (2001). Proximity to coke works and hospital admissions for respiratory and cardiovascular disease in England and Wales. Thorax, 56,228-233.
112. Morris, S.E. and Wakefield, J.C. (2001). The Bayesian modeling of disease risk in relation to a point source. Journal of the American Statistical Association, 96, 77-91.
113. Elliott, P. and Wakefield, J. (2001). Disease clusters: should they be investigated, and if so, when and how? Journal of the Royal Statistical Society, Series A, 164, 3-12.
114. Salway, R. and Wakefield, J. (2001). A Statistical Framework for Ecological and Aggregate Studies. Journal of the Royal Statistical Society, Series A, 164, 119-137.
115. Aylin, P., Elliott, P., Grossinho, A., Jarup, L., Morris, S., Wakefield, J. (2001). Temperature, housing, deprivation and their relationship to excess winter mortality in Great Britain, 1986-1996. International Journal of Epidemiology, 30, 1100-1108.
116. Bennett, J., Best, N., Cockings, S., Elliott, P., and Wakefield, J. (2001). Ecological regression analysis of environmental benzene exposure and childhood leukemia: sensitivity to data inaccuracies, geographical scale and ecological bias. Journal of the Royal Statistical Society, Series A, 164, 155-174.
117. Best, N., Elliott, P., Jarup, L., Toledano, M., and Wakefield, J.C. (2001). Spatial and temporal trends of testicular cancer in Great Britain. British Journal of Cancer, 84, 1482-1487.

2000

118. Bernardinelli, L., Best, N., Elliott, P., Pascutto, C., Richardson, S., Staines, A., and Wakefield, J. (2000). Statistical issues in the analysis of disease mapping data. Statistics in Medicine, 19, 2493-2519.
119. Rahman, N. and Wakefield, J.C. (2000). The combination of population pharmacokinetic studies. Biometrics, 56, 263-270.
120. Boucher, B.J., Elliott, P., Falconer, S., Morris, S.E., Sale, R., and Wakefield, J.C.(2000). Hospital admissions for asthma and chronic obstructive airways disease in east London hospitals and proximity to major roads. Journal of Epidemiology and Community Health, 54, 75-76.
121. Arnold, R., Cockings, S., Eaton, N., Elliott, P., Jarup, L., Jones, J., Quinn, M., Rosato, M., Thornton, I., Toledano, M., Tristan, E., and Wakefield, J. (2000). Risk of mortality, cancer incidence and stroke in a population potentially exposed to cadmium. Occupational and Environmental Medicine, 57, 94-97.
122. Diggle, P.J., Morris, S.E., and Wakefield, J.C. (2000). Point source modelling using matched case-control data. Biostatistics, 1, 89-105.

1999

123. Kass, R.E., Pauler, D.K., and Wakefield, J.C. (2000). Bayes factors for variance component models. Journal of the American Statistical Association, 94, 1242-1253.
124. Sheiner, L. and Wakefield, J. (1999). Population modelling in drug development, Statistical Methods in Medical Research, 8, 183-193.
125. Falcoz, C., Rahman, N.J., Stephens, D.A., and Wakefield, J.C. (1999). Parameter estimation, model adequacy and assessment of dose proportionality for pivotal pharmacokinetic study. Statistical Methods in Medical Research, 8, 195-216.
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127. Elliott, P. and Wakefield, J.C. (1999). Issues in the statistical analysis of small-area health data. Statistics in Medicine, 18, 2377-2399.
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131. Racine-Poon, A. and Wakefield, J.C. (1998). Statistical methods for population pharmacokinetic modeling, Statistical Methods in Medical Research, 7, 63-84.
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133. Wakefield, J.C. (1998). The United Kingdom Small Area Health Statistics Unit. Journal of Japan Society for Atmospheric Environment, 33, A60-A66.

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134. Wakefield, J.C. and Walker, S.G. (1997). Bayesian nonparametric population models: formulation and comparison with likelihood approaches. Journal of Pharmacokinetics and Biopharmaceutics, 25, 235-253.
135. Bennett, J.E., Lacey, L.F., and Wakefield, J.C. (1997). Modelling of trough plasma bismuth concentrations. Journal of Pharmacokinetics and Biopharmaceutics, 25, 79-106.
136. Wakefield, J.C. and Walker, S.G. (1997). A population approach to initial dose selection. Statistics in Medicine, 16, 1135-1149.
137. Wakefield, J.C. (1997). The use of predictive distributions in drug development. In European Cooperation in the Field of Scientific and Technical Research. The Population Approach: Measuring and Managing Response, Concentration and Dose, 353-362, Geneva, Switzerland.

1996

138. Bennett, J.E. and Wakefield, J.C. (1996). A comparison of a Bayesian population method with two methods as implemented in commercially available software. Journal of Pharmacokinetics and Biopharmaceutics, 24, 403-432.
139. Bennett, J.E., and Wakefield, J.C. (1996). Covariate selection for population pharmacokinetic model. Journal of the American Statistical Association, 91, 917-927.
140. Wakefield, J.C. (1996). The Bayesian approach to population pharmacokinetic models. Journal of the American Statistical Association, 91, 61-76.
141. Wakefield, J.C. (1996). Bayesian individualization via sampling-based methods. Journal of Pharmacokinetics and Biopharmaceutics, 24, 103-131.

1995-1990

142. Racine-Poon, A. and Wakefield, J.C. (1995). An application of Bayesian population pharmacokinetic/ pharmacodynamic models to dose recommendation, Statistics in Medicine, 14, 971-986.
143. Smith, A.F.M. and Wakefield, J.C. (1994). The hierarchical Bayesian approach to population pharmacokinetic modeling. International Journal of Bio-Medical Computing, 36, 35-42.
144. Wakefield, J.C. (1994). An expected loss approach to the design of dosage regimens via sampling-based methods. The Statistician, 43, 13-29.
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146. Gelfand, A.E., Smith, A.F.M., and Wakefield, J. C. (1991). Efficient generation of random variates via the ratio-of-uniforms method. Statistics and Computing, 1, 129-133.
147. Evett, I.W., Skene, A.M., Smith, A.F.M, and Wakefield, J. C. (1991). The evaluation of fibre transfer evidence in forensic science: a case study in statistical modelling. Applied Statistics, 40, 461-476.
148. Skene, A. M. and Wakefield, J. C. (1990). Hierarchical models for multi-centre binary response studies. Statistics in Medicine, 9, 919-929.

Book Chapters

2019

1. Wakefield, J., Dong, T.Q. and Minin, V. (2019). Spatio-temporal analysis of surveillance data. In Handbook of Infectious Disease Data Analysis. Editors L. Held, N. Hens, P. O'Neill and J. Wallinga, pages 455-475. Chapman and Hall/CRC.

2016

2. Wakefield, J. and Smith, T. (2016). Ecological modeling: General issues. Handbook of Spatial Epidemiology. Editors: Andrew B. Lawson, Sudipto Banerjee, Robert P. Haining, and Maria Dolores Ugarte. CRC Press.

2010

3. Wakefield, J. and Lyons, H. (2010). Spatial aggregation and the ecological fallacy. In *Handbook of Spatial Statistics* editors A. Gelfand, P. Diggle, P. Guttorp, M. Fuentes, CRC Press.

2008

4. Wakefield, J. (2008) Geographical disease risk. In *Encycloperdia of Quantitative Risk Assessment and Analysis* editors E. Melnick and B. Everitt, pages 744-748, John Wiley and Sons Ltd, Chichester, UK.

2006

5. Zhou, C., Wakefield, J. and Breeden, L. (2006). Bayesian analysis of cell cycle gene expression data, in "Bayesian Inference for Gene Expression and Proteomics", Marina Vannucci, Kim Anh Do and Peter Muller (editors), Cambridge University Press.
6. Wakefield, J. (2006). Sensitivity Analysis. *Encyclopedia of Statistics in Behavioral Science*, edited by Brian Everitt and David Howell.

2004

7. Wakefield, J. (2004). Non-linear regression modelling. In *Methods and Models in Statistics: In Honor of Professor John Nelder, FRS*, p. 119-153, Edited by Niall Adams, Martin Crowder, David J. Hand and Dave Stephens. Imperial College Press
8. Wakefield, J. (2004). Prior and likelihood choices in the analysis of ecological data. To appear in *Ecological Inference: New Methodological Strategies*, p. 13-50, edited by Gary King, Ori Rosen, and Martin Tanner, Cambridge University Press.
9. Haneuse, S. and Wakefield, J. (2004). Ecological inference allowing for spatial dependence. In *Ecological Inference: New Methodological Strategies* , p. 266-301 edited by Gary King, Ori Rosen, and Martin Tanner, Cambridge University Press.
10. Salway, R. and Wakefield, J. (2004). A comparison of approaches to ecological inference in epidemiology, political science and sociology. In *Ecological Inference: New Methodological Strategies* , p. 303-332, edited by Gary King, Ori Rosen, and Martin Tanner, Cambridge University Press.

2002

11. Wakefield, J.C. (2002). Multicollinearity. *Encyclopedia of Environmetrics, Volume 3*, editors A.H. El-Shaarawi and W.W. Piegorsch John Wiley, New York, 1308-1311.

2000

12. Pauler, D.K. and Wakefield, J.C. (2000). Issues in the modeling and implementation of Bayesian meta-analyses. *Meta-Analysis in Medicine and Health Policy*, Stangl, D. and Berry, D.A. (Editors), 205-230. Marcel Dekker, New York and Basel.
13. Rahman, N. and Wakefield, J.C. (2000). Meta-analysis of population pharmacokinetic data. *Meta-Analysis in Medicine and Health Policy*, Stangl, D. and Berry, D.A. (Editors), 231-253. Marcel Dekker, New York and Basel.
14. Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (2000). Spatial Epidemiology: Methods and Applications. In *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 3-14, Oxford University Press.
15. Arnold, R.A., Diamond, I. and Wakefield, J.C. (2000). The use of population denominator data in spatial epidemiology. *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 30-50, Oxford University Press.
16. Elliott, P. and Wakefield, J.C. (2000). Bias and confounding in spatial epidemiology. *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 68-84, Oxford University Press.
17. Wakefield, J.C., Best, N.G. and Waller, L.A. (2000). Bayesian approaches to disease mapping. *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 104-127, Oxford University Press.
18. Wakefield, J.C., Kelsall, J.E. and Morris, S.E. (2000). Clustering, cluster detection, and spatial variation in risk. *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 128-152, Oxford University Press.
19. Morris, S.E. and Wakefield, J.C. (2000). Assessing of disease risk in relation to a pre-specified source. *Spatial Epidemiology: Methods and Applications.* Elliott, P., Wakefield, J.C., Best, N.G. and Briggs, D. (editors), 152-184, Oxford University Press.

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20. Wakefield, J. (1999). Generalized linear models in spatial epidemiology. In *Statistical Modelling, Proceedings of the 14th International Workshop on Statistical Modelling*, p. 81-92, editors Friedl, H., Bergold, G. and Kauermann, G., IWSM.
21. Wakefield, J.C. and Wallace, C. (1999). Implications of estimated counts for small-area studies of environment and health. In *Population Counts in Small Areas*, Arnold, A., Elliott, P., Wakefield, J. and Quinn, M. (editors), p. 63-73, Studies on Medical and Population Subjects, Office of Population Censuses and Surveys, Office for National Statistics.
22. Wakefield, J.C., Aarons, L. and Racine-Poon, A. (1999). The Bayesian approach to population pharmacokinetic/pharmacodynamic modeling. *Case Studies in Bayesian Statistics*, Gatsonis, C., Kass, R.E., Carlin, B.P., Carriquiry, A.L., Gelman, A., Verdinelli, I. and West, M. (editors), p.205-265, Springer-Verlag, New York.
23. Elliott, P. and Wakefield, J.C. (1999). Small-area studies of environment and health. *Statistics for the Environment 4: Health and the Environment*, Barnett, V., Stein, A. and Turkman, K.F. (editors), p. 3-27, John Wiley, New York.

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24. Wakefield, J.C. (1997). Hierarchical regression models. *Encyclopedia of Statistical Science, Update Volume 1*, 313-318, Kotz, S., Read, C.B. and Banks, D.L. (editors), John Wiley, New York.

25. Wakefield, J.C. (1997). The use of predictive distributions in drug development. In *European Cooperation in the Field of Scientific and Technical Research. The Population Approach: Measuring and Managing Response, Concentration and Dose*. p. 353-362, Geneva, Switzerland.

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26. Walker, S.G. and Wakefield, J.C. (1996). Bayesian approaches to the population modelling of a monotonic dose-response relation.
27. Racine-Poon, A. and Wakefield, J.C. (1996). Bayesian analysis of population pharmacokinetic and instantaneous pharmacodynamic relationships. *Bayesian Biostatistics*, Berry, D.A. and Stangl, D.K. (editors), p. 355-387, Marcel Dekker, New York and Basel.
28. Bennett, J.E., Racine-Poon, A. and Wakefield, J.C. (1996). Markov chain Monte Carlo for nonlinear hierarchical models. *Markov Chain Monte Carlo in Practice*, Gilks, W.R., Richardson, S. and Spiegelhalter, D. J. (editors), p. 339-357, Chapman and Hall, London.

Books

- Wakefield, J.C. (2013). *Bayesian and Frequentist Regression Methods*. Springer.
- Elliott, P., Wakefield, J., Best, N.G. and Briggs, D. (2000). *Spatial Epidemiology: Methods and Applications.* Oxford University Press.

University Service

- Chair of Statistics Department: 2009-2011.
- Acting Chair of Statistics Department: Sept-Dec 2014.

Teaching History

Teaching at the University of Washington

- *BIOSTAT 512 Medical Biometry II*
- *BIOSTAT 515 Biostatistics*
- *STAT 516 Stochastic Modeling of Scientific Data*
- *STAT 518 Stochastic Modeling of Scientific Data: Research Project Course*
- *STAT/BIOSTAT 527 Non-Parametric Regression and Classification*
- *STAT 528 MS Applied Capstone*
- *STAT/BIOSTAT 529 Sample Survey Techniques*
- *STAT/SOC 554 Statistical Methods for Spatial Data*
- *BIOSTAT/EPI 555 Statistical Methods for Spatial Epidemiology*
- *STAT/BIOSTAT 570 Advanced Regression for Independent Data*
- *STAT/BIOSTAT 571 Advanced Regression for Dependent Data*
- *STAT/BIOSTAT 572 Advanced Regression: Research Project Course*
- *STAT/BIOSTAT 572 Bayesian Statistics*
- *BIOSTAT 578 Statistical Methods for Infectious Disease Data*

Teaching at Imperial College of Science, Technology and Medicine, London

- *Theory of Statistics*
- *Stochastic Simulation*
- *Applied Statistics*
- *Bayesian Statistics*
- *Mathematics with Applications*
- *Statistics for Mechanical Engineers*
- *Statistics for Materials Science*
- *Statistics for Computer Scientists*
- *Biostatistics*

Teaching at Nottingham University

- *Theory of Statistics*
- *Applied Statistics*

Short Courses:

- *Spatial Epidemiology*, Departmanto de Probabilidad y Estadistica, IIMASUNAM, Mexico, January 2001.
- *Spatial Epidemiology*, Center of Biostatistics, The Ohio State University, Summer Program, June 23-27, 2003.
- *Spatial Epidemiology*, School of Population Health, University of Western Australia, as Raine Visiting Professor, September, 2003.
- *Statistical methods for Genetics*, International Agency for Research on Cancer, Lyon, France, July 2008.
- *Spatial Epidemiology*, International Agency for Research on Cancer, Lyon, France, July 2005.
- *Bayesian Methods in Genetics*, Summer Institutes in Statistical Genetics, University of Washington, taught with Peter Hoff, June 2011, July 2012, July 2013, July 2014, July 2015. Taught with Ken Rice, July 2016, July 2017, July 2018, July 2019.
- *Spatial Statistics in Epidemiology and Public Health*, Summer Institutes in Statistics and Modeling in Infectious Diseases, University of Washington, taught with Lance Waller, July 2013, July 2014, July 2015, July 2016, July 2017, July 2018, July 2019.
- *Age-Period-Cohort Methods and Analysis.* Summer Institutes in Statistics for Clinical and Epidemiological Research University of Washington, July 2019..
- *Statistical Methods for Spatial and Spatio-Temporal Health Data*, taught at the University of Newcastle,, as part of residential graduate training courses provided by the Royal Statistical Society with support from EPSRC, July 2014.

Advising and Formal Mentoring

PhD Students (Chair)

1. Tracy Dong. Department of Biostatistics, University of Washington, Seattle (current).
2. Johnny Paige. Department of Statistics, University of Washington, Seattle (current).
3. Aaron Osgood-Zimmerman. Department of Statistics, University of Washington, Seattle (current).
4. Serge Aleshin-Guendel. Department of Biostatistics, University of Washington, Seattle (current).

5. Avi Kenny. Department of Biostatistics, University of Washington, Seattle (current).
6. Taylor Okonek. Department of Biostatistics, University of Washington, Seattle (current).
7. Jessica Godwin. Department of Statistics, University of Washington, Seattle (current).
8. Austin Schumacher. Department of Biostatistics, University of Washington, Seattle (current).
9. Katie Wilson, March 2019. Department of Biostatistics, University of Washington, Seattle.
10. Jonathan Fintzi, 2018. Department of Biostatistics, University of Washington, Seattle.
11. Laina Mercer. Department of Statistics, University of Washington, Seattle.
12. Leigh Fisher, Department of Biostatistics, University of Washington, Seattle.
13. Theresa Smith. Spring 2014. Department of Statistics, University of Washington, Seattle.
14. Michelle Ross. Fall 2012. Department of Biostatistics, University of Washington, Seattle.
15. Cici Chen. Summer 2012. Department of Statistics, University of Washington, Seattle.
16. Albert Kim. Department of Statistics, University of Washington, Seattle.
17. Youyi Fong, 2010. Department of Biostatistics, University of Washington, Seattle.
18. Sierra Li, 2007. Department of Biostatistics, University of Washington, Seattle.
19. Adam Glynn, 2007. Department of Statistics, University of Washington, Seattle.
20. Sebastien Haneuse, 2004. Department of Biostatistics, University of Washington, Seattle “Ecological Studies Using Supplemental Case-Control Data..
21. Chuan Zhou, 2003. Department of Biostatistics, University of Washington, Seattle. “A Bayesian Model for Curve Clustering with Application to Gene Expression Data Analysis..
22. Ruth Salway, 2002. Department of Epidemiology and Public Health, Imperial College of Science, Technology and Medicine, St Mary's Campus, London. “Statistical Issues in the Analysis of Ecological Studies.”
23. Gavin Shaddick, 2002. Department of Epidemiology and Public Health, Imperial College of Science, Technology and Medicine, St Mary's Campus, London. “Statistical Methodological Aspects of Modelling Relationships between Air Pollution, Temperature and Health.”
24. Alex Bottle, 2001. Department of Epidemiology and Public Health, Imperial College of Science, Technology and Medicine, St Mary's Campus, London. “Adjustment for the Provider Effect Using Hospital Data in Small Area Studies.”
25. Nargis Rahman, 1999. Department of Mathematics, Imperial College of Science, Technology and Medicine, London. “Incorporation of Population Pharmacokinetic Principles in to Drug Development.”
26. James Bennett, 1996. Department of Mathematics, Imperial College o f Science, Technology and Medicine, London. “Bayesian Analysis of Population Pharmacokinetic Models.”
27. Stephen Walker, 1995. Department of Mathematics, Imperial College of Science, Technology and Medicine, London. “Bayesian Parametric and Nonparametric Methods with Applications in Medical Statistics.”

MS Students (Chair)

1. Erinn Hade, 2001. Department of Biostatistics.
2. Yuan Hsiao, 2020 (expected). Department of Statistics.

Grant Funding History

- R01AI029168 Hughes (PI)

Dates: 7/31/12–4/30/19, 2019-2024 (renewed)
Sponsor: NIH/NIAID
Statistical Issues in AIDS Research
Role: Co-I

- 2R01CA095994-05A1 Wakefield (PI)
  Dates: 9/23/14 – 8/31/18
  Sponsor: NIH/NCI
  Spatio-Temporal Epidemiology: Methods and Applications
  Role: PI
- U54 GM111274 Halloran (PI)
  Dates: 9/12/14–6/30/19
  Sponsor: NIH/NIGMS, sub from FHCRC
  Center for Statistics and Quantitative Infectious Diseases
  Role: Co-I
- R21 AI119773 Yang (PI)
  Dates: 7/1/2015-6/30/2017
  Sponsor: NIH/NIAID, sub from Univ Florida
  Spatio-Temporal Modeling for Surveillance Data of Multiple Pathogens
  Role: Co-I
- 5R01GM098360-02 Akey (PI)
  Dates: 09/01/11 - 4/30/15
  Sponsor: NIH/NIGMS
  The Functional Significance of Non-Coding Variation
  Role: Co-I
- ICF Macro, Inc. Clarke (Subcontract PI)
  Dates: 06/15/13 – 09/29/13
  Exploring the HYAK Real-time Health and Population Measurement Platform in Tanzania using DHS Surveys and HDSS Data
  Role: Co-I
- U01 HG 5157 Weir/Heagerty (Co-PIs)
  Dates: 09/01/09–07/31/12
  Sponsor: NIH/NHGRI
  Methods for GWAS
  Role: Co-I
- GSK Center for Statistical Genetics Weir (PI)
  Dates: 10/1/2008–1/22/2012
  Sponsor: Glaxo Smith Klein
  Randomized Clinical Trials - Whole Genome Studies Coordinating Center (GARNET)
  Role: Co-I
- R01 CA125081S Haneuse (PI)
  Dates: 7/1/2007–6/31/2010
  Sponsor: NIH/NCI, sub Group Health Center for Health Studies
  Design and Inference for Hybrid Ecological Studies
  Role: Co-I
- R01 CA095994 Wakefield (PI)
  Dates: 9/30/2005–7/31/2011
  Sponsor: NIH/NCI
  Spatio-Temporal Epidemiology: Methods and Application
  Role: PI

- NRCSE Wakefield (PI)
  Dates: 7/1/2000–6/30/2001
  Sponsor: National Research Center for Statistics and the Environment
  Modeling multiple pollutants at multiple sites, with application to acute respiratory studies
  Role: PI
- NRCSE Wakefield (PI)
  Dates: 7/1/2001–9/30/2001
  Sponsor: National Research Center for Statistics and the Environment
  Evaluating the benefits of an Ecological Study
  Role: PI