

Marc L. Serre

Curriculum Vitae

Personal

Dept. of Environmental Sciences and Engineering
 Gillings School of Global Public Health
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Education

- Ph.D. Environmental Science and Engineering, University of North Carolina at Chapel Hill (Chapel Hill, NC) 1999
Dissertation Advisor: Professor George Christakos
- M.S. Civil and Environmental Engineering, University of Iowa (Iowa City, IA) 1992
Thesis Advisor: A. Jacob Odgaard
- M.S. Hydraulics, Ecole Nationale Supérieure d'Electricité, Electrotechnique, Informatique et Hydraulique de Toulouse (ENSEEIH), Toulouse, France, 1990
- B.S.+M.S. Physics Engineering, Institut National des Sciences Appliquées (INSA), Toulouse, France, 1989

Professional Experience

- Director* UNC-BMElab (Bayesian Maximum Entropy Lab for Space/Time Geostatistics in Exposure, Disease and Risk Mapping)
<http://www.unc.edu/depts/case/BMElab/>, 2006-present
- Member* Center for the Integrated Study of the Environment, Department of Environmental Sciences & Engineering, University of North Carolina at Chapel Hill, 2004-2006
- Associate Professor* University of North Carolina, Chapel Hill, NC, Sept 2009-present
- Member* Center of Environmental Health and Susceptibility, University of North Carolina at Chapel Hill, 2002-present
- Asst. Professor* University of North Carolina, Chapel Hill, NC, Sept 2002-Aug 2009
- Res. Asst. Professor* University of North Carolina, Chapel Hill, NC, 2000-2002
- Expert Consultant* CH2M Hill Inc., World Bank project, Cairo, Egypt: 1999-2000
- Research Asst.* University of North Carolina, Chapel Hill, NC, 1995-1999
- Software Engineer* Eagle Point Corporation, Dubuque, IA, 1992-1995
- Research Asst.* University of Iowa, Iowa City, IA, 1990-1992

Hydraulic Engineer Element Consulting, Tarbes, France, 1990

Material Engineer International Business Machines, Corbeil-Essones, France, 1989

Honors and Awards

Environmental Sciences and Engineering recipient of the Gillings Teaching Excellence Award, University of North Carolina at Chapel Hill, 2017

Newton Underwood Award for Excellence in Teaching, Dept. of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, 2005

Awarded best paper in *Pedometrics* for 2005

Computational Science Graduate Fellowship, U.S. Department of Energy, 1996-1999

Graduate Fellowship of the U.S. Department of Education, 1995-1996

Dean's List, Department of Environmental Sciences and Engineering, Univ. of Iowa, 1992

Memberships

Member, Association of Environmental Engineering and Science Professors (AEESP)

Member, International Society of Exposure Sciences (ISES)

Member, International Society of Environmental Epidemiology (ISEE)

Member, American Statistical Association (ASA)

Member, American Geophysical Union (AGU)

Member, International Association of Mathematical Geosciences (IAMG)

Past Member, American Society of Civil Engineers (ASCE) 1995-2000

Students' awards (*total of 21*)

1. Reyes, Jeanette. (PhD 2016, **Serre** Advisor) Top 5 Abstracts of the Mixtures Specialty Section at the Society of Toxicology, Baltimore, MD. March 2017.
2. Katie Bradford: (MS student, **Serre** Advisor) 2017 Baity scholarship, Environmental Sciences and Engineering, UNC-CH
3. Calvin Arter, (PhD student, Arunachalam and **Serre** advisors), won 1st prize in the Annual Hartman student paper competition held among 16 Universities by the U.S. DOT sponsored ASCENT Center of Excellence. He received a \$2500 prize. April 2017
4. Shih Ying Chang, (PhD student), best poster, Shih Ying Chang, William Vizuete, Marc **Serre**, Vlad Isakov, Saravanan Arunachalam, Fine-scale characterization of premature deaths associated with exposure to PM_{2.5} from onroad sources in Central North Carolina, *NC Breathe conference*, Charlotte, April 08, 2016
5. Elizabeth Christenson, (MS 2015, **Serre** Advisor) 2016 Graduate Education Advancement Board Impact Award Recipient: For research on hog farm and remote sensing benefiting the state of North Carolina.

6. Jeanette Reyes, (PhD student, **Serre** Advisor) 2015 Koch travel award: In recognition of strong academic ability and potential to contribute to finding and implementing public health solutions.
7. Scott Boone, (MS 2015, , Arunachalam and **Serre** advisors) Best Student Paper at the 14th Annual eXtreme Science and Engineering Discovery Environment Conference, July 13-18, 2014, Atlanta.
8. Scott Boone, (MS 2015, Arunachalam and **Serre** advisors) 2015 Koch travel award: In recognition of strong academic ability and potential to contribute to finding and implementing public health solutions.
9. Kyle Messier, (MS 2010, PhD student, **Serre** Advisor) 2015 Graduate Education Advancement Board Impact Award Recipient: For research on Nitrate benefiting the state of North Carolina.
10. Elizabeth Christenson, (MS student, **Serre** Advisor): American Association of University Women (AAUW) Fellowship, 2014-2015
11. Kyle Messier, (MS 2010, PhD student, **Serre** Advisor) 2014 Koch travel award: In recognition of your strong academic ability and potential to contribute to finding and implementing public health solutions.
12. Jeanette Reyes, (PhD student, **Serre** Advisor): The 2014 Koch Travel Award, Gilling School of Global Public Health.
13. Kyle Messier, (MS 2010, PhD student, **Serre** Advisor) 2013 Graduate Education Advancement Board Impact Award Recipient: For research on Tetrachloroethylene (PCE) benefiting the state of North Carolina.
14. Kyle Messier, (MS 2010, PhD student, **Serre** Advisor) Student recipient of the 2013 G. Herbert Stout Award, for exemplary and innovative use of Geographic Information Systems which recognizes achievement, awarded at the 13th North Carolina GIS Conference will be February 7-8, 2013 at the Raleigh Convention Center.
15. Jamie Smedsmo, (PhD student, **Serre** Advisor): Department Of Energy Computational Science Graduate Fellowship, 2012-2014
16. Mejs Hasan, with **Marc L. Serre**, Jackie MacDonald and Gail Carter, 2009. Outstanding Poster in 2009 Spotlight on Student Research, for a poster titled “High-risk zone of Trichloroethylene exposure in Middlesex County (NJ) using Bayesian Maximum Entropy”, Spring 2009. Awarded by UNC-CH, Gillings School of Global Public Health, Office of Research and Delta Omega, Theta Chapter.
17. Yasuyuki Akita (M.S. 2005, Advisor: **M.L. Serre**): Third place poster award given by the EPA Science Forum 2006 for a poster titled “Research Translation in Spatiotemporal Exposure Assessment for Contaminated River Superfund Site”, Summer 2006.
18. Kristen Hampton, (M.P.H. 2005, Advisor: **M.L. Serre**) has been awarded the Environmental Sciences Achievement Award for 2006. This award was established in 1969 to recognize an outstanding ESE Masters graduate based on the student’s academic excellence.
19. William B. Allshouse, (Ph.D. student, Advisor: **M.L. Serre**) Prize for outstanding research awarded by the University of North Carolina School of Public Health for a poster titled “A Space/Time Particulate Matter Mass Fraction Framework for the Assessment of Polycyclic Aromatic Hydrocarbons after 9/11 in New York City”, Fall 2006
20. Joseph N. LoBuglio, on research with G.W. Characklis and **M.L. Serre**, Prize for outstanding research awarded by the University of North Carolina School of Public Health for a poster

titled “Using Uncertain Information to Improve Assessment of Surface Water Quality”, Fall 2006

21. Eric Money (Ph.D. Advisor: **M.L. Serre**) received a plaque and monetary award for web development and service to the Environmental Sciences & Engineering Student Organization, Fall 2006.

Publications

† corresponding/senior author. ^M Masters or ^D PhD students who substantially worked with Dr. Serre

Books

1. Christakos, G., R. Olea, **M.L. Serre**, H-L Yu^D, and L. Wang (2005) *Interdisciplinary Public Health Reasoning and Epidemic Modelling : The Case of Black Death* In preparation, Springer-Verlag, New York, N.Y., 320 p., ISBN: 978-3-540-25794-3.
2. Christakos, G., P. Bogaert, and **M.L. Serre** (2002) *Temporal GIS: Advanced Functions for Field-Based Applications*, Springer-Verlag, New York, N.Y., 217 p., ISBN: 978-3-540-41476-6.

Refereed articles in scientific journals – Published (total of 74)

1. Holcomb, D. A. ^D, Messier, K. P. ^D, Serre, M. L., Rowny, J. G., and Stewart, J. R., Geostatistical Prediction of Microbial Water Quality Throughout a Stream Network Using Meteorology, Land Cover, and Spatiotemporal Autocorrelation. *Environmental science & technology*. 2018 Jun 25 ; .
2. JM Reyes ^D, HF Hubbard, MA Stiegel, JD Pleil, ML Serre, Predicting polycyclic aromatic hydrocarbons using a mass fraction approach in a geostatistical framework across North Carolina, *Journal of exposure science & environmental epidemiology*, 1, 2018
3. R Baum ^D, GW Characklis, ML Serre, Effects of Geographic Diversification on Risk Pooling to Mitigate Drought-Related Financial Losses for Water Utilities, *Water Resources Research*, 2018
4. P Jat ^D, ML Serre, A novel geostatistical approach combining Euclidean and gradual-flow covariance models to estimate fecal coliform along the Haw and Deep rivers in North Carolina, *Stochastic Environmental Research and Risk Assessment*, 1-13, 2018
5. IC Hanigan, GJ Williamson, LD Knibbs, J Horsley, MI Rolfe, M Cope, ..., Blending multiple nitrogen dioxide data sources for neighborhood estimates of long-term exposure for health research, *Environmental science & technology*, 51 (21), 12473-12480, 1, 2017
6. Y Xu ^D, ML Serre, JM Reyes ^D, W Vizuete, Impact of temporal upscaling and chemical transport model horizontal resolution on reducing ozone exposure misclassification, *Atmospheric Environment*, 166, 374-382, 2017
7. Jerrett, Michael; Turner, Michelle C; Beckerman, Bernardo S; Pope III, C Arden; van Donkelaar, Aaron; Martin, Randall V; Serre, Marc; Crouse, Dan; Gapstur, Susan M; Krewski, Daniel; ,Comparing the Health Effects of Ambient Particulate Matter Estimated Using Ground-Based versus Remote Sensing Exposure Estimates, *Environ Health Perspect*, 2017; 125(4):552-559,
8. Chang SY ^D, Vizuete W, Serre M, Vennam LP, Omary M, Isakov V, Breen M, Arunachalam S. Finely Resolved On-Road PM2.5 and Estimated Premature Mortality in Central North Carolina. *Risk Analysis*. 2017; PMID: 28244115
9. Christenson EC ^M, Serre ML. Integrating remote sensing with nutrient management plans to calculate nitrogen parameters for swine CAFOs at the sprayfield and sub-watershed scales. *The Science of the total environment*. 2017; 580:865-872. NIHMSID: NIHMS838929, PMID: 28017419, PMCID: PMC5326586
10. Cacciottolo M, Wang X, Driscoll I, Woodward N, Saffari A, Reyes J ^D, Serre ML, Vizuete W, Sioutas C, Morgan TE, Gatz M, Chui HC, Shumaker SA, Resnick SM, Espeland MA, Finch CE, Chen JC. Particulate air pollutants, APOE alleles and their contributions to cognitive impairment

- in older women and to amyloidogenesis in experimental models. *Translational psychiatry*. 2017; 7(1):e1022. PMID: 28140404, PMCID: PMC5299391
11. JM Reyes^D, Y Xu^D, W Vizquete, ML Serre; Regionalized PM2.5 Community Multiscale Air Quality model performance evaluation across a continuous spatiotemporal domain, *Atmospheric Environment* 2017; 148, 258-265
 12. Escamilla, Veronica^D; Hampton, Kristen H; Gesink, Dionne C; Serre, Marc L; Emch, Michael; Leone, Peter A; Samoff, Erika; Miller, William C; Influence of Detection Method and Study Area Scale on Syphilis Cluster Identification in North Carolina, *Sexually transmitted diseases*,43,4,216-221,2016,LWW
 13. Xu, Yadong^D; Serre, Marc L; Reyes, Jeanette^D; Vizquete, William; Bayesian Maximum Entropy Integration of Ozone Observations and Model Predictions: A National Application, *Environmental science & technology*,50,8,4393-4400,2016,American Chemical Society
 14. Cope, Anna B; Powers, Kimberly A; Serre, Marc L; Escamilla, Veronica^D; Emch, Michael E; Leone, Peter A; Mobley, Victoria L; Miller, William C; Distance to testing sites and its association with timing of HIV diagnosis*, *AIDS care*,,1-5,2016,Taylor & Francis
 15. Jat, Prahlad^D; Serre, Marc L; Bayesian Maximum Entropy space/time estimation of surface water chloride in Maryland using river distances, *Environmental Pollution*,,2016,Elsevier
 16. Messier, Kyle P^D; Serre, Marc L; Lung and stomach cancer associations with groundwater radon in North Carolina, USA, *International Journal of Epidemiology*,,dyw128,2016,Oxford University Press
 17. Casanova, Ramon; Wang, Xinhui; Reyes, Jeanette; Akita, Yasuyuki^D; Serre, Marc L; Vizquete, William; Chui, Helena C; Driscoll, Ira; Resnick, Susan M; Espeland, Mark A; A Voxel-Based Morphometry Study Reveals Local Brain Structural Alterations Associated with Ambient Fine Particles in Older Women, *Frontiers in Human Neuroscience*,10,,495,2016,Frontiers
 18. Messier, K. P.^D, Campbell, T., Bradley, P. J. & Serre, M. L. Estimation of Groundwater Radon in North Carolina Using Land Use Regression and Bayesian Maximum Entropy, *Environmental Science and Technology*.2015; 49, 16, p. 9817-9825 9 p.
 19. Lani Fox^M, **Marc L. Serre**, Steven J. Lippmann, Daniel A. Rodríguez, Shrikant I. Bangdiwala, María Isabel Gutiérrez, Guido Escobar, Andrés Villaveces. Spatio-temporal approaches to analyzing pedestrian fatalities: The case of Cali, Colombia. *Traffic Injury and Prevention*, 2015; 16, 6, p. 571-577 7 p
 20. Amy E. Kalkbrenner, Gayle C. Windham, **Marc L. Serre**, Yasuyuki Akita^D, Xuexia Wang, Kate Hoffman, Brian P. Thayer, Julie L. Daniels. Particulate Matter Exposure, Prenatal and Postnatal Windows of Susceptibility, and Autism Spectrum Disorders in North Carolina and California, *Epidemiology*, 2015, 26 (1), 30-42.
 21. Jiu-Chiuan Chen; Xinhui Wang; Gregory A. Wellenius; **Marc L. Serre**; Ira Driscoll; Ramon Casanova; John J. Mcardle; Joann E. Manson; Helena C. Chui; Mark A. Espeland, Ambient air pollution and neurotoxicity on brain structure: Evidence from women's health initiative memory study, *Annals of Neurology*,. 2015; 78, 3, p. 466-476 11 p.
 22. Jeanette M. Reyes^D and **Marc L. Serre**†. An LUR/BME Framework to Estimate PM2.5 Explained by on Road, Mobile and Stationary Sources, *Environmental Science and Technology*. 2014, 48 (3), pp 1736–1744
 23. Yasuyuki Akita^D; Jose M. Baldasano; Rob Beelen; Marta Cirach; Kees De Hoogh; Gerard Hoek; Mark Nieuwenhuijsen; **Marc L. Serre**; Audrey De Nazelle, Large scale air pollution estimation method combining land use regression and chemical transport modeling in a geostatistical framework, *Environmental Science and Technology*. 2014;48(8):4452-4459.
 24. Christopher D. Heaney , Natalie G. Exuma, Alfred P. Dufour, Kristen P. Brenner, Richard A. Haugland, Eunice Chern, Kellogg J. Schwab, David C. Love, **Marc L. Serre**, Rachel Noble, Timothy J. Wade. Water quality, weather and environmental factors associated with fecal indicator organism density in beach sand at two recreational marine beaches, *Science of the Total Environment* 2014, 497–498 (2014) 440–447

25. Saravanan Arunachalam, Alejandro Valencia, Yasuyuki Akita, **Marc L. Serre**, Mohammad Omary, Valerie Garcia and Vlad Isakov, A Method for Estimating Urban Background Concentrations in Support of Hybrid Air Pollution Modeling for Environmental Health Studies. *Int. J. Environ. Res. Public Health*. 2014;11(10):10518-10536
26. Kyle P. Messier^D, Evan Kane, Rick Bolich, **Marc L. Serre**[†]. Nitrate Variability in Groundwater of North Carolina using Monitoring and Private Well Data Models, *Environmental Science and Technology*. 2014, 48, 10804–10812.
27. Dionne C. Gesink; Ashleigh B. Sullivan; Todd A. Norwood; **Marc L. Serre**; William C. Miller, Does core area theory apply to sexually transmitted diseases in rural environments?, *Sexually Transmitted Diseases*. 2013;40(1):32-40.
28. Bernardo S. Beckerman; Michael Jerrett; **Marc Serre**; Randall V. Martin; Seung-Jae Lee; Aaron Van Donkelaar; Zev Ross; Jason Su; Richard T. Burnett, A hybrid approach to estimating national scale spatiotemporal variability of PM_{2.5} in the contiguous United States, *Environmental Science and Technology*. 2013;47(13):7233-7241.
29. Doherty, I.A., **M.L. Serre**, D. Gesink, A.A. Adimora, S.Q. Muth, P.A. Leone, W.C. Miller (2012) The utility of sexual network analysis to augment surveillance and control of sexually transmitted infections, *Epidemiology*, 23(6):845-851
30. Akita^P; Y., JC Chen; and **M.L. Serre**[†] (2012) The moving-window Bayesian Maximum Entropy framework: Estimation of PM_{2.5} yearly average concentration across the contiguous United States. *Journal of Exposure Science and Environmental Epidemiology* 22(5):496-501.
31. Messier^M; K.P., Y. Akita; and **M.L. Serre**[†] (2012) Integrating address geocoding, land use regression, and spatiotemporal geostatistical estimation for groundwater tetrachloroethylene, *Environmental Science and Technology* 46(5):2772-2780
32. Heaney; C.D., E. Sams; A.P. Dufour; K.P. Brenner; R.A. Haugland; E. Chern; S. Wing; S. Marshall; D.C. Love; **M.L. Serre**, R. Noble and T. Wade (2012) Fecal indicators in sand, sand contact, and risk of enteric illness among beachgoers, *Epidemiology* 23(1):95-106.
33. Sanders, A.P, K.P. Messier^M, M. Shehee, K. Rudo, **M.L. Serre**, R.C. Fry (2012) Arsenic in North Carolina: Public Health Implications, *Environment International*, Vol. 38 pp. 10-16.
34. Seung-Jae Lee; **Marc L. Serre**; Aaron van Donkelaar; Randall V. Martin; Richard T. Burnett; Michael Jerrett (2012) Comparison of geostatistical interpolation and remote sensing techniques for estimating long-term exposure to ambient PM_{2.5} concentrations across the continental United States, *Environmental Health Perspectives*. 120(12):1727-1732
35. Peter S. K. Knappett; Larry D. McKay; Alice Layton; Daniel E. Williams; Md.J. Alam; Brian J. Mailloux; Andrew S. Ferguson; Patricia J. Culligan; **Marc L. Serre**; Michael Emch; Kazi M. Ahmed, Gary S. Sayler and Alexander van Geen (2012) Unsealed tubewells lead to increased fecal contamination of drinking water, *Journal of Water and Health*. 10(4):565-578.
36. Wu, J.; A. van Geen; K.M. Ahmed; Y. Akita^D; J. Alam; P.J. Culligan; V. Escamilla; J. Feighery; A.S. Ferguson; P. Knappett; B.J. Mailloux; L.D. McKay, **M.L. Serre**, P. K. Streatfield, M. Yunus, M. Emch (2011) Increase in diarrheal disease associated with arsenic mitigation in bangladesh, *PLoS ONE*; 6(12)
37. Hampton^M, K.H.; **M.L. Serre**[†]; D.C. Gesink; C.D. Pilcher; W.C. Miller (2011), Adjusting for sampling variability in sparse data: Geostatistical approaches to disease mapping, *International Journal of Health Geographics*; 10(0)
38. Money^D, E.S., D.K. Sackett, D.D. Aday, **M.L. Serre**[†] (2011) Using River Distance and Existing Hydrography Data Can Improve the Geostatistical Estimation of Fish Tissue Mercury at Unsampled Locations, *Environmental Science & Technology*, DOI: 10.1021/es2003827
39. Doherty, I.A., A.A. Adimora, S.Q. Muth, **M.L. Serre**, P.A. Leone, W.C. Miller (2011) Comparison of Sexual Mixing Patterns for Syphilis in Endemic and Outbreak Settings, *Sexually Transmitted Diseases*, Vol. 38(5), pp. 378-384

40. Sullivan, A.B., D.C.. Gesink, P. Brown, L. Zhou, J.S. Kaufman, M. Fitch, **M.L. Serre**, W.C. Miller (2011) Are Neighborhood Sociocultural Factors Influencing the Spatial Pattern of Gonorrhea in North Carolina? *Annals of Epidemiology*, Vol. 21(4), pp. 245-252. doi:[10.1016/j.annepidem.2010.11.015](https://doi.org/10.1016/j.annepidem.2010.11.015)
41. Van Geen, A., K.M. Ahmed, Y. Akita^D, M.J. Alam, P.J. Culligan, M. Emch, V. Escamilla, J. Feighery, A.S. Ferguson, P. Knappett, A. Layton, B. Mailloux, L.D. McKay, J.L. Mey, **M.L. Serre**, P.K. Streatfield, J. Wu, Md. Yunus (2011) Fecal Contamination of Shallow Tubewells in Bangladesh Inversely Related to Arsenic, *Environmental Science & Technology*, Vol. 45(4), pp 1199–1205.
42. Knappett, P.S.K., A. Layton, L.D. McKay, D. Williams, B.J. Mailloux, M.R. Huq, M.J. Alam, K.M. Ahmed, Y. Akita^D, **M.L. Serre**, G.S. Sayler, A. van Geen (2010) Efficacy of Hollow-Fiber Ultrafiltration for Microbial Sampling in Groundwater, *Ground Water*, Vol. 49(1), pp. 53-65. doi:[10.1111/j.1745-6584.2010.00712.x](https://doi.org/10.1111/j.1745-6584.2010.00712.x).
43. Wu, J.; M. Yunus; P. Streatfield; A. Van Geen; V. Escamilla; Y. Akita; **M.L. Serre**; M. Emch (2011) Impact of tubewell access and tubewell depth on childhood diarrhea in Matlab, Bangladesh, *Environmental Health: A Global Access Science Source*;10(1)
44. Li, Y., J. MacDonald Gibson, P. Jat, G. Puggioni, M. Hasan, J. J. West, W. Vizueté, K. Sexton, **M. Serre** (2010) Burden of disease attributed to anthropogenic air pollution in the United Arab Emirates: Estimates based on observed air quality data, *Science of The Total Environment*, Vol. 408(23), pp. 5784-5793. doi:[10.1016/j.scitotenv.2010.08.017](https://doi.org/10.1016/j.scitotenv.2010.08.017).
45. Hampton^M, K.H., M.K. Fitch, W.B. Allshouse^D, I.A. Doherty, D.C. Gesink, P.A. Leone, **M.L. Serre**, W.C. Miller (2010) Mapping Health Data: Improved Privacy Protection with Donut Method Geomasking, *American Journal of Epidemiology*, Vol. 172(9), pp. 1062-1069. doi:[10.1093/aje/kwq248](https://doi.org/10.1093/aje/kwq248)
46. De Nazelle^D, A., S. Arunachalam, **M.L. Serre**[†] (2010) Bayesian Maximum Entropy Integration of Ozone Observations and Model Predictions: An Application for Attainment Demonstration in North Carolina, *Environ. Sci. Technol.* Vol. 44, pp. 5707–5713.
47. Allshouse^D, W.B., M.K. Fitch, K.H. Hampton^M, D.C. Gesink, I.A. Doherty, P.A. Leone, **M.L. Serre**[†], W.C. Miller (2010) Geomasking sensitive health data and privacy protection: an evaluation using an E911 database, *Geocarto International*, Vol. 25(6), pp. 443–452. doi:[10.1080/10106049.2010.496496](https://doi.org/10.1080/10106049.2010.496496)
48. Allshouse^D, W.B., J.D. Pleil, S.M. Rappaport, **M.L. Serre**[†] (2009) Mass Fraction Spatiotemporal Geostatistics and its Application to Map Atmospheric Polycyclic Aromatic Hydrocarbons after 9/11, *Stochastic Environmental Research and Risk Assessment*. Vol. 23, pp. 1213–1223, doi:[10.1007/s00477-009-0326-y](https://doi.org/10.1007/s00477-009-0326-y)
49. Lee^D, S.J, K. Yeatts, **M.L. Serre**[†] (2009) Mapping childhood asthma prevalence across North Carolina using data collected at different spatial observation scales, *Spatial and Spatio-Temporal Epidemiology* , Vol. 1, pp 49-60.
50. Coulliette, A.D., E. Money^D, **M.L. Serre**, R.T. Noble (2009) Space/Time Analyses of Fecal Pollution and Rainfall in an Eastern North Carolina Estuary, *Environmental Science & Technology*, Vol. 43(10) pp. 3728-3735.
51. Money^D, E., G. Carter, **M.L. Serre**[†] (2009) Modern Space/Time Geostatistics using River Distances: Data Integration of Turbidity and E.coli Measurements to Assess Fecal Contamination Along the Raritan River in New Jersey, *Environmental Science & Technology*, Vol. 43(10), pp. 3736-3742.

52. Money^D, E., G. Carter, **M.L. Serre**[†] (2009) Using River Distances in the Space/Time Estimation of Dissolved Oxygen along Two Impaired River Networks in New Jersey, *Water Research*, Vol. 43, No. 7, pp. 1948-1958, doi:10.1016/j.watres.2009.01.034.
53. Akita^M, Y., G. Carter, and **M.L. Serre**[†] (2007) Spatiotemporal Non-Attainment Assessment of Surface Water Tetrachloroethene in New Jersey, *Journal of Environmental Quality*, Vol. 36, No. 2, pp. 508-520.
54. Puangthongthub^D, S., S. Wangwongwatana, R.M. Kamens, **M.L. Serre**[†] (2007) Modeling the Space/Time Distribution of Particulate Matter in Thailand and Optimizing Its Monitoring Network, *Atmospheric Environment*, Vol. 41, pp. 7788-7805, doi:10.1016/j.atmosenv.2007.06.051.
55. LoBuglio, J. N., G. W. Characklis, and **M. L Serre** (2007) Cost-effective water quality assessment through the integration of monitoring data and modeling results, *Water Resour. Res.*, Vol. 43, No. W03435, pp. 1-16, doi:10.1029/2006WR005020.
56. Wilson^D, S.M., **M.L. Serre** (2007) Use Of Passive Samplers To Measure Atmospheric Ammonia Levels In A High-Density Industrial Hog Farm Area Of Eastern North Carolina, *Atmospheric Environment*, Vol. 41, No. 28, pp. 6074-6086, doi:10.1016/j.atmosenv.2007.03.004.
57. Wilson^D, S.M., **M.L. Serre** (2007) Examination of Atmospheric Ammonia Levels near Hog CAFOs, Homes, and Schools in Eastern North Carolina. *Atmospheric Environment*, Vol. 41, No. 23, pp. 4977-4987. doi:10.1016/j.atmosenv.2006.12.055.
58. Law^D, D.C.G., K. Bernstein, **M.L. Serre**, C.M. Schumacher, P.A. Leone, J.M. Zenilman, W.C. Miller, and A.M. Rompalo (2006) Modeling an Early Syphilis Outbreak through Space and Time Using the Bayesian Maximum Entropy Approach. *Annals of Epidemiology*, Vol. 16, No. 11, pp. 797-804.
59. Savelieva, E., V. Demyanov, M. Kanevski, **M.L. Serre**, and G. Christakos (2005) BME-Based Uncertainty Assessment of the Chernobyl Fallout, *Geoderma*, Vol. 128, pp. 312-324. (Awarded best paper in *Pedometrics* for 2005).
60. Christakos, G., A. Kolovos, **M.L. Serre**, and F. Vukovich (2004) Total Ozone Mapping by Integrating Data Bases from Remote Sensing Instruments and Empirical Models, *IEEE Trans. on Geosc. and Rem. Sensing*, Vol. 42, No. 5, pp. 991-1008.
61. Douaik, A., M. Van Meirvenne, T. Tóth, and **M.L. Serre** (2004) Space-Time Mapping of Soil Salinity Using Probabilistic Bayesian Maximum Entropy, *Stochastic Environmental Research and Risk Assessment*, Vol. 18, pp. 219-227.
62. Kolovos, A., G. Christakos, D.T. Hristopoulos, and **M.L. Serre** (2004) Methods for Generating Non-separable Spatiotemporal Covariance Models With Potential Environmental Applications, *Adv. in Water Res.*, Vol. 27, No. 8, pp. 815-830.
63. Law D.C.G., **M.L. Serre**, G. Christakos, P.A. Leone, W.C. Miller (2004) Spatial Analysis and Mapping of Sexually Transmitted Diseases to Optimize Intervention and Prevention Strategies, *Sexually Transmitted Infections*, Vol. 80, pp. 294-299.
64. Quilfen, Y., B. Chapron, F. Collard, and **M. Serre** (2004) Calibration/Validation of an Altimeter Wave Period Model and Application to TOPEX/Poseidon and Jason-1 Altimeters, *Marine Geodesy*, 3/4, Vol. 27, pp. 535-550.
65. Choi, K, **M.L. Serre**, and G. Christakos (2003) Efficient Mapping of California Mortality Fields at Different Spatial Scales, *Journal of Exposure Analysis and Environmental Epidemiology*, Vol. 13, No. 2, pp. 120-133.

66. **Serre, M.L.**, G. Christakos, H. Li, and C.T. Miller (2003) A BME Solution To The Inverse Problem For Saturated Groundwater Flow, *Stochastic Environmental Research and Risk Assessment*, Vol. 17, No. 6, pp 354-369.
67. **Serre, M.L.**, A. Kolovos, G. Christakos, and K. Modis (2003) An application of the Holistochastic Human Exposure Methodology to Naturally Occurring Arsenic in Bangladesh Drinking Water, *Risk Analysis*, Vol. 23, No. 3, pp. 515-528.
68. Kolovos, A., G. Christakos, **M.L. Serre** and C.T. Miller (2002) Computational BME-Solution of Stochastic Advection Reaction Equation In The Light Of Site-Specific Information, *Water Resources Research*, Vol. 38, No. 12, pp. 1318-1336.
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70. Christakos, G. and **M.L. Serre** (2000) BME Analysis Of Particulate Matter Distributions In North Carolina, *Atmospheric Environment*, Vol. 34, pp. 3393-3406.
71. Christakos, G. and **M.L. Serre** (2000) Spatiotemporal Study Of Environmental Exposure-Health Effect Associations, *Journal of Exposure Analysis and Environmental Epidemiology*, Vol. 10, No. 2, pp. 168-187.
72. Hristopoulos, D. T., G. Christakos and **M. Serre** (1999) Implementation of a space transformation approach for solving the three-dimensional flow equation, *SIAM Journal on Scientific Computing*, Vol. 20, No. 2, pp. 619-647.
73. **Serre, M. L.**, and G. Christakos (1999) Modern geostatistics: Computational BME in the light of uncertain physical knowledge--the Equus Beds Study, *Stochastic Environmental Research and Risk Assessment*, Vol. 13, No. 1, pp. 1-26.
74. **Serre, M. L.**, A. J. Odgaard, and R. A. Elder (1994) Energy loss at combining pipe junction, *Journal of Hydraulic Engineering*, Vol. 120, No. 7, pp. 808-830.

Refereed articles in conference proceedings (total of 12)

1. E Christenson, M Serre, Using remote sensing to calculate plant available nitrogen needed by crops on swine factory farm sprayfields in North Carolina, *SPIE Remote Sensing*, 2015; 963704-963704-7
2. Parkin, R., E. Savelieva, and **M.L. Serre** (2005) "Soft" Geostatistical Analysis of Radioactive Soil Contamination, pp. 331 – 342. In P. Renard, H. Demougeot-Renard and R. Froidevaux, editors, *geoENV V - Geostatistics for Environmental Applications*, Springer, 480 p., ISBN: 978-3-540-26533-7.
3. Christakos, G., A. Kolovos, **M. L. Serre**, C. Abhishek and F. Vukovich (2004) High resolution Ozone Mapping Using Instruments On The Nimbus 7 Satellite and Secondary Information, pp. 67-78. In X. Sanchez-Vila, J. Carrera, and J. J. Gomez-Hernandez, editors, *geoENV IV - Geostatistics for Environmental Applications*, Kluwer Academic Publishers, Dordrecht, 560 p., ISBN: 978-1-4020-2114-5.
4. **Serre, M.L.**, G. Christakos, and S-J Lee^D (2004) Soft Data Space/Time Mapping of Coarse Particulate Matter Annual Arithmetic Average over the U.S., pp. 115-126. In X. Sanchez-Vila, J. Carrera, and J. J. Gomez-Hernandez, editors, *geoENV IV - Geostatistics for Environmental Applications*, Kluwer Academic Publishers, Dordrecht, 560 p., ISBN: 978-1-4020-2114-5.
5. **Serre, M.L.**, and G. Christakos (2003) Efficient BME Estimation of Subsurface Hydraulic Properties Using Measurements of Water Table Elevation in Unidirectional flow. In K. Kovar and

- Z. Hrkal, editors, *Calibration and Reliability in Groundwater Modelling: A Few Steps Closer to Reality*. IAHS Publ. no. 277, 526 p., ISBN 1-901-502-07-4.
6. Christakos, G. and **M.L. Serre**, V. Demyanov, V. Timonin, V.M. Kanevski, E. Saveliera, S. Chernov (2000) BME Analysis Of Neural Network Residual Data From Chernobyl Fallout: Bayesian And Non-Bayesian Approaches, pp. 509-510. In P. Monestiez, D. Allard and R. Froidevaux, editors, *geoENV III - Geostatistics for Environmental Applications*, Kluwer Academic Publishers, Dordrecht, 555 p., ISBN: 978-0-7923-7107-6.
 7. **Serre, M.L.**, G. Christakos, J. Howes, and A. Gamal (2000) Powering An Egyptian Air Quality Information System With The BME Space/Time Analysis Toolbox, pp. 91-100. In P. Monestiez, D. Allard and R. Froidevaux, editors, *geoENV III - Geostatistics for Environmental Applications*, Kluwer Academic Publishers, Dordrecht, 555 p., ISBN: 978-0-7923-7107-6.
 8. Bogaert, P., **M.L. Serre**, and G. Christakos (1999) Bayesian Maximum Entropy Method Using Transformations. pp. 57-62. In S. J. Lippard, A. Naess, and R. Sinding-Larsen, editors, *Proceedings of IAMG '99 - Fifth Annual Conference of the International Association for Mathematical Geology*, Trondheim, Norway, Vol. 1, 410 p., ISBN 82-995162-2-6.
 9. Christakos, G., D.T. Hristopoulos, and **M.L. Serre** (1999) BME studies of stochastic differential equations representing physical laws-Part I, pp. 63-68. In S. J. Lippard, A. Naess, and R. Sinding-Larsen, editors, *Proceedings of IAMG '99 - Fifth Annual Conference of the International Association for Mathematical Geology*, Trondheim, Norway, Vol. 1, 410 p., ISBN 82-995162-2-6.
 10. **Serre, M. L.**, and Christakos G. (1999) BME studies of stochastic differential equations representing physical laws - Part II, pp. 93-98. In S. J. Lippard, A. Naess, and R. Sinding-Larsen, editors, *Proceedings of IAMG '99 - Fifth Annual Conference of the International Association for Mathematical Geology*, Trondheim, Norway, Vol. 1, 410 p., ISBN 82-995162-2-6.
 11. Choi, K., G. Christakos and **M.L. Serre** (1998) Recent Developments In Vectorial And Multi-Point BME Analysis, pp. 91-96. In A. Buccianti, G. Nardi and R. Potenza, editors, *Proceedings of IAMG '99 - Fifth Annual Conference of the International Association for Mathematical Geology*, De Frede Editore, Napoli, Vol. 1, 496 p., ISBN 88-900308-I-X.
 12. **Serre, M. L.**, P. Bogaert and G. Christakos (1998) Computation Investigations of Bayesian Maximum Entropy Spatiotemporal Mapping, pp. 117-122. In A. Buccianti, G. Nardi and R. Potenza, editors, *Proceedings of IAMG '99 - Fifth Annual Conference of the International Association for Mathematical Geology*, De Frede Editore, Napoli, Vol. 1, 496 p., ISBN 88-900308-I-X.

Refereed abstracts in scientific journals- Published (total of 16)

1. Akita^D, Y., V. Escamilla, M.E. Emch, **M.L. Serre**[†] (2008) Space/time analysis of Cholera and Shigella incidence rates across a region of Bangladesh, *Epidemiology*, Vol. 19 (6), pp. S204-S204.
2. Akita^D, Y., J. Leber, Peter S.K. Knappett, J. Feighery, L.E. Band, M.E. Emch, B.J. Mailloux, P.J. Culligan, A.C. Layton, L.D. McKay, A. Van Geen, **M.L. Serre**[†] (2008) Spatial analysis of the distribution of bacterial pathogen indicators across shallow aquifers in Bangladesh, *Epidemiology*, Vol. 19 (6), pp. S205-S205.
3. Allshouse^D, W.B. , D.J. Hall, K.T. Mills, S.B. Wing, **M.L. Serre**[†] (2008) Spatiotemporal Exposure Assessment of Atmospheric Hydrogen Sulfide Produced by Industrial Hog Operations, *Epidemiology*, Vol. 19 (6), pp. S241-S242.

4. Allshouse^D, W.B., K.H. Hampton, P.A. Leone, W.C. Miller, **M.L. Serre**[†] (2008) Methods for Space/Time Mapping of HIV Incidence Rates in North Carolina, *Epidemiology*, Vol. 19 (6), pp. S108-S2108.
 5. Coulliette, A.D., E.S. Money, **M.L. Serre**[†], R.T. Noble, (2008) A space/time analysis framework for fecal indicator bacteria in a North Carolina estuary, *Epidemiology*, Vol. 19 (6), pp. S200-S200.
 6. Fitch, M.K., W.B. Allshouse^D, K.H. Hampton, D.C. Gesink Law, I.A. Doherty, P.A. Leone, **M.L. Serre**[†], W.C. Miller, (2008) A Comparison of Estimated Versus Actual K-Anonymity When Geomasking Sensitive Health Data, *Epidemiology*, Vol. 19 (6), pp. S202-S202.
 7. Hampton^M, K.H., M.K. Fitch, W.B. Allshouse^D, D.C. Gesink Law, I.A. Doherty, P.A. Leone, **M.L. Serre**[†], W.C. Miller, (2008) Protecting Patient Confidentiality when Mapping Health Data: An Analysis of Geomasking Algorithms, *Epidemiology*. IEEE 2008 Conference Abstracts Supplement. Vol. 19 (6), pp. S333-S334.
 8. Money^D, E., G.P. Carter, and **Serre ML**[†] (2008) Improving the Assessment of E.coli Exposure Levels Along Un-monitored Stream Reaches, *Epidemiology*. IEEE 2008 Conference Abstracts Supplement. Vol. 19 (6), pp. S162-S163.
 9. Money^D, E., D.K. Sackett, D. Aday, and **Serre ML**[†] (2008) An Integrated Spatiotemporal Approach to Improve Mercury Estimation and Exposure Assessment, *Epidemiology*. IEEE 2008 Conference Abstracts Supplement. Vol. 19 (6), pp. S187-S188.
- Serre, ML** (2008) A Bayesian Maximum Entropy Approach to Adjust for the Sampling Variability of Space/Time Disease Data, *Epidemiology*. IEEE 2008 Conference Abstracts Supplement. Vol. 19 (6), p. S20.
10. de Nazelle^D A, **Serre ML**[†] (2006) Ozone exposure assessment in North Carolina using Bayesian maximum entropy data integration of space time observations and air quality model prediction , *Epidemiology*, Vol. 17 (6), pp. S189-S189.
 11. Puangthongtub^D S, **Serre ML**[†] (2006) Regional estimates of cardiovascular and pulmonary mortality associations with atmospheric particulate matter in Thailand, *Epidemiology*, Vol. 17 (6), pp. S268-S268.
 12. Allshouse^D WB, **Serre ML**[†], Pleil J, Rappaport S., (2006) A space/time particulate matter mass fraction framework for the assessment of outdoor exposure to polycyclic aromatic hydrocarbons after 9/11 in New York City, *Epidemiology*, Vol. 17 (6), pp. S268-S269.
 13. **Serre ML**, Lee SJ, Yeatts K., (2006) Accounting for the observation scale of confidential health data to study the spatial association between childhood asthma prevalence and air pollutants in North Carolina, *Epidemiology*, Vol. 17 (6), pp. S288-S288.
 14. Wilson^D S, **Serre M**, Wing S, Ball L, Robarge W, Crawford-Brown D., (2006) Monitoring and mapping of atmospheric ammonia for human exposure assessment, *Epidemiology*, Vol. 17 (6), pp. S484-S485.
 15. Yeatts, K; Lee SJ; **Serre ML**, (2004) Spatial distribution of wheezing prevalence and airborne lead levels across rural and urban areas of North Carolina, *Epidemiology*, Vol. 16(5), pp. S163-S163.
 16. Yeatts, K; **Serre ML**; Lee SJ, (2004) Spatial Distribution of Wheezing Prevalence and Air Pollution across North Carolina, *Epidemiology*, Vol. 15(4), pp. S68-S68.

Other unrefereed articles in conference proceedings- Published (total of 5)

1. Christenson, E, **M.L. Serre** (2015) Using remote sensing to calculate plant available nitrogen needed by crops on swine factory farm sprayfields in North Carolina, Proceeding of the SPIE Remote Sensing 2015 conference, September 21-24, 2015, Toulouse, France
2. **Serre, M.L.**, S.J. Lee^D (2006) Risk Mapping of subsurface arsenic in New England using measurement error model and secondary soil-pH data, 4 p. In E. Pirard, A. Dassargues, and H.-B. Havenith, editors, *Proceedings of IAMG'2006 - XIth International Congress for Mathematical Geology*, CD S13_03, ISBN 978-2-9600644-0-7.
3. Kolovos, A., D. T. Hristopoulos, G. Christakos, and **M. L. Serre** (2004) Spatiotemporal Covariance Functions From Physical Models, pp. 157-162. In Z. Agioutantis, K. Komnitsas, editors, *Proceedings of the 1st International Conference on the Advances in Mineral Resources Management and Environmental Geotechnology*, 756 p., Heliotopos Conferences, ISBN 9608815304.
4. **Serre, M.L.**, G. Carter, and E. Money^D (2004) Geostatistical Space/Time Estimation of Water Quality Along the Raritan River Basin in New Jersey, pp. 1839-1852. In C.T. Miller, M.W. Farthing, W.G. Gray, and G.F. Pinder, editors, *Computational Methods in Water Resources 2004 International Conference*, Vol. 2., Elsevier.
5. Christakos, G., Kolovos, A., **Serre, M.L.**, and F.M. Vukovich (2003) Generating High Spatial Resolution Analyses of SBUV Stratospheric Ozone for Calculating the Tropospheric Ozone Residual (TOR), 3 p. In *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium - IGARSS 2003*, IEEE, ISBN 0780379306.

Other unrefereed articles – Internal technical reports or newsletter (total of 9)

1. Johnson D., **M.L. Serre**, G. Carter, and C.T. Miller (2005) Groundwater Arsenic Contamination in the Piedmont Physiographic Province of New Jersey, *CISE News*, Center for the Integrated Studies of the Environment, University of North Carolina, Vol. 1, pp. 12-17.
2. Lee^D, S.J., **M.L. Serre**, and G. Christakos (2005) Bayesian Maximum Entropy Mapping of Arsenic using pH-Arsenic empirical laws, *ESE Research Notes*, Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, USA, Vol 2, No. 1, pp. 12-16.
3. Kolovos, A., G. Christakos, and **M.L. Serre** (2003) Visual Representations of Non-Separable Spatiotemporal Covariance Models, *CASE News*, Center for the Integrated Studies of the Environment, University of North Carolina, Chapel Hill, N.C, Vol. 1, No. 2, 3 pages.
4. **Serre, M.L.**, and G. Christakos (2002) BME-Based Hydrogeologic Parameter Estimation, In Groundwater Flow Modeling, Prague, Czech Republic, *Acta Universitatis Carolinae Geologica*, Vol. 46, 2/3, pp. 566-570.
5. **Serre, M. L.** (2001) Numerical aspects of the implementation of the BME method using soft information, *CASEnews*, Center for the Advanced Studies of the Environment, University of North Carolina, Chapel Hill, N.C, Vol. 1, No. 2, 6 pages.
6. **Serre, M. L.**, (1999) *Mapping Atmospheric Pollutants and Analyzing Their Health Effect in the Face of Uncertain Information: A relevant Framework for Developing Countries*, ESEnotes, July, 1999, 4 pages.
7. **Serre, M. L.** (1999) *Environmental Spatiotemporal Mapping and Groundwater Flow Modeling using the BME and ST methods*, Ph.D. Dissertation, Depart. of Environmental Sciences & Engineering, University of North Carolina at Chapel Hill, 236 p.
8. **Serre, M. L.** (1995) *User's manual for Water Surface Profiling*, Eagle Point Corporation, Iowa, USA.

9. Odgaard, A. J. and **M. L. Serre** (1992) Hydraulic Model Studies For Fish Diversion at Wanapum/Priest Rapid Developments, *Research technical report*, Iowa Institute of Hydraulic, Iowa, USA.

Presentations

Presentations - invited talks (total of 15)

1. **Serre, M.L.**, 2017. Incorporating river distances and flow in the geostatistical estimation of surface water quality in rivers of North Carolina and Maryland, Geospatial Forum, Center for Geospatial Analytics, NC State University, February 16, 2017, Invited Talk, Raleigh, NC, USA
2. **Serre, M.L.**, 2011. Estimation of PCE and Arsenic in private wells using land use regression and space/time statistics, Environmental Health Translation Symposia hosted by the North Carolina Department of Human and Health Services, Division of Public Health, Occupational and Environmental Epidemiology Branch, Invited Talk, Raleigh, NC, USA. February 11.
3. **Serre, M.L.**, 2008. A Bayesian Maximum Entropy Approach to Adjust for the Sampling Variability of Space/Time Disease Data, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Invited Talk, Pasadena, CA, USA. October 12-16.
4. **Serre, M.L.**, 2007. Introduction to Bayesian Maximum Entropy, Department of Statistics, University of Nebraska, Invited Talk, Lincoln, July 11-12.
5. **Serre, M.L.**, 2006. A Spatial Analysis Framework Adjusting For Sampling Variability And Observation Scale Effects In Disease And Health Disparity Mapping, The Seminar Series On Methods In Health Disparities Research, The Cecil Sheps Center For Health Services Research, Invited Talk, Chapel Hill, North Carolina, USA, January 13.
6. **Serre, M.L.**, 2006. Integrating Multiple Source Data for the Water Quality Assessment of River Networks using a Geostatistical Bayesian Maximum Entropy Framework with River Metric, IHR seminar series, IHR- Hydroscience & Engineering, the University of Iowa, Invited Talk, Iowa City, IA, USA, April 14.
7. **Serre, M.L.**, 2006. Assessing Surface Water Quality in New Jersey: Using GIS, spatio-temporal Geostatistics, and BME, The New Jersey Department of Environmental Protection, Invited Talk, Trenton, NJ, USA, May 15.
8. **Serre, M.L.**, 2004. Modern space/time geostatistical modeling of environmental contaminants and their health effects, North Carolina Department of Environmental Natural Resources, Invited Talk, Raleigh, NC, April 8.
9. **Serre, M.L.**, 2004. Advanced Temporal GIS Techniques for Spatial/Temporal Mapping of Environmental Pollutants in the Air and Groundwater, Department of Geology, Environmental and Marine Sciences, Elizabeth City State University, Invited Talk, Elizabeth City, NC, March 30.
10. **Serre, M.L.**, 2004. Modern Geostatistics for Environmental Mapping Applications, Department of Soil Sciences, North Carolina State University, Invited Talk, Raleigh, September 15.
11. **Serre, M. L.**, 2003. Scientific air pollution mapping across space and time: Dealing with data uncertainties and the integration of physical laws. Statistical and Applied Mathematical Sciences Institute (SAMSI) / Geophysical Statistics Project – National Center for Atmospheric Research (GPS.–NCAR) workshop on Spatio-Temporal Modeling, Invited Talk, Boulder, Colorado, USA, June 1-6.

12. **Serre, M.L.**, 2003. Space/Time Mapping of Coarse Particulate Matter Annual Arithmetic Average over the U.S., the National Institute of Environmental Health and Sciences, Invited Talk, Research Triangle Park, NC, December 18.
13. **Serre, M. L.**, 2002. Geostatistics in Space/Time and in the face Uncertain Measurements: The BME approach and applications to PM10, PM2.5 and other environmental exposure analysis, Environmental Protection Agency, Invited Talk, Research Triangle Park, November 21.
14. **Serre, M. L.**, 2002. Modeling uncertainty when mapping exposure to particulate matter in the air, Environmental and Occupational Health Sciences Institute, Exposure Assessment Division, Rutgers University, Invited Talk, Piscataway, March 1, 2002.
15. **Serre, M. L.**, 2001. Space/time modeling of particulate matter in the United and abroad using uncertain information, Department of Statistics, North Carolina State University, Invited Talk, Raleigh, November 13.

Refereed presentations at national and international conferences (total of 177)

^M Masters or ^D PhD students who substantially worked with Dr. Serre

1. Jiu-Chiuan Chen, Ramon Casanova, Xinhui Wang, **Marc L. Serre**, William Vizuete, Helena Chang Chui, Susan M. Resnick, Mark A. Espeland, Neurotoxic Effects of Ambient Air Pollution on Brain Structure and Dementia Risk in Older Women, *International Association of Gerontology and Geriatrics (IAGG) World Congress*, July 23-27, 2017, San Francisco, CA, USA
2. Ivan C. Hanigan, Geoffrey G. Morgan, Grant J. Williamson, Luke D. Knibbs, Joshua Horsley, Margaret Rolfe, Martin Cope, Christine T. Cowie, Jane S. Heyworth, **Marc L. Serre**, Blending multiple data sources for neighbourhood estimates of long-term nitrogen dioxide exposure for health research, *International Society for Environmental Epidemiology (ISEE) Annual Conference*, September 24-28, 2017, Sydney, Australia
3. Yue Zhang, Xinhui Wang, Mark A Espeland, Margaret Gatz, Kathleen M Hayden, JoAnn E Manson, **Marc L Serre**, Helena C Chui, William Vizuete, Meng Liu, Jiu-Chiuan Chen, Trajectories of Cognitive Aging in Older Women: Role of Fine Particulate Matter, *International Society for Environmental Epidemiology (ISEE) Annual Conference*, September 24-28, 2017, Sydney, Australia
4. M. Buechlein^D, **M. Serre**, J. West, Y. Zhang, Statistical Fusion of Present-Day Observed Global Ozone Concentrations and CCMI-1 Multi-Model Surface Ozone, Annual Meeting of the International Society of Exposure Science, October 15-19, Research Triangle Park, NC, USA
5. Adrien Wilkie^D, Steve Wing, Yasu Akita, **Marc Serre**, Stephanie Engel, Alex Keil Community health impacts from treated sewage sludge (TSS) applied to rural land: markers of off-site migration, Environmental Justice Summit, October 20-21, 2017, Whitakers, NC, USA
6. Casanova R., Wang X., Xu Y., Reyes J. ^D, **Serre ML.**, Vizuete W., Driscoll I., Chui H., Resnick SM., Espeland MA., Chen JC, Neurotoxicity of Ambient Air Pollution on Brain Structure of Older Women, *ISEE conference*, September 01-04, 2016, Rome, Italy
7. Prahlad Jat^D and **Marc L. Serre**, Space/Time Geostatistical Estimation of Chloride along Maryland Rivers Using a Covariance Model with River Distances, International Conference on Environmental Science and Technology, June 6-10, 2016, Houston, TX, US, oral presentation

8. Riyana Ayub, Daniel R. Obenour, Kyle P. Messier^D, **Marc L. Serre**, and Kumar Mahinthakumar, Non-point source evaluation of groundwater contamination from agriculture under geologic and hydrologic uncertainty, *ASCE EWRI conference*, May 22-26, 2016, West Palm Beach, FL, USA, poster presentation
9. Shih Ying Chang^D, William Vizuite, **Marc Serre**, Vlad Isakov, Saravanan Arunachalam, Fine-scale characterization of premature deaths associated with exposure to PM2.5 from onroad sources in Central North Carolina, *NC Breathe Conference*, April 08, 2016, Charlotte, NC, poster presentation
10. David A. Holcomb^D, Kyle P. Messier^D, **Marc L. Serre**, Jakob Rowny, Jill R. Stewart, Predicting microbial water quality in an inland stream network: a comparison of statistical modeling approaches and the role of observational data in assessing compliance with water quality standards, *Water Research Resources Institute conference*, March 17-19, 2016, Raleigh, NC, USA, poster presentation
11. Reyes, J. ^D, **Serre, M.**, Vizuite, W., Xu, Y. A Novel Approach of Understanding and Incorporating Error of Chemical Transport Models into a Geostatistical Framework, *American Geophysical Union*, December 15, 2015, San Francisco, CA, USA, Oral Presentation.
12. Messier, K. ^D, **Serre, M.**, Development of an Anisotropic Geological-Based Land Use Regression and Bayesian Maximum Entropy Model for Estimating Groundwater Radon across Northing Carolina, *American Geophysical Union*, December 15, 2015, San Francisco, CA, USA, Poster.
13. M.L. Nadimpalli, S.M. Rhodes, **M.L. Serre**, C.D. Heaney, J.R. Stewart, Recovery of antibiotic-resistant *Staphylococcus aureus* from surfaces in industrial hog operation workers' households in North Carolina, *4th ASM-ESCMID Conference on Methicillin-resistant Staphylococci in Animals: Veterinary and Public Health Implications*, November 02-05, 2015, Chicago, Poster Presentation.
14. Reyes, J. and **Serre, M.** Non-Linear Regionalized PM2.5 Community Multi-scale Air Quality Model Performance Evaluation, *International Society of Exposure Science*, October 21, 2015, Henderson, NV, USA, Oral Presentation.
15. Reyes, J., Vizuite, W., and **Serre, M.** A Novel Approach to Characterizing Regionalized PM2.5 Community Multi-scale Air Quality Model Performance, *Community Modeling and Analysis*, October 6, 2015, Chapel Hill, NC, USA, Poster Presentation.
16. Shih Ying Chang, Saravanan Arunachalam, **Marc Serre**, Vlad Isakov, Characterizing the premature death associated with exposure to PM2.5 from onroad sources, , *Community Modeling and Analysis*, October 6, 2015, Chapel Hill, NC, USA, Oral Presentation.
17. Christenson, E, **M.L. Serre**, Using remote sensing to calculate plant available nitrogen needed by crops on swine factory farm sprayfields in North Carolina, *SPIE Remote Sensing 2015 conference*, September 21-24, 2015, Toulouse, France. Presentation
18. Casanova R., Wang X. Reyes J., Akita Y., **Serre ML.**, Vizuite W., Chui H., Driscoll I., Resnick SM., Espeland MA., Chen JC, Exposures to fine particulate air pollutants are associated with smaller brain volumes in older women: a voxel-based analysis, *Alzheimer's Association International Conference*, July 18-23, 2015, Washington DC, USA, Oral presentation.
19. Cope AB, KA. Powers, **ML Serre**, PA Leone, ME Emch, VL Mobley, WC. Miller, Travelling longer distances to a testing site than geographically necessary is associated with delays in HIV diagnosis, *Annual Meeting of the Society for Epidemiologic Research*, June 16-19, 2015, Denver, CO, USA, presentation
20. Holcomb D, K Messier , **ML Serre** , J Rowny , J Stewart, Geostatistical prediction of microbial water quality on an urbanizing inland stream network, *Water Microbiology Conference*, May 18-21, 2015, Chapel Hill, NC, USA, poster
21. Chen JC, Wang X, **Serre ML**, Espeland MA, Neurotoxicity of Exposure to Ambient Fine Particles on Brain Structure: Evidence from Women's Health Initiative Memory Study, *Health Effect Institute Conference*, May 03-05, Philadelphia, PA, USA

22. Christenson, E, **M.L. Serre**, Improving estimation of nutrient application from swine CAFOs by creating the first spatial database of industrial swine operation sprayfields, *Water Resource Research Institute Annual Conference*, March 18-19, 2015, Raleigh, NC, USA,. Poster
23. Murchison, M, **M.L. Serre**, A BME framework to map the zip-code average of inorganic chemicals across the private wells of North Carolina and visualize the effect of waste sites on groundwater quality, *Water Resource Research Institute Annual Conference*, March 18-19, 2015, Raleigh, NC, USA,. Poster
24. Messier, KP, R Bolich, E Kane, **ML Serre**, Evidence for Legacy Contamination of Nitrate in Groundwater of North Carolina Using Monitoring and Private Well Data Models, *American Geophysical Union*, December 15-19, 2014, San Francisco, CA, USA, Poster
25. Wing, S, Y Akita, **ML Serre**, R Hale, D Luellen, Deca-BDE concentrations in pine and cedar needles are correlated with land application of treated sewage sludge, *American Public Health Association conference*, November 15-19, 2014, New Orleans, LA, USA, oral
26. Lindstrom, AB, MJ Strynar, L McMillan, D Knappe, E Arevalo, S Wing, A Lowman, **ML Serre**, and P Jat, Surface Disposal of Waste Water Treatment Plant Biosludge - an Important Source of Perfluorinated Compound Contamination in the Environment?, *35th SETAC North America Annual Meeting*, November 9-13, 2014, Vancouver, BS, Canada, oral
27. Xu, Y, W Vizuete, **M.L. Serre**, Bayesian Maximum Entropy Integration of Ozone Observations and Air Quality Model data for Improved Exposure Estimates, *13th Annual Community Modeling and Analysis System (CMAS) Conference*, Chapel Hill, NC, October 27-29, 2014, poster
28. Akita, Y, **M.L. Serre**, J. West, The Influence of Modeling Approach and Grid Resolution on Global Exposure Estimates, *13th Annual Community Modeling and Analysis System (CMAS) Conference*, Chapel Hill, NC, October 27-29, 2014, poster
29. Christenson, E, **M.L. Serre**, Creating a spatial database of sprayfields and its impact on water quality assessment, *Environmental justice summit*, Whitakers, NC, USA, October 17-18, 2014.
30. Jeanette Reyes, **Marc Serre**. Combining Observed PM2.5 with Regionalized Bias- Corrected Chemical Transport Models, *International Society of Environmental Epidemiology Annual Conference*, Seattle, WA, USA, August 24-28, 2014. Oral Presentation
31. Lani Fox, William Miller, Dione Gesink, Irene Doherty, Peter Leone, Dell Williams, and **Marc Serre**, Disease mapping of syphilis in Forsyth County, North Carolina with enhanced geoprivacy and, *Spatial Accuracy 2014, 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, East Lansing, MI, USA, July 8-11, 2014. Oral Presentation.
32. D Holcomb, **M Serre**, J Rowny and J Stewart, Application of predictive and space/time interpolative models of fecal contamination in an urbanizing watershed, *2014 Water Microbiology Conference The University of North Carolina at Chapel Hill*, Chapel Hill, NC, USA, May 5-9, 2014. Poster
33. Dohyeong Kim, **Marc Serre**. Spatial Mapping of Community-Level Child Immunization Coverage for Targeted Policy Interventions in Bangladesh. *Association of American Geographers Annual Meeting*, Tampa, FL, USA, April 8-12, 2014, Oral Presentation
34. Wing S, Lowman A, Marshall S, Keil A, Hale R, Akita Y, **Serre M**. Odors from sewage sludge and livestock: Associations with self-reported health. *American Public Health Association conference*, Boston, MA, November 2-6, 2013, poster
35. Alejandro Valencia, Saravanan Arunachalam, Yasuyuki Akita, **Marc Serre**, Valerie Garcia, Vlad Isakov. Estimating Regional Background Air Quality using Space/Time Ordinary Kriging to Support Exposure Studies, *12th Annual Community Modeling and Analysis System (CMAS) Conference*, Chapel Hill, NC, October 28-30, 2013, poster.
36. Prahlad Jat, Yasuyuki Akita, and **Marc L. Serre**. Implementation of User-Friendly Features in BMEGUI version 3.0 to Model the Covariance of Superfund Surface Water Contaminants Using a River Metric, *Superfund Research Program annual conference*, Baton Rouge, Louisiana, October 15-17, 2013, poster

37. Michael Jerrett, Michelle C. Turner, Bernardo S. Beckerman, Arden Pope, Randall Martin, **Marc Serre**, Susan M. Gapstur, Daniel Krewski, Ryan Diver, George Thurston, Richard T. Burnett. Comparing Remote Sensing, Atmospheric Chemistry, and Ground-based Estimates of Fine Particulate Matter on Survival. *International Society of Environmental Epidemiology - International Society of Environmental Sciences Annual Conference joint Conference* - conference, Basel, Switzerland, August 19-23, 2013. Poster.
38. V. Escamilla, K.H. Hampton, D.C. Gesink, P.A. Leone1, **M.L. Serre**, M. Emch, W.C. Miller. Influence of spatial scale and zone on syphilis cluster detection in North Carolina, *STI & AIDS WorldCongress*, Vienna, July 14-17, 2013.
39. Amy E. Kalkbrenner, Gayle C. Windham, **Marc L. Serre**, Yasuyuki Akita, Xuexia Wang, Brian P. Thayer, Julie L. Daniels. Exposure to Ambient Course Particulate Matter by Gestational Period and Autism Spectrum Disorders in North Carolina and California, *47th annual meeting of the Society for Epidemiological Research*, Seattle, June 24-27, 2014, Poster
40. Chen JC, Akita Y, Franklin M, **Serre ML**, Ambient Air Pollutants and Risk of Cognitive Impairment in the Elderly, *HEI Annual conference*, San Francisco, April 14-16, 2013, Poster.
41. Messier, K.P.; Akita, Y.; Campbell, T.; **Serre, M.L.**; You're too Gneiss, You take me for Granite: Preliminary Geology-based Land Use Regression and Kriging Analysis of Groundwater Radon Across North Carolina. In: North Carolina, *Water Resource Research Institute Annual Conference*, Raleigh, NC, USA, March 20-21, 2013 . Oral Presentation.
42. Messier, K.P.; Akita, Y.; Bolich, R.; Kane, E.; **Serre, M.L.**; Preliminary Results of Land Use Regression and Kriging Analysis of Groundwater Nitrate Across North Carolina. In: North Carolina Water. *Resource Research Institute Annual Conference*, Raleigh, NC, USA, March 20-21, 2013 . Poster Presentation.
43. Messier, K.P.; Akita, Y.; **Serre, M.L.**; Integrating Address Geocoding, Land Use Regression and Spatiotemporal Geostatistical Estimation for Groundwater PCE. *North Carolina GIS Conference*, Raleigh, NC, USA, February 7-8, 2013. Invited Oral Presentation.
44. Messier^D, K.P., Y. Akita, R. Bolich, T. Campbell, **M.L. Serre**, 2012. Multiple North Carolina groundwater radon data sources and correlations with geological rock types, *Annual Conference of the Water Resources Research Institute of North Carolina*, Oral Presentation, Raleigh, NC, USA, March 27-28.
45. Messier^D, K.P., Y. Akita, R. Bolich, E. Kane, **M.L. Serre**, 2012. Building of a North Carolina groundwater nitrate database using multiple data sources and land use regression modeling, *Annual Conference of the Water Resources Research Institute of North Carolina*, Oral Presentation, Raleigh, NC, USA, March 27-28.
46. McKay, L.D., A.C. Layton, P.S.K. Knappett, B.J. Mailloux, P.J. Culligan, A. Ferguson, J. Feighery, M. Emch, V. Escamilla, **M.L. Serre**, Y. Akita, J. Wu, K.M. Ahmed, M.J. Alam, M. Yunus, M. K. Streatfield, and A. van Geen, 2012. Field investigations of fecal contamination in aquifers and wells in rural Bangladesh, *The Canadian Water Network Conference on Assessing Pathogen fate, transport and risk in natural and engineered water treatment*, Banff Centre, Banff, Alberta, Canada, September 23-26.
47. Prahlad Jat^D, Yasuyuki Akita, and **Marc L. Serre**. BMEGUI: Software for Geostatistical Estimation of Superfund Chemical Contaminants in Stream Water. *The 25th Annual Meeting of the Superfund Research Program* Raleigh, NC, USA October 21-24, 2012
48. Bolich, Richard E.; Bradley, Philip J.; **Serre, Marc L.**; Kane, Evan O.: Using geologic maps to predict groundwater quality data in the crystalline rock terranes of North Carolina, *2012 GSA Annual Meeting & Exposition*, Charlotte, NC, USA, November 4-7, 2012
49. Akita, Y., V. Escamilla, J. Wu, A. van Geen, P.J. Culligan, M. Emch, A.C. Layton, B.J. Mailloux, L.D. McKay, L. Band, M. Yunus, P.K. Streatfield, **M.L. Serre**, 2011. Inter annual variability of community surveyed diarrheal disease among children from 2000 to 2002 in Matlab, Bangladesh, *Water and Health: Where Sciences Meets Policy*, Oral Presentation, Chapel Hill, NC, USA, October 3-7.

50. Jat^D, P., **M.L. Serre**, 2011. A Flexible Geostatistical Tool to Find Optimal Locations where to Sample Ammonia across a Coastal Water Body in New Jersey, *Water and Health: Where Sciences Meets Policy*, Oral Presentation, Chapel Hill, NC, USA, October 3-7.
51. Knappett, P.S.K., L.D. McKay, A. Layton, D.E. Williams, Md.J. Alam, Md.R. Huq, K.M. Ahmed, J. Mey, P.J. Culligan, B.J. Mailloux, V. Escamilla, M. Emch, **M.L. Serre**, A. van Geen, 2011. Examining the Connection between Tubewell Water Quality and Ponds in Rural Bangladesh, *Water and Health: Where Sciences Meets Policy*, Oral Presentation, Chapel Hill, NC, USA, October 3-7.
52. Layton, A.C., L. McKay, A.S. Ferguson, B.J. Mailloux, P.J. Culligan, A. van Geen, D.E. Williams, A.E. Smartt, P. Knappett, K.M. Ahmed, M. Emch, **M.L. Serre**, P.K. Streatfield, M. Yunus, 2011. Abundance and prevalence of bacterial and viral pathogens in Bangladesh surface and ground water during wet and dry seasons, *Water and Health: Where Sciences Meets Policy*, Oral Presentation, Chapel Hill, NC, USA, October 3-7.
53. Messier^D, K.P., Y. Akita, R. Bolich, E. Kane, **M.L. Serre**, 2011. Building of a North Carolina Groundwater Nitrate database using Private Well data and Land Use Regression, *Water and Health: Where Sciences Meets Policy*, Oral Presentation, Chapel Hill, NC, USA, October 3-7.
54. Knappett, P.S.K., L.D. McKay, A. Layton, D.E. Williams, K.M. Ahmed, P.J. Culligan, B.J. Mailloux, M. Emch, **M.L. Serre**, A. van Geen, 2011. Transport of Fecal Bacteria from Ponds to Aquifers in Rural Bangladesh: The Role of Adjacent Sediment Grain Size, *Fragile Earth International Conference*, Munich, Germany, September 4-7.
55. Culligan, P., B. Mailloux, A. Ferguson, Y. Akita^D, **M.L. Serre**, V. Escamilla, M. Emch, L. Taylor, P. Knappett, A. van Geen, 2011. Improved approaches for determining safe latrine to well setback distances may be more effective in rapidly urbanizing areas, *The World Water Week Conference*, Stockholm, Sweden, August 26-31.
56. Gesink, D.C., A.B. Sullivan, T. Norwood, **M.L. Serre**, W.C. Miller, 2011. Does Core Theory Apply in Rural Environments?, *The 19th meeting of the International Society for Sexually Transmitted Diseases Research*, Québec City, Canada, July 10-13.
57. van Geen, A., K.M. Ahmed, Y. Akita^D, Md.J. Alam, P. Culligan, J. Feighery, A.S. Ferguson, M. Emch, V. Escamilla, P. Knappett, A. Layton, B. Mailloux, L.D. McKay, J.L. Mey, **M.L. Serre**, P.K. Streatfield, J. Wu, Md. Yunus, 2010. Could Arsenic Mitigation Lead to Increased Diarrheal Disease in Bangladesh?, *American Geophysical Union Joint Assembly*, Poster Presentation, San Francisco, CA, USA, December 13-17.
58. van Geen, A., K.M. Ahmed, Y. Akita^D, Md.J. Alam, P. Culligan, J. Feighery, A.S. Ferguson, M. Emch, V. Escamilla, P. Knappett, A. Layton, B. Mailloux, L.D. McKay, J.L. Mey, **M.L. Serre**, P.K. Streatfield, J. Wu, Md. Yunus, 2010. Could Arsenic Mitigation Lead to Increased Diarrheal Disease in Bangladesh?, *American Geophysical Union Joint Assembly*, Poster Presentation, San Francisco, CA, USA, December 13-17.
59. Knappett, P.S.K., V. Escamilla, A. Layton, L.D. McKay, M. Emch, B. Mailloux, D.E. Williams, Md.R. Huq, Md. J. Alam, L. Farhana, A. S Ferguson, G.S. Saylor, K.M. Ahmed, **M.L. Serre**, Y. Akita, Md. Yunus, A. van Geen, 2010. Factors Influencing Fecal Contamination in Pond of Bangladesh, *American Geophysical Union Joint Assembly*, Poster Presentation, San Francisco, CA, USA, December 13-17.
60. Akita, Y.^D, V. Escamilla, M. Emch, J. Feighery, P. Knappett, A. Ferguson, Md. J. Alam, K.M. Ahmed, M. Yunus, K. Streatfield, L. Band, P.J. Culligan, A.C. Layton, B.J. Mailloux, L.D. McKay, A. van Geen, **M.L. Serre**, 2010. Effect of Latrines on the Spatiotemporal Distribution of E. Coli Concentration Across Tubewells in Rural Bangladesh, *Water and Health: Where Sciences Meets Policy*, Poster Presentation, Chapel Hill, NC, USA, October 3-7.
61. Akita, Y.^D, M. Emch, A. van Geen, Md. J. Alam, J. Feighery, V. Escamilla, P. Knappett, A. Ferguson, K.M. Ahmed, M. Yunus, L. Band, P.J. Culligan, A.C. Layton, B.J. Mailloux, L.D. McKay, **M.L. Serre**, 2010. Hydrology Driven Changes in the Extend of Groundwater Fecal

- Contamination in a Shallow Aquifer in Bangladesh, *Water and Health: Where Sciences Meets Policy*, Poster Presentation, Chapel Hill, NC, USA, October 3-7.
62. Messier, K.^M, **M.L. Serre**, 2010. Estimation of Tetrachloroethylene in North Carolina Groundwater Utilizing Multiple Data Sources, *Water and Health: Where Sciences Meets Policy*, Poster Presentation, Chapel Hill, NC, USA, October 3-7.
 63. Sanders, A.P. , K.P. Messier^M, J. Neal, M. Shehee, K. Rudo, **M.L. Serre**, R.C. Fry, 2010. Mapping Arsenic Levels in North Carolina Private Well Waters, *41th Annual Meeting of the Environmental Mutagenesis Society*, Poster Presentation, Fort Worth, TX, USA, October 23-27.
 64. Messier, K., **M.L. Serre**, 2010. Cost-Effective Methods for Estimation of Groundwater Contamination in North Carolina, *2010 Annual Conference of the Water Resources Research Institute of North Carolina*, Oral Presentation, Raleigh, NC, USA, March 30-31.
 65. A. van Geen, P.J. Culligan, J. Feighery, A.S. Ferguson, M. Emch, V. Escamillo, J. Wu, A.C. Layton, B.J. Mailloux, L.D. McKay, P. Knappett, **M.L. Serre**, Y. Akita^D, P.K. Streatfield, M. Yunus, K.M. Ahmed, M.R. Huq, M.J. Alam, 2010. Fecal contamination in tubewell water of Bangladesh: Part I - Spatial and temporal patterns, *Ecology and Evolution of Infectious Diseases 2010*, Oral Presentation, Atlantic City, NJ, USA, March 22 – 25.
 66. V. Escamillo, M. Emch, P.J. Culligan, J. Feighery, A.S. Ferguson, J. Wu, A.C. Layton, B.J. Mailloux, L.D. McKay, P. Knappett, **M.L. Serre**, Y. Akita^D, P.K. Streatfield, M. Yunus, K.M. Ahmed, M.R. Huq, M.J. Alam, A. van Geen, 2010. Fecal contamination in tubewell water of Bangladesh: Part II - Impact on diarrheal disease, *Ecology and Evolution of Infectious Diseases 2010*, Oral Presentation, Atlantic City, NJ, USA, March 22 – 25.
 67. A.C. Layton, B.J. Mailloux, P.J. Culligan, J. Feighery, A.S. Ferguson, M. Emch, V. Escamillo, J. Wu, L.D. McKay, P. Knappett, **M.L. Serre**, Y. Akita^D, P.K. Streatfield, M. Yunus, K.M. Ahmed, M.R. Huq, M.J. Alam, A. van Geen, 2010. Fecal contamination in tubewell water of Bangladesh: Part III - Pathogens and indicators, *Ecology and Evolution of Infectious Diseases 2010*, Poster Presentation, Atlantic City, NJ, USA, March 22 – 25.
 68. Y. Akita^D, J. Feighery, P. Knappett, P.J. Culligan, L.D. McKay, **M.L. Serre**, A.S. Ferguson, M. Emch, V. Escamillo, J. Wu, A.C. Layton, B.J. Mailloux, P.K. Streatfield, M. Yunus, K.M. Ahmed, M.R. Huq, M.J. Alam, A. van Geen, 2010. Fecal contamination in tubewell water of Bangladesh: Part IV - Identifying sources, *Ecology and Evolution of Infectious Diseases 2010*, Poster Presentation, Atlantic City, NJ, USA, March 22 – 25.
 69. A.S. Ferguson, B.J. Mailloux, P.J. Culligan, J. Feighery, M. Emch, V. Escamillo, J. Wu, A.C. Layton, L.D. McKay, P. Knappett, **M.L. Serre**, Y. Akita^D, P.K. Streatfield, M. Yunus, K.M. Ahmed, M.R. Huq, M.J. Alam, A. van Geen, 2010. Fecal contamination in tubewell water of Bangladesh: Part I - Spatial and temporal patterns, *Ecology and Evolution of Infectious Diseases 2010*, Poster Presentation, Atlantic City, NJ, USA, March 22 – 25.
 70. Chen, J.C., M.A. Espeland, **M.L. Serre**, C.V. Murphy, 2009. Particulate Air Pollutants, Risk of Cognitive Impairment, and Neuropathology in Elderly Women, *Health Effects Institute Annual Conference 2009*, Oral Presentation, Portland, Oregon, USA. May 3 – 5.
 71. Allshouse^D, W.B., M.K. Fitch, K.H. Hampton^M, D.C. Gesink Law, I.A. Doherty, P.A. Leone, **M.L. Serre**, W.C. Miller, 2009. An Evaluation Of Privacy Protection When Geomasking STI Data, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 72. Doherty, I.A., S.Q. Muth, A.A Adimora, M.K. Fitch, J.S. Tarman^M, K.H. Hampton^M, D.C. Gesink Law, W.B. Allshouse^D, **M.L. Serre**, P.A. Leone, W.C. Miller, 2009. Sexual Mixing Patterns by Geography, Race/Ethnicity, Age, and Sexual Activity During a Heterosexual Syphilis Outbreak in

- North Carolina, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
73. Doherty, I.A., S.Q. Muth, A.A. Adimora, D.C. Gesink Law, M.K. Fitch, K.H. Hampton^M, W.B. Allshouse^D, **M.L. Serre**, P.A. Leone, W.C. Miller, 2009. Where Was the Outbreak? Use of Number of Cases, Incidence Rates, and Sexual Networks to Assess a Syphilis Outbreak in North Carolina, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 74. Doherty, I.A., S.Q. Muth, M.K. Fitch, D.C. Gesink Law, W.B. Allshouse^D, **M.L. Serre**, P.A. Leone, W.C. Miller, 2009. Geographical Trends of Compactness and Directional Bias of Sexual Networks in North Carolina during an Outbreak, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 75. Gesink Law, D., T. Norwood, A. Sullivan, M. Fitch, **M.L. Serre**, W. Miller, 2009. Core Areas in Rural Environments, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 76. Hampton^M, K.H., M.K. Fitch, W.B. Allshouse^D, D.C. Gesink Law, I.A. Doherty, P.A. Leone, **M.L. Serre**, W.C. Miller, 2009. Mapping Individual STD Case Data: Geomasking Events to Protect Patient Privacy, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 77. Sullivan, A., D. Gesink Law, L. Zhou, P. Brown, M. Fitch, **M.L. Serre**, W.C. Miller, 2009. Do Social Determinants Influence the Spatiotemporal Pattern of Gonorrhea in North Carolina, USA, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Poster Presentation, London, UK. June 28 – July 1.
 78. Tarman^M, J.S., M.K. Fitch, D.C. Gesink Law, A. Sullivan, T. Norwood, K.H. Hampton^M, I.A. Doherty, W.B. Allshouse^D, P.A. Leone, W.C. Miller, **M.L. Serre**, 2009. Modeling a Syphilis Outbreak in North Carolina Using the BMGUI Tool of Modern Space/Time Geostatistics, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Oral Presentation, London, UK. June 28 – July 1.
 79. A. Van Geen, K.M. Ahmed, L.E. Band, P.J. Culligan, M.E. Emch, A.C. Layton, B.J. Mailloux, L.D. McKay, P.K. Streatfield, **M.L. Serre**, M. Yunus, 2009. Does Arsenic Mitigation in Bangladesh Raise Exposure to Bacterial and Viral Pathogens? *Ecology and Evolution of Infectious Diseases 2009 Meeting*, Invited Oral Presentation, Park City, UT, USA. March 30-April 3.
 80. Akita, Y., V. Escamilla, M.E. Emch, **M.L. Serre**, 2008. Space/time analysis of Cholera and Shigella incidence rates across a region of Bangladesh, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
 81. Akita, Y., J. Leber, Peter S.K. Knappett, J. Feighery, L.E. Band, M.E. Emch, B.J. Mailloux, P.J. Culligan, A.C. Layton, L.D. McKay, A. Van Geen, **M.L. Serre**, 2008. Spatial analysis of the distribution of bacterial pathogen indicators across shallow aquifers in Bangladesh, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Oral Presentation, Pasadena, CA, USA. October 12-16.
 82. Allshouse, W.B., D.J. Hall, K.T. Mills, S.B. Wing, **M.L. Serre**, 2008. Spatiotemporal Exposure Assessment of Atmospheric Hydrogen Sulfide Produced by Industrial Hog Operations, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
 83. Allshouse, W.B., K.H. Hampton, P.A. Leone, W.C. Miller, **M.L. Serre**, 2008. Methods for Space/Time Mapping of HIV Incidence Rates in North Carolina, *International Society for*

- Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
84. Coulliette, A.D., E.S. Money, **M.L. Serre**, R.T. Noble, 2008. A space/time analysis framework for fecal indicator bacteria in a North Carolina estuary, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
 85. Fitch, M.K., W.B. Allshouse, K.H. Hampton, D.C. Gesink Law, I.A. Doherty, P.A. Leone, **M.L. Serre**, W.C. Miller, 2008. A Comparison of Estimated Versus Actual K-Anonymity When Geomasking Sensitive Health Data, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Oral Presentation, Pasadena, CA, USA. October 12-16.
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 87. Money, E., G.P. Carter, and **M.L. Serre**, 2008. Improving the Assessment of E.coli Exposure Levels Along Un-monitored Stream Reaches, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Oral Presentation, Pasadena, CA, USA. October 12-16.
 88. Money, E., D.K. Sackett, D. Aday, and **M.L. Serre**, 2008. An Integrated Spatiotemporal Approach to Improve Mercury Estimation and Exposure Assessment, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
 89. P. Knappett, L. McKay, A. Layton, M. Mahmudul Hasan, D. Williams, **M. Serre**, K.M. Ahmed, P. Culligan, L. Band, B. Mailloux, M. Emch, A. van Geen, 2008. Investigating Fecal Contamination Pathways to an Unconfined Sandy Aquifer in Bangladesh, *Geological Society of America, 2008 Joint Annual Meeting*, abstract submitted, Houston, TX, USA, October 5-9.
 90. **Serre, M.L.**, Y. Akita, V. Escamilla, M. Emch, A. Kolovos, 2008. Spatial analysis of arsenic exposure and diarrheal disease risk in Bangladesh related to population pressures on groundwater resources, *European Geophysical Union General Assembly*, Poster Presentation, Vienna, Austria, April 13-18.
 91. Miller W., W. Allshouse^D, M. Fitch, **M. Serre**, K. Hampton, D. Gesink Law, P. Leone, 2007. A comparison of geomasking algorithms for mapping HIV infections when geocoded case locations are available, *2007 National HIV Prevention Conference*, Poster Presentation, Atlanta, Georgia, USA, December 2-5.
 92. Money^D, E., G. Carter, **M.L. Serre**, 2007. Geostatistical Methods for Assessing Fecal Contamination Along Unmonitored River Reaches, the Southeast Regional Collegiate Environmental Science and Health Symposium, Poster Presentation, Atlanta, GA, USA, November 14.
 93. Allshouse^D, W., **M.L. Serre**, D. Hall, K. Mills, S. Wing, 2007. Community based monitoring of ambient hydrogen sulfide levels near swine operations, *American Public Health 135th Annual Meeting & Exposition*, Poster Presentation, Washington, DC, USA, November 3-7.
 94. Fitch, M., W. Allshouse^D, **M.L. Serre**, K. Hampton, D. Gesink Law, P. Leone, W. Miller, 2007. Geomasking algorithms to protect confidentiality of sexually transmitted infections in spatial epidemiology, *American Public Health 135th Annual Meeting & Exposition*, Roundtable Presentation, Washington, DC, USA, November 3-7.

95. Wilson^D S., **M.L. Serre**, 2007. Community levels of atmospheric ammonia near industrial hog operations, American Public Health 135th Annual Meeting & Exposition, Oral Presentation, Washington, DC, USA, November 3-7.
96. Akita^D, Y., **M.L. Serre**, 2007. A space/time framework for the estimation of tetrachloroethylene and trichloroethylene in the freshwater of New Jersey and North Carolina, The 17th Annual Conference of the International Society for Exposure Analysis, Poster Presentation, Durham, NC, USA, October 14-18.
97. Allshouse^D, W., **M.L. Serre**, D. Hall, K. Mills, S. Wing, 2007. Assessment of hydrogen sulfide exposure for a community with a high density of industrial hog operations, The 17th Annual Conference of the International Society for Exposure Analysis, Poster Presentation, Durham, NC, USA, October 14-18.
98. De Nazelle^D, A., D. Crawford-Brown, **M.L. Serre**, Z. Pekar, D. Rodriguez, 2007. Linking the built environment to individual exposures of air pollution, with a focus on transportation behavior. The 17th Annual Conference of the International Society for Exposure Analysis, Oral Presentation, Durham, NC, USA, October 14-18.
99. Fitch, M. K. , Y. Akita^D, **M. L. Serre**, 2007. Using temporal GIS to assess spatial and temporal trends in dieldrin concentrations across North Carolina, The 17th Annual Conference of the International Society for Exposure Analysis, Poster Presentation, Durham, NC, USA, October 14-18.
100. Money^D, E., G. Carter, **M.L. Serre**, 2007. A river based geostatistical framework for the analysis of environmental concentrations in surface water, The 17th Annual Conference of the International Society for Exposure Analysis, Poster Presentation, Durham, NC, USA, October 14-18.
101. Money^D, E., G. Carter, **M.L. Serre**, 2007. Data integration of E.coli and turbidity data to assess fecal contamination in the Raritan River Basin, New Jersey The 17th Annual Conference of the International Society for Exposure Analysis, Oral Presentation, Durham, NC, USA, October 14-18.
102. **Serre, M.L.**, S. Wilson^D, 2007. Modeling the spatial distribution of Atmospheric Ammonia Levels near Hog CAFOs in Eastern NC. The 17th Annual Conference of the International Society for Exposure Analysis, Durham, NC, USA, Oral Presentation, October 14-18.
103. **Serre, M.L.**, 2007. A Bayesian Maximum Entropy Approach to the Space/Time Integration of Data from Multiple Sources in Exposure Assessment. The 17th Annual Conference of the International Society for Exposure Analysis, Durham, NC, USA, Oral Presentation, October 14-18.
104. Money^D, E., **M.L. Serre**, 2007. The Effects of River Network Complexity on the Spatiotemporal Estimation of Water Quality, The 38th Annual Binghampton Geomorphology Symposium, Poster Presentation, Durham, NC, USA, October 5-7.
105. Money^D, E., **M.L. Serre**, G. Carter, 2007. Improving the Geostatistical Estimation of Water Quality Using a River Metric, The Third International Conference on Environmental Science and Technology, Oral Presentation, Houston, Texas, USA, August 6-9.
106. Allshouse^D, W., **M.L. Serre**, D. Hall, K. Mills, S. Wing, 2007. Spatiotemporal Bayesian Maximum Entropy modeling of hydrogen sulfide concentrations using data collected at different observation time scales near swine operations, 2007 Joint Statistical Meetings, Poster presentation, Salt Lake City, Utah, USA, July 29 - August 2.
107. Coulliette, A.D., A.D. Gronewold, E.S. Money, **M.L. Serre**, R.T. Noble, 2007. Examining the Relationship between Wet Weather and Fecal Contamination in a North Carolina Estuary, TMDL 2007, Water Environment Federation Meeting Proceedings. Bellevue, WA, USA, June 24-27.
108. **Serre, M.L.**, Y. Akita^D, G. Carter, 2007. BME Geostatistical Space/Time Analysis of Environmental Monitoring Data Using arcGIS. A One-day Workshop at the New Jersey Department of Environmental Protection, Trenton, NJ, USA, June 12.

109. **Serre, M.L.**, S.J. Lee^D, 2006. Risk Mapping of subsurface arsenic in New England using measurement error model and secondary soil-pH data, XIth International Congress for Mathematical Geology, Oral presentation, Liege, Belgium, September 3-8.
110. Wilson^D S., **M.L. Serre**, S. Wing, L Ball, W. Robarge, D. Crawford-Brown. 2006. Monitoring And Mapping Of Atmospheric Ammonia for Human Exposure Assessment, International Conference on Environmental Epidemiology & Exposure, Poster presentation, Paris, France, September 2-6.
111. Allshouse^D, W.B., **M.L.Serre**, J. Pleil, S. Rappaport, 2006. A Space/Time Particulate Matter Mass Fraction Framework for the Assessment of Outdoor Exposure to Polycyclic Aromatic Hydrocarbons after 9/11 in New York City, International Conference on Environmental Epidemiology & Exposure, Poster presentation, Paris, France, September 2-6.
112. De Nazelle^D, A., **M.L. Serre**, 2006. Ozone Exposure Assessment in North Carolina Using Bayesian Maximum Entropy Data Integration of Space Time Observations and Air Quality Model Prediction, International Conference on Environmental Epidemiology & Exposure, Oral presentation, Paris, France, September 2-6.
113. Puangthongtub^D, S., **M.L. Serre**, 2006. Regional Estimates of Cardiovascular and Pulmonary Mortality Associations with Atmospheric Particulate Matter in Thailand, International Conference on Environmental Epidemiology & Exposure Poster presentation, Paris, France, September 2-6.
114. **Serre, M.L.**, S.J. Lee^D, K. Yeatts, 2006. Accounting For the Observation Scale of Confidential Health Data to Study the Spatial Association between Childhood Asthma Prevalence and Air Pollutants in North Carolina, International Conference on Environmental Epidemiology & Exposure, Poster presentation, Paris, France, September 2-6.
115. Money^D, E., **M.L. Serre**, G. Carter, 2006. Incorporation of a River Distance Metric to Account for the Spatial Correlation of Monitoring Data in the Geostatistical Estimation of Water Quality Along Rivers. 2006 American Geophysical Union Joint Assembly, Oral Presentation, Baltimore, Maryland, USA, May 23-26.
116. Johnson, D.N., **M.L. Serre**, C.T. Miller, G. Carter, 2006. Using Spatially Offset Data for the Estimation of Groundwater Arsenic Exposure in New Jersey, The Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Poster presentation, Monterey, California, USA, May 22-25.
117. Coulliette, A.D., E. Money^D (author added), **M.L. Serre**, R.T. Noble, 2006. An Application of Space/Time Estimation of Microbial Indicators and Markers with Respect to Rainfall in the Newport River Estuary, NC, The 106th General Meeting of the American Society of Microbiology, Poster presentation, Orlando, Florida, USA, May 21-25.
118. LoBuglio, J.N., G.W. Characklis, **M.L. Serre**, 2006. Utilizing Spatiotemporal Random Field Theory and Uncertain Information to Assess and Reduce Monitoring Cost for Surface Waters Subject to TMDLs, World Environmental and Water Resources Congress 2006, Oral presentation, Omaha, Nebraska, USA, May 21-25.
119. Akita^D, Y., **M.L. Serre**, G. Carter, 2006. Research Translation in Spatiotemporal Exposure Assessment for Contaminated River Superfund Site, EPA Science Forum 2006, Poster Presentation, 3rd place prize, Washington DC, USA, May 16-18.
120. Lee^D, S.J. and **M.L. Serre**, 2005. Modeling the uncertainty associated with the observation scale of space/time natural processes, American Geophysical Fall Meeting, Oral presentation, San Francisco, California, USA, December 5-9.
121. Money^D, E., Y. Akita, G. Carter and **M.L. Serre**, 2005. Space/Time Assessment Of Water Quality Along The River Network In New Jersey. American Geophysical Fall Meeting, Poster presentation, San Francisco, California, USA, December 5-9.

122. **Serre, M.L.**, S.J. Lee^D, E. Money and Y. Akita, 2005. Integrating Multiple Source Data Uncertainty for Spatiotemporally Distributed Hydrological Systems, American Geophysical Fall Meeting, Poster presentation, San Francisco, California, USA, December 5-9.
123. Kim, D., B. Dong, C. Poulos, D. Whittington, **M. Serre**, A. Nyamete, 2005. GIS-based Spatial Estimation and Mapping of Private Demands for Vaccination Programs: Evidence from Lingchuan County, China. the annual conference for the Association of Collegiate Schools Planning, Poster presentation, Kansas City, Missouri, USA, October 27-30.
124. Yeatts, K.B., S.-J. Lee^D and **M.L. Serre**, 2005. Spatial Distribution of Wheezing Prevalence and Airborne Lead Levels Across Rural and Urban Areas of North Carolina, Seventeenth Conference of the International Society for Environmental Epidemiology, Poster presentation, Johannesburg, South Africa, September 13-16.
125. Bernstein, K., D.C.G. Law, **M.L. Serre**, C.M. Schumacher, P.A. Leone, A.M. Rompalo, W.C. Miller, J.M. Zenilman, 2005. Space-time modeling of an early syphilis outbreak, ISSTDR 2005, poster presentation, Amsterdam, July 10-15.
126. Lee^D, S.-J., **M.L. Serre** and G. Christakos, 2005. Integrating Information about Measurement Errors to Provide Informative groundwater Arsenic Maps in New England. . Annual Conference of the Water Resources Research Institute of North Carolina, Poster presentation, Raleigh, NC, USA, April 5.
127. Money^D E., G. Carter and **M. Serre**, 2005. Using BME Space/Time Analyses to Improve Water Quality Estimation in the Raritan River Basin, New Jersey. Annual Conference of the Water Resources Research Institute of North Carolina, Poster presentation, Raleigh, NC, USA, April 5.
128. Cachafeiro, Stalzer, Pilcher, Williams, Foust, McPherson, Eron, Jr., Harris, Hampton, **Serre**, Leone, Ashby, Fiscus, Nguyen, and Messer. 2005. Spatial Monitoring of Incidence: Using HIV Biomarkers to Identify Clusters. 12th Conference on Retroviruses and Opportunistic Infections, Abstract Number V-173 accepted for oral talk, Boston, Massachusetts, USA, February 22-25.
129. Parkin, R., E. Savelieva, **M.L. Serre**, 2004. Soft geostatistical analysis of radioactive soil contamination, Fifth International conference of Geostatistics for Environmental Applications, Neuchâtel, Switzerland, October 13-15.
130. Yeatts, K.B., **M.L. Serre**, S.-J. Lee^D, 2004. Spatial distribution of wheezing prevalence and air pollution across North Carolina, Sixteenth Conference of the International Society for Environmental Epidemiology, New York City, NY, USA, August 1-4.
131. Pilcher, C.D., E. Foust, K.Hampton^M, W. Messer, **M. Serre**, J.T. McPherson, D. Williams, R. Ashby, J.O. O'Dowd, T.Q. Nguyen, B. Stalzer, J. Harris, A. Cachafeiro, P.A. Leone, J.J. Eron, Jr. and S.A. Fiscus, 2004. Geomapping transmission events: using HIV biomarkers to monitor incidence, XV International AIDS Conference, Bangkok, July 11-16.
132. Wilson^D, S., **M.L. Serre**, 2004. GIS Mapping of Atmospheric Ammonia Levels in Eastern North Carolina, Air & Waste Management Association's 97th Annual Conference & Exhibition, Indianapolis Convention Center, Indianapolis, IN, USA, June 22-25.
133. **Serre, M.L.**, G. Carter, E. Money^D, 2004. Integrating Advective Transport Laws in the Geostatistical Estimation of Water Quality Along Rivers in New Jersey, Computational Methods in Water Resources International Conference, Chapel Hill, North Carolina USA, June 13 - 17.
134. Rupert, C., **M.L. Serre**, C.T. Miller, 2004. A Model for Computing Covariances in Two Dimensional Steady Groundwater Flow, Computational Methods in Water Resources International Conference, Chapel Hill, North Carolina USA, June 13 - 17.

135. Christakos, G., **M.L. Serre**, A. Kolovos, D.T. Hristopulos, 2004. New Classes of Non-Separable Spatiotemporal Covariance Models, Computational Methods in Water Resources International Conference, Chapel Hill, North Carolina USA, June 13 – 17.
136. Lee^D, S.J., **M.L. Serre**, G. Christakos, 2004. Improving Spatial Mapping of Subsurface Arsenic Using pH data: Synthetic Examples and Case Study in New England Groundwater, Computational Methods in Water Resources International Conference, Chapel Hill, North Carolina USA, June 13 - 17.
137. Kolovos, A., D. T. Hristopulos, G. Christakos, **M. L. Serre**, 2004. Spatiotemporal Covariance Functions From Physical Models. The 1st International Conference on the Advances in Mineral Resources Management and Environmental Geotechnology, Chania, Crete, Greece, June 7-9.
138. Kim, D., **M.L. Serre**, L. Montana, 2004. Spatial Analysis of Community Density-Child Mortality Associations in Developing Countries: BME Approach, Canadian Political Science Association Conference 2004, University of Manitoba in Winnipeg, Canada, June 3 - 5.
139. Christakos, G., A. Kolovos, **M.L. Serre** and F.M. Vukovich, 2003. Generating High Spatial Resolution Analyses of SBUV Stratospheric Ozone for Calculating the Tropospheric Ozone Residual (TOR). Proceedings of the IEEE/IGARRS 2003, Toulouse, France, July 21-25.
140. Kolovos, A., G. Christakos, **M.L. Serre**, D.T. Hristopulos, 2003. Representations Of Non-Separable Spatiotemporal Covariance Models, abstract and poster presentation at the AGU Fall meeting, San Francisco, CA, USA, December 8-12.
141. Kolovos, A., **M. L. Serre**, G. Christakos and K. Modis, 2003. Introduction to the Holistochastic Human Exposure Methodology: An example with Drinking Water Arsenic Contamination (poster), 6th Annual NIEHS/NTA Biomedical Science and Career Fair, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, April 25.
142. Law, D., **M.L. Serre**, G. Christakos, P.A. Leone and W.C. Miller, 2003. Analyzing And Mapping the Spatial Distribution of Sexually Transmitted Diseases for Public Health Intervention, abstract and oral presentation at the 2003 Congress of the International Society for Sexually Transmitted Disease Research, Ottawa, Canada, July 27-30.
143. Law, D., **M.L. Serre**, P.A. Leone and W.C. Miller, 2003. Spatiotemporal Changes in Chlamydial Infection Patterns and Persistence of ‘the Core’, abstract and poster presentation at the 2003 Congress of the International Society for Sexually Transmitted Disease Research, Ottawa, Canada, July 27-30.
144. Lee^D, S.J., **M.L. Serre**, G. Christakos, 2003. Integrating Soil pH as a Risk Factor in the Spatial Mapping of Arsenic Distributions in New England Groundwater, abstract and poster presentation at the Superfund Basic Research Program Annual Meeting: Integrating Perspectives, Dartmouth College, Hanover, NH, USA, November 9-12.
145. Mountcastle, S.B., **M.L. Serre**, R.W. Ryder, S.S. Weir, 2003. A Geographic Analysis of High STI Transmission Areas in Cumberland County, North Carolina, abstract and poster presentation at the 2003 Congress of the International Society for Sexually Transmitted Disease Research, Ottawa, Canada, July 27-30.
146. Savelieva, E. V. Demyanov, M. Kanevski, **M. Serre**, G. Christakos, 2003. BME Application for Uncertainty Assessment of the Chernobyl Fallouts, extended abstract and oral presentation at Pedometrics 2003, the 5th Conference of the Provisional Commission on Pedometrics of the International Union of Soil Sciences, "Applications of Pedometrics", Reading, UK, September 10-12.
147. **Serre, M.L.**, Christakos, G., Kolovos, A., F. Vukovich, 2003. Imaging Ozone Distributions Across Space-Time Using Satellite Data And Physical Information, abstract and oral presentation at the 2003 AGU Fall meeting, San Francisco, CA, USA, December 8-12.

148. Wilson^D, S., **M.L. Serre**, 2003. GIS Mapping of Atmospheric Ammonia Levels in Eastern North Carolina. Poster presentation to the 131st Annual Meeting & Exposition of the American Public Health Association (APHA), San Francisco, CA, USA, November 15-19.
149. **Serre, M.L.**, G. Christakos and S-J Lee^D, 2002. Soft Data Space/Time Mapping of Coarse Particulate Matter Annual Arithmetic Average over the U.S., Oral presentation for the Fourth International conference of Geostatistics for Environmental Applications, Barcelona, Spain, November 27-29.
150. Christakos, G., A. Kolovos, A. Chandra, **M. L. Serre** and F. Vukovich, 2002. Global mapping of Ozone distribution using soft information and data from TOMS and SBUV instruments on the Nimbus 7 satellite, Oral presentation for the Fourth International conference of Geostatistics for Environmental Applications, Barcelona, Spain, November 27-29.
151. **Serre, M.L.**, Seung-Jae Lee and Hwa-Lung Yu, 2002. Toxicokinetic modeling using space/time mapping of exposure fields with existing health outcome data in a measurement error model, External Advisory Committee meeting of the Center of Environmental Health and Susceptibility at UNC - Pilot Project Program, September 12.
152. Kolovos, A., G. Christakos, **M. L. Serre** and F. Vukovich, 2002. Global Ozone Mapping: A Rigorous Approach Using Tropopause Height Pressure and Satellite Instrumentation Data, Environmental Sciences and Engineering In-house Seminar Series, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, September 4.
153. **Serre, M.L.** and G. Christakos, 2002. BME-based hydrogeologic parameter estimation in groundwater flow modeling, abstract accepted for ModelCARE2002, the 4th International Conference On Calibration And Reliability In Groundwater, Modelling Prague, Czech Republic, June 17-20.
154. **Serre, M.L.**, A. Kolovos and G. Christakos, 2002. A Model-Based Framework for the Spatiotemporal Assessment of the Health Impact of Naturally Occurring Arsenic in the Environment, Arsenic in New England: A Multidisciplinary Scientific Conference, Manchester NH, May 29-31.
155. Augustinraj, R., **M. L. Serre**, and G. Christakos, 2001. Modeling the spatiotemporal distribution of subsurface heavy metal contamination at the Cherry Point, NC superfund site, Annual Superfund Basic Research Program Symposium, University of North Carolina at Chapel Hill, Friday Center, November 7.
156. Choi, K, **M.L. Serre** and G. Christakos, 2001. Spatiotemporal BME analysis and mapping of mortality distribution in California, The 53rd Session of the International Statistical Institute, Seoul, August 22-29.
157. Kolovos, A., **M. L. Serre**, and G. Christakos, 2001. Spatial mapping of arsenic in the groundwater and associated population health effects, Annual Superfund Basic Research Program Symposium, University of North Carolina at Chapel Hill, Friday Center, November 7.
158. Kolovos, A., G. Christakos and **M.L. Serre**, 2001. BME mapping of pollutants governed by advection reaction, Annual Superfund Basic Research Program Symposium, University of North Carolina at Chapel Hill, Friday Center, November 7.
159. Kolovos, A., **M.L. Serre** and G. Christakos, 2001. Spatial Mapping of Arsenic in the Groundwater and Associated Population Health Effects, Superfund Basic Research Program Annual Meeting Poster Session, University of Florida, Gainesville, Florida, December 10-12.
160. Augustinraj, R, I. Nienhueser, **M.L. Serre** and G. Christakos, 2000. Spatiotemporal exploratory data analysis of collected contaminant measurements for some NPL and non-NPL sites. Superfund Basic Research Program Annual Meeting Poster Session, Chapel Hill, North Carolina, December 12-14.

161. Demyanov, V., **M.L. Serre**, G. Christakos, V. Timonin, M. Kanevski, E. Savelieva, S. Chernov, 2000. Neural Network residual BME analysis of Chernobyl fallout, In Proc. GeoEnv2000 (3rd European Geostatistics for Environ. Appl's), Avignon, France, November 22-24.
162. Howes, J., **M.L. Serre**, Labib, M., N. Samaha, M. Sabry, H. Araby, 2000. Ambient PM and Lead Levels in Cairo, Egypt: Baseline Year Monitoring Results, Abstract No. 449, AWMA 93rd Annual Conference & Exhibition, Salt Lake City, June 18-22.
163. Kolovos, A., G. Christakos and **M.L. Serre**, 2000. Incorporation of Physical Laws and Other Forms of Knowledge in Spatiotemporal Prediction of Hydrologic Processes, American Geophysical Union 2000 Fall Meeting, San Francisco, California, December 15-19.
164. Kolovos A., G. Christakos and **M.L. Serre**, 2000. Investigations on the numerical implementation of physical laws incorporation in the BME framework, Superfund Basic Research Program Annual Meeting Poster Session, Chapel Hill, North Carolina, December 12-14.
165. Kyungmee C., G. Christakos and **M.L. Serre**, 2000. Space/time analysis the mortality rate in California as a health indicator at small spatial scale using the BME method, Superfund Basic Research Program Annual Meeting Poster Session, Chapel Hill, North Carolina, December 12-14.
166. Labib, M., N. Samaha, J. Howes, **M.L. Serre**, M. Sabry, H. Araby, 2000. Ambient PM and Lead Levels in Cairo, Egypt: Baseline Year Monitoring Results, The International Conference for Environmental Hazard Mitigation, Cairo University, Egypt, September 9-12.
167. **Serre, M.L.** and G. Christakos, 2000. Stochastic mapping in subsurface hydrology using soft information and physical laws: A review of some BME case studies, Annual Meeting and International Conference of the American Institute of Hydrology, Research Triangle Park, North Carolina, November 5-8.
168. **Serre, M. L.**, 2000. A Bayesian/Maximum Entropy Approach to Stochastic Analysis of Groundwater Flow, Computational Science Graduate Fellowship Conference, July 15-17. Oral Presentation.
169. **Serre, M. L.**, 1999. Modeling Particulate Matter Using Uncertain Measurements: Case Study of PM10 in North Carolina, Computational Science Graduate Fellowship Conference Poster Session, July 15-17.
170. Christakos, G. and **M. L. Serre**, 1998. Short Course in Spatiotemporal Mapping and Analysis, The 1998 Annual Conference of the International Association for Mathematical Geology, Ischia Island, Italy, October 5-8.
171. **Serre, M. L.** and P. Bogaert, 1998. Convener for the Technical Session on New avenues in spatio-temporal estimation, Proceedings of the Fourth Annual Conference of the International Association for Mathematical Geology, De Frede Editore, Napoli, Chapter I.
172. **Serre, M. L.** 1997. Stochastic analysis of Groundwater Flow Using the Space Transform Method, Superfund Basic Research Program: A Decade of Improving Health Through Multi-Disciplinary Research, Abstract #39, February 23-26.
173. **Serre, M. L.**, G. Christakos and D. Hristopulos. 1997. Using the space transform method in geosciences, Fourth SIAM Conference on Mathematical and Computational Issues in the Geosciences, June 16-17.
174. **Serre, M. L.**, 1996. The Space Transform and the Stochastic Flow Equation Problem, Superfund Student meeting at UNC-Chapel Hill, May
175. Odgaard, A. J. , Y. Wang., **M. L. Serre** and R. A. Elder. 1993. Hydraulic Modeling of Fish Screens, ASCE Hydraulic Conf. '93, August.

176. **Serre, M. L.** and A. J. Odgaard, 1992. Turbulence and Energy Loss at Combining Pipe Junctions, A.S.C.E. Mech. Conf. '92, June.
177. **Serre, M. L.** and A. J. Odgaard, 1992. Energy loss at combining pipe junction, A.S.C.E. Water Conf. '92, March.

Teaching Activity

Summary of Courses Taught (since 2002):

	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	21
Fall 2018	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	2
	ENVR 991-100	Research In ESE	Mean=8	Instructor (100%)	3
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	7
Spring 2018	ENVR 992-100	Master's Tech Report	3	Instructor (100%)	1
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	1
	ENVR 991-100	Research in ESE	3	Instructor (100%)	3

	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	15
Fall 2017	ENVR 991-100	Research In ESE	Mean = 3.3	Instructor (100%)	3
	ENVR 993-100	Master's Research And Thesis	3	Instructor (100%)	1
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	9
Spring 2017	ENVR 692H- 100	Honors Thesis	3	Instructor (100%)	1
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	1
	ENVR 991-100	Research in ESE	3	Instructor (100%)	1

Fall 2016	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	11
	ENVR 890-007	SPECIAL TOPICS: geostatistics project	3	Instructor (100%)	1
	ENVR 991-100	Research In ESE	3	Instructor (100%)	1
	ENVR 691H- 100	Honors Research	3	Instructor (100%)	1
	ENVR 993-100	Master's Research And Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1
Summer II 2016	ENVR 993-100	Master's Thesis	3	Instructor (100%)	0
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
Spring 2016	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	9
	ENVR 990-100	Engineering Brief	Mean=1.5	Instructor (100%)	1
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	0
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	2

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
Fall 2015	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	14
	ENVR 890-007	SPECIAL TOPICS: Engineering Brief Part 1 & 2a	3	Co-Instructor (1 out of 9 students=11%)	9
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	2
	ENVR 640	Environmental Exposure Assessment	3	Guest Lecturer (1 out of 31 lectures=3%)	7
Summer II 2015	ENVR 992-100	Master's Technical Report	3	Instructor (100%)	1
Spring 2015	ENVR 890-008	Engineering Brief 2b and 3	3	Co-Instructor (1 out of 13 students=7%)	13
	ENVR 991-100	Research In ESE	Mean=3	Instructor (100%)	3
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	3
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	3

Fall 2014	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	14
	ENVR 890-006	SPECIAL TOPICS: geostatistics project	3	Instructor (100%)	1 (Kelly- Reif)
	ENVR 991-100	Research In ESE	Mean=6	Instructor (100%)	3
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	3
Summer II 2014	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
Spring 2014	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	9
	ENVR 991-100	Research In ESE	Mean=5	Instructor (100%)	3
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	4

	ENST 468	Advanced functions of Temporal GIS	3	Instructor (100%)	2
	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	11
Fall 2013	ENVR 640	Environmental Exposure Assessment	3	Guest Lecturer	14
	ENVR 991-100	Research In ESE	Mean=6	Instructor (100%)	5
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
Summer II 2013	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
	ENVR 991-100	Research In ESE	Mean=8	Instructor (100%)	5
Spring 2013	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1

	ENST 468	Advanced functions of Temporal GIS	3	Instructor (100%)	2
	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	15
Fall 2012	ENVR 980-007	Epidemiology for environmental scientists & engineers	3	Guest Lecturer	25
	ENVR 981-100	ENVR Practicum	3	Instructor (100%)	2
	ENVR 991-100	Research In ESE	Mean=6	Instructor (100%)	6
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
Summer II 2012	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 765	Model-based exposure mapping and risk assessment	3	Instructor (100%)	13
Spring 2012	ENVR 991-100	Research In ESE	Mean=8	Instructor (100%)	4
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1

	ENST 468	Advanced functions of Temporal GIS	3	Instructor (100%)	2
	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	19
Fall 2011	ENVR 991-100	Research In ESE	Mean=4.5	Instructor (100%)	7
	ENVR 993-100	Master's thesis	3	Instructor (100%)	1
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
	ENVR 991-100	Research In ESE	Mean=5	Instructor (100%)	3
Spring 2011	ENVR 993-100	Master's Thesis	3	Instructor (100%)	2
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1

	ENST 468	Advanced functions of Temporal GIS	3	Instructor (100%)	4
	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	13
Fall 2010	ENVR 991-100	Research In ESE	Mean=5	Instructor (100%)	4
	ENVR 993-100	Master's Thesis	3	Instructor (100%)	2
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
Summer II 2010	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1
	ENVR 765	Model-based exposure mapping and risk assessment	3	Instructor (100%)	15
Spring 2010	ENST 225	Water Resource Management and Human Rights	3	Guest Lecturer	43
	ENVR 433	Health Hazards Of Industrial Operations	3	Guest Lecturer	3
	ENVR 991-100	Research In ESE	3	Instructor (100%)	4
	ENVR 994-100	Doctoral Dissertation	3	Instructor (100%)	1

Fall 2009	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	17
	ENVR 991-100	Research In ESE	3	Instructor (100%)	6
Spring 2009	ENVR 401	Unifying Concepts of Environmental Sciences	3	Module Instructor	7
	ENVR 890-010	Environmental Exposure Assessment	3	Guest Lecturer	9
	ENVR 991-100	Research In ESE	3	Instructor (100%)	6
Fall 2008	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	16
Spring 2008	ENVR 765	Model-based exposure mapping and risk assessment	3	Instructor (100%)	8
	ENVR 401	Unifying Concepts of Environmental Sciences	3	Module Instructor	5
Fall 2007	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	24
	ENVR 890	Environmental Exposure Assessment	3	Lecturer (1 lecture)	12
Spring 2007	ENVR 401	Unifying Concepts of Environmental Sciences	3	Module Instructor	9
Fall 2006	ENVR 468	Advanced functions of Temporal GIS	3	Instructor (100%)	13
Spring 2006	ENVR 275	Model-based exposure mapping and risk assessment	3	Instructor (100%)	9
Fall 2005	ENVR 167	Advanced functions of Temporal GIS	3	Instructor (100%)	13
Spring 2005	ENVR 401	Unifying Concepts of Environmental Sciences	3	Module Instructor	~5
Fall 2004	ENVR 167	Advanced functions of Temporal GIS	3	Instructor (100%)	12
Spring 2004	ENVR 275	Model-based exposure mapping and risk assessment	3	co- Instructor (50%)	3

Fall 2003	ENVR 167	Advanced functions of Temporal GIS	3	Instructor (100%)	3
	ENVR 401	Unifying Concepts of Environmental Sciences	3	Module Instructor	~4
Fall 2002	ENVR 167	Advanced functions of Temporal GIS	3	co- Instructor (50%)	7
Spring 2002	ENVR 275	Model-based exposure mapping and risk assessment	3	co- Instructor (50%)	8

Current Graduate Student Supervision - Primary Advisor (total of 4 Masters, 4 Ph.D.)

1. Kathleen Bradford (MS)
2. Stephanie Cleland (MSPH)
3. Ruozhang Xu (MS)
4. Gar Yeung (MSEE)
5. Calvin Arter (PhD)
6. Risa Sayre (PhD)
7. Alejandro Valencia (PhD)
8. Corinne Wiesner (PhD)

Current Graduate Student Supervision – Committee Member (total of 9)

9. David Holcomb, PhD
10. Elizabeth Christenson, PhD
11. Jackie Rudolph, PhD
12. Kelsey Bruning, PhD
13. Kristen Hampton, PhD
14. Omar Nawaz, MS
15. Rachel Baum, PhD
16. Sarah Rhodes, PhD
17. Yufei Su, PhD

Completed Post Doctoral Research Associate Supervision – (total of 1)

Dr Yasuyuki Akita, May 2010 - 2014

Dr Gavino Puggioni, 2008 – 2009

Completed Graduate Student Supervision - Primary Advisor (total of 1 BSPH, 12 Masters, 8 Ph.D.)

1. Prahlad Jat (PhD) *Geostatistical Estimation of Water Quality using River and Flow Covariance Models* 08/2017
2. John Cordes (BSPH honor thesis) *Comparing Euclidean and River Distance Metrics in the Bayesian Maximum Entropy (BME) Estimation of E. coli Concentrations in Connecticut Rivers* 05/2017
3. Jeanette Reyes (PhD) *Geostatistical data fusion estimation methods of ambient PM_{2.5} and polycyclic aromatic hydrocarbons* 08/2016
4. Vance Jianhan Wang (MSEE) *Are wastewater treatment residuals applications the major source of perfluorinated compounds (PFC) contamination? An analysis of two counties in the cape fear river basin, North Carolina* 12/2015
5. Elizabeth Christenson (MS) *Using remote sensing to calculate plant available nitrogen from industrial hog CAFOs in North Carolina at the sprayfield and sub-watershed scales* 08/2015
6. Kyle Messier (PhD) *Spatiotemporal Geostatistical Methods for Exposure and Epidemiological Analyses of Groundwater Nitrate and Radon* 08/2015
7. Scott Boone (MS) *Calculation Of Sensitivity Coefficients Using CMAQ-DDM For Individual Airport Emissions In The United States* 05/2015
8. Jamie Smedsmo (MS) *Surface Water Nitrate Variability In North Carolina: Estimation From Monitoring Data, Land Use, And Point Sources* 05/2015
9. Williams Allshouse (PhD) *Modern Space/Time Geostatistical Approaches to Mapping Point Sources of Pollution and Infectious Disease* 12/2014
10. Molly Murchison (MSPH) *Spatial Analysis of Industrial Sites and North Carolina Groundwater Contamination* 08/2014
11. Tania Jordanova (MSPH) *Fecal Coliform Pollution As A Function Of Land Use And Stormwater Management Policies In North Carolina* 05/2013
12. Lani Clough (M.S.) *Disease mapping of syphilis in Forsyth County, North Carolina with enhanced geoprivacy and spatial resolution* 08/2012-
13. Jeanette Reyes, (MS) *Global Land Use Regression and Bayesian Maximum Entropy Spatiotemporal Estimation of PM_{2.5} Yearly Average Concentrations Across The United States* 05/2011
14. Kyle Messier, (MS) *Integration of a Contaminant Source Land Use Regression Model in The Bayesian Maximum Entropy Spatiotemporal Geostatistical Estimation of Groundwater Tetrachloroethylene Across North Carolina* 12/2010
15. Yasukuki Akita (Ph.D.) *Spatial Statistics And Regression Analysis Of Environmental Exposure And Disease: From Air Pollution And Microbial Groundwater Contamination Assessment To Diarrhea Disease Mapping*, May 2010
16. Janie Tarman (M.S.P.H.) *Predicting Rural PM₁₀ Concentrations in North Carolina Using BMEGUI*, May 2010
17. Eric Money (Ph.D.) *Modern Space/Time Geostatistics Using River Distances: Theory and Applications for Water Quality Mapping*, May 2009
18. Sitthichok Puangthongtub (Ph.D.) *Bayesian Maximum Entropy Space/Time Analysis of Ambient Particulate Matter and Mortality In Thailand*, 2006
19. Yasukuki Akita (M.S.) *Spatiotemporal Non-Attainment Assessment Analysis Of The Surface Water Quality Standard For Tetrachloroethene In The Streams Of New Jersey*, 2005

20. Kristen Hampton (M.S.P.H.) *Adjusting For Sampling Variability In Sparse Data: A Bayesian Maximum Entropy Approach To Disease Mapping*, 2005
21. Seung-Jae Lee (Ph.D.) *Models of Soft Data in Geostatistics and Their Application in Environmental and Health Mapping*, 2005

Completed Graduate Student Supervision - Research Co-Advisor (total of 2)

22. Rajah Augustinraj (M.S.E.E.) *A Study of Spatiotemporal Health Effects Due To Water Lead Contamination*, (Academic advisor: George Christakos) 2002
23. Sudhasree Bojja (M.P.H.) *Spatial relationship between criteria pollutant levels and wheezing due to asthma in NC*, (Academic advisor: Louise Ball) 2003

Completed Graduate Student Supervision - Committee Member (total of 55)

1. Eliot Meyer, PhD 12/2017
2. Ann Corrigan, MS, 05/2017
3. Lakshmi Vennam, PhD, 12/2016
4. Elizabeth Cromwell, PhD, 12/2016
5. Shih Ying Chang, PhD, 08/2016
6. Yadong Xu, PhD, 05/2016
7. Harrison Zeff, PhD, 05/2016
8. Raquel Silva, PhD, 12/2015
9. John Wallace, PhD, *Characterization of arboviral disease in North Carolina* 05/2015
10. Anna Cope, PhD, *Assessment of HIV transmission and diagnosis patterns in North Carolina* 05/2015
11. Jordan Kern, PhD, *Dynamic Hydrologic Economic Modeling Of Tradeoffs In Hydroelectric Systems*, 05/2014
12. Nick DeFelice, PhD, *Drinking Water Risks to Health 40 Years After Passage of the Safe Drinking Water Act: A County-by-County Analysis in North Carolina*, 12/2014
13. Ya-Ru Li, PhD, *Assessing Exposure to and Risks of Fine Particulate Air Pollution from Multiple Sources*, 12/2014
14. Chidsanuphong Chart Asa, PhD, *Quantifying Health Impacts Of Traffic-Related Fine Particulate Air Pollution At The Urban Project Scale*, 12/2013
15. Taylor Dennerlein, MS, *Predicting Effects Of Urban Design On Public Health: A Case Study In Raleigh, North Carolina*, 05/2013
16. Jill Johnston, PhD, *Assessing Exposure Of Chlorinated Solvents from the Subsurface to Indoor Air Pathway*, 05/2013
17. Melissa Tinling, MS, *Emergency Department Diagnoses In Eastern North Carolina Associated With Smoke Exposure From The 2011 Pains Bay Wildfire*, 08/2012
18. Chieh-Han Lee, (MS), *Effects Of Outdoor Land Use On Indoor Air Quality: A 600-Household Study In The United Arab Emirates* 12/2012

19. Ted Mansfield (M.S.) *The Built Environment, Spatial Variation in Fine Particulate Matter Concentrations, and Attributable Mortality: A Scenario-Based Land Use Regression Approach* 05/2012
20. Joe LoBuglio (PhD) *Probability-based Approaches for Incorporating Uncertainty into Water Resource Models* 01/2012
21. Elizabeth Blayney (M.S.) *Premature Mortalities Attributable To Ozone And Fine Particulate Exposure: The Effect Of Grid Size On Health Burden Estimates In The United States* 05/2012
22. Ovik Banerjee (BS) *Evaluating country level population vulnerabilities to water access due to climate related hazards using high spatial resolution methods* 05/2012
23. Stephen Teet (M.S.) *Estimation of Speciated PM_{2.5} Values from the Speciation Trends Network Using the Bayesian Maximum Entropy Method* 05/2012
24. Veronica Escamilla (PhD) *The Geography Of Groundwater And Childhood Diarrheal Disease In Bangladesh* 09/2011
25. Dana Sackett (PhD) *Evaluating mercury dynamics and trophic transfer in aquatic ecosystems* 08/2011
26. Brian Lopes (PhD) *A Ridge Restricted Maximum Likelihood Approach to Spatial Models* 05/2011
27. Jianyong Wu (PhD) *Diarrheal Diseases In Rural Bangladesh: Spatial-Temporal Patterns, Risk Factors And Pathogen Detection* 2011
28. Mejs Hasan (M.S.) *Time for a Check-Up: Mapping Environmental Diseases in the United Arab Emirates Using Bayesian Maximum Entropy and the Waller Model*, May 2010
29. Jill Johnston (M.S.) *Probabilistic approach to residential vapor intrusion exposure screening for Chlorinated Volatile Organic Compounds: a case study in San Antonio, Texas*, May 2010
30. Jordan Kern (M.S.) *Influence of De-regulated Electricity Markets on Hydropower Generation and Downstream Flow Regime*, May 2010
31. Kavya Kastury (M.S.E.E.), *Implications of Variation in Best Management Practice Effectiveness on the Selection of a Watershed Restoration Strategy to Address Microbial Contamination*, Dec. 2009
32. Christopher Heaney (Ph.D.), *Contact with beach sand and risk of illness*, May 2009
33. Angela D. Coulliette (Ph.D.) *Characterization of Fecal Contamination in the Newport River Estuary (North Carolina, USA)*, 2008
34. Kate Bronstein (M.S.E.E.) *Antibiotic Occurrence and Associated Environmental Hazard: A Case Study of a Drinking Water Reservoir Impacted by Wastewater Discharge*, 2008
35. Casey Caldwell (M.S.E.E.) *Considerations of risk tolerance in developing probability-based interutility transfer agreements*, 2008
36. Kimberly E. Blauth (Ph.D.) *Occurrence and Potential Health Effects of Antibiotic Resistant and Pathogenic Enteric Bacteria on Swine Animal Agriculture and Row Crop Farms in Farmers and their Neighbors*, 2007
37. Dohyeong Kim, (Ph.D.), *City and Regional Planning) Strategy for Determining Vaccination User Fees and Locations: A Case Study in Rural China*, 2007
38. Audrey de Nazelle (Ph.D.) *Risk Assessment Of A Pedestrian-Oriented Environment*, 2007
39. Tom Gallo (M.S.) *Linking Landuse, Nutrient Conditions And Phytoplankton Abundance And Diversity In The Non-Tidal Creeks Of The Neuse-Pamlico Estuarine System*, 2006

40. Sacoby Wilson (Ph.D.) *Environmental Monitoring and Spatial Assessment of Atmospheric Ammonia Levels near hog CAFOs and Human Receptor Sites in Eastern Carolina*, 2005
41. Huina Li (Ph.D.) *Modeling Multiphase Flow in Porous Medium Systems at Multiple Scales*, 2006
42. Linlin Wang, (M.S.) *Spatiotemporal Analysis of Black Death in France: 1347-1350*, 2005
43. Hwa-Lung Yu (Ph.D.) *Development and Implementation of Knowledge Synthesis Methods for Stochastic Natural Systems*, 2005
44. Yi-chun Evelyn Chao (Ph.D.) *Determination of Dermal Exposure to JP-8 Jet Fuel Using the Tape-Strip Method*, 2005
45. Dale Jobes (M.S.) *Analyzing the Spatiotemporal Relationships of Ozone Exceedances, Transient High Ozone Events, and Meteorological Factors using GIS*, 2005
46. Ruth Alkons Wolinsky (M.S.E.E.) *Geoinformatics Applied To Usgs Sparrow Modeling: Data Needs For Large Scale Environmental Databases*, 2005
47. Lauren Fleishman (M.S.) *Application of a Generalized State-Vector Model for Radiation-Induced Cellular Transformation to in vitro Irradiation of Cells by Acute Doses of X-rays*, 2004
48. Sally Moncastle (Ph.D., Epidemiology) *A Descriptive And Spatial Analysis Of Sexually Transmitted Infections In Cumberland County, North Carolina*, 2004
49. Alexandra Zapata Figueroa (M.S.) *Economic Results of Using Different Spatial Templates to Perform Environmental Risk Exposure Assessments: A Case Study of a Hazardous Waste Combustion Facility in the Rural Area of Virginia*, 2003
50. Cheo-Hung Cho (M.S.) *Development of GIS-based Exposure Assessment Methodologies and Comparison of their Performances in Population-level Risk Estimates: A Case Study of a Hazardous Waste Combustion Facility in the Rural Area of Virginia*, 2003
51. Ana Christina Rivera (M.S.) *Sampling Of Residential Groundwater Wells For Lead, Zinc, And Cadmium In Jasper County, Missouri, In The Tri-State Mining District Lands*, 2002
52. Rebecca Kauffmann (M.S.E.E.) *Residential Water Consumption in the OWASA Service Area: Chapel Hill and Carrboro, North Carolina*. 2002
53. Scott Durbin (M.S.) *Utilization of a Water Market to Optimize Water Acquisition in the Edwards Aquifer Region*, 2002
54. Audrey de Nazelle (M.S.) *Short Trips: An Opportunity for Sustainable Transportation*, 2001
55. Kung-mee Choi (Ph.D.) *BME-Based Spatiotemporal Local Scale Mapping and Filtering of Mortality Data: The California Study*, 2001

Contract and Grants

Co-Principal Investigator, “The impact of intensive livestock production on the disease ecology of antibiotic resistant staphylococcus”, NSF, PI Jill Stewart, \$1,410,870, 1 month (8.33%).

Investigator, “Elucidating Risks: From Exposure and Mechanism to Outcome – Core B, NIH/NIEHS”, IP: S Swenberg, 04/01/2005 – 03/31/2016, Research Translation Core \$534,883 total, 8.33% effort

- Investigator, Air Pollution Modeling Subcontract for the Study of “Environmental Determinants of Cognitive Aging in the Women's Health Initiative Memory Study”, U. Southern California/NIH, Subcontract PI: W Vizuite, Project PI: JC Chen (U. Southern California), 03/15/2011-02/28/2015, Subcontract total \$137,997.00, 5% effort
- Principal Investigator for Subcontract at UNC, Year 3 of Air Pollution Modeling Subcontract for the Study of "Particulate Air Pollutants, Risk of Cognitive Disorders and Neuropathology in the Elderly", PI: JC Chen (U. Southern California), Subcontract total \$22,602, 1/1/2013-12/31/2014, 5%
- Investigator, “Climate Change and Future Air Pollution Mortality: Exploration of Scenarios and Benefits of Actions Using Global Atmospheric Modeling”, R21 NIH, PI Jason West, \$150,000 total, 06/18/2013-05/31/2015, 1 month (8.33%)

Completed

- Principal Investigator for Subcontract at UNC, Year 2 of Air Pollution Modeling Subcontract for the Study of "Particulate Air Pollutants, Risk of Cognitive Disorders and Neuropathology in the Elderly", PI: JC Chen (U. Southern California), Subcontract total \$ 33,051, 12/01/2012-12/31/2013, 5%
- Principal Investigator, Space/time geostatistical estimation of nitrate and radon groundwater contaminants, WRI/NCSSU, 03/01/2011- 10/31/2012, 8.33% effort
- Principal Investigator for Subcontract at UNC, Year 1 of Air Pollution Modeling Subcontract for the Study of "Particulate Air Pollutants, Risk of Cognitive Disorders and Neuropathology in the Elderly", PI: JC Chen (U. Southern California), Subcontract total \$32,624.00, 12/01/2011-11/30/2012, 5%
- Investigator, “Local Health Impacts of Land Application of Sewage Sludge”, NIH/NIEHS, PI: S Wing (UNC-Epidemiology), 09/12/2007 – 07/31/2012, \$2,175,008 total, 5% effort
- Principal Investigator, “Version Upgrade, Expansion, and Improvement of Modern Bayesian Spatio-Temporal Geostatistics Code for ArcGIS Users”, NJ DEP, 09/01/2008 – 01/29/2012, \$75,000 total, 8.33% effort
- Co-Investigator, “Spatial Epidemiology of Syphilis and Gonorrhea in North Carolina”, NIH/NIAID, PI: W. Miller (UNC-Epidemiology), 06/01/2006 – 05/31/2012, \$1,825,000 total, 15% effort
- Co-Investigator, “EID-Collaborative Research: Does Arsenic Mitigation in Bangladesh Raise Exposure to Bacterial and Viral”, NSF-EID, PI: A. van Geen (Columbia University/Fogarty Intl Center), 08/01/2007 – 07/31/2010, \$1,538,039 total (UNC share: \$349,888), 8.33% effort
- Co-Investigator, “Reducing Risk from Well Water Contamination”, American Recovery and Reinvestment Act Administrative Supplement to the UNC SRP (Superfund Research Program), PI: Swenberg (UNC-ESE), 9/30/2009 – 9/29/2011, \$215,195 total, 10% effort on year 2
- Principal Investigator, “Improving the Effectiveness of Mercury Water Quality Estimation along North Carolina Rivers”, NC WRI, 04/01/08 – 03/31/09, \$35,000 direct, 5% effort
- Co-Investigator, “Particulate Air Pollutants, Risk of Cognitive Disorders, and Neuropathology in the Elderly”, HEI, PI: J.C. Chen, 10/01/2008- 09/30/2011, \$76,923, 5% effort
- Co-Investigator, “Environmental Determinants of Sleep Disturbance: Role of Ambient Air Pollution”, NIH/NHLBI, PI: J.C. Chen (UNC Epidemiology), 09/21/07 – 07/31/08, \$152,899 total, 10% effort

- Co-Investigator, “Environmental Exposure and Effect of Hazardous Chemicals: Math/Stat Analysis Core”, NIH/NIEHS, PI: Swenberg (UNC-ESE), 04/01/2005 – 03/31/2010, \$192,681 total, 8.33% effort
- Co-Investigator, “Hazardous Air Pollutants and Autism”, NIH/NIEHS, PI: J. Daniels (UNC-Epidemiology), 10/01/2007 – 09/30/2008, \$74,297 total, 0% effort
- Co-Investigator, “National Strategy for Environment and Health United Arab Emirates”, United Arab Emirate, PI: J. MacDonald, 01/31/08 – 12/30/09, \$4,222,934, 16.66% effort
- Principal Investigator, “Use of BME to Estimate Water Quality in Unmonitored Stream Recharge Linking BME/MATLAB to ArcGIS”, NJ-DEP, 9/1/2005-8/31/2006, \$70,000
- Principal Investigator, “Use of BME to Estimate Water Quality in Unmonitored Stream”, NJ-DEP, 6/1/2004-5/31/2005, \$75,000
- Principal Investigator, “Using New Spatial Statistical Methods to Estimate Water Quality in Unmonitored Streams”, NJ-DEP, 6/1/2003-5/31/2004, \$45,000
- Co-Investigator, “Environmental Exposure and Effect of Hazardous Chemicals - Project 7: A Modeling Framework of Human Exposure and Analysis and Risk Assessment”, NIH/NIEHS, P.I.: G. Christakos, 4/1/2000-3/31/2005, \$824,005
- Co-Investigator, “UNC-CH Center for Environmental Health & Susceptibility”, NIH/NIEHS, PI: J. Swenberg, 4/1/2001 – 3/31/2004, \$842,812
- Co-Investigator, “Superfund Basic Research Program Supplement: Assessing community exposures following the WTC disaster”, NIH/NIEHS, PI: S. Rappaport, \$186,801, 4/1/2003-3/31/2004
- Co-Investigator, “Use of a State-Vector Model of Radiation Carcinogenesis to Integrate Information from in vitro, in vivo, Epidemiological and Physiological Studies”, DOE, PI: D. Crawford-Brown, 9/1/2003-7/31/2005, \$256,000
- Principal Investigator, “NIEHS: P30-ES10126 CEHS: Pilot Project Program 2002, Award 5-2002 - Toxicokinetic modeling using space/time mapping of exposure fields with existing health outcome data in a measurement error model”, NIH/NIEHS, 6/31/2002-7/1/2003, \$15,000
- Principal Investigator, “Use of Environmental Monitoring and GIS to Assess Community Exposure to Air Pollutants Released from Hog CAFOs in Eastern North Carolina”, Environmental Defense, 7/1/2002-6/30/2003, \$15,000
- Co-Investigator, “Drought vulnerability in the Catawba River Basin”, Duke Energy Foundation, PI: L. Band (UNC Geography) 7/1/2003-12/31/2003, \$10,000 (Serre share)

Professional service

To the University,

Faculty Information Technology Advisory Committee (FITAC): Member 2011-2015

To the School and the Department

Environmental Sciences and Engineering Search Committee for a Clinical Assistant Professor position (2018 -)

School of Public Health Committee for the Development of New Undergraduate Core Courses (2018 – present)

School of Public Health MPH Evaluation Subcommittee (2018 – present)

Environmental Sciences and Engineering Committee to Update the Adjunct Faculty Policy (2015-2016)
 School of Public Health Student Award Committee (2009-present)
 School of Public Health Web Council (2009 - 2013)
 Environmental Sciences and Engineering Admission Committee (2009 – 2013)
 Environmental Sciences and Engineering committee on Data Storage and Security (2011 – 2013)
 Environmental Sciences and Engineering, Reappointment committee for an Assistant Professor (2010)

To Discipline

Referee for:

Advances in Water Resources
Annals of Assoc of American Geographer
Atmospheric Environment
Environmental Health Perspective
Environmental Sciences and Technology
Epidemiology
Estuarine Coastal Shelf Science
International Journal of Health Geography
Journal of Geographical Systems
Journal of Marine Systems
*Mathematical Geosciences**
Stochastic Environmental Research & Risk Assessment
Water Resources Research
Toxicological Sciences

Editor for special issues (2003-2007) and Assistant to the Editor-in-Chief (2001-2002), journal of Stochastic Environmental Research & Risk Assessment

Review of a Promotion Package to the Fellow Program, Research Triangle Institute, 2007

Organization Committee of the 2007 Annual Conference of the International Society of Exposure Analysis (ISEA): Member of the “University Involvement” task.

Chair of Symposium on “Spatial and Spatio-Temporal Modeling of Exposure Data” at the 2007 Annual Conference of the International Society of Exposure Analysis

Chair of Symposium on “Symposium – Space-time Statistics for Environmental Epidemiology” at the 2008 Joint Annual Conference of the International Society of Environmental Epidemiology and the International Society of Exposure Sciences

Develop, support, and maintain the users list of the *BMElib* numerical package (<http://www.unc.edu/depts/case/BMELIB/>) for modern spatiotemporal geostatistics used by environmental scientists and spatial epidemiologists worldwide (As of 1/1/2009: 317 users from over 40 countries)

- Develop and support the *BMEGUI* toolbox (<http://www.unc.edu/depts/case/BMEGUI/>) providing an easy-to-use interface for spatiotemporal data analysis in ArcGIS
- One-day Short Course, Introduction to the Bayesian Maximum Entropy approach for space/time geostatistical exposure assessment, 2007 Annual Conference of the International Society of Exposure Analysis (ISEA), Durham, North Carolina, October 14, 2007
- Two-day Workshop: Introduction to Bayesian Maximum Entropy, Department of Statistics, University of Nebraska, Lincoln, July 11-12, 2007
- A One-day Workshop: BME Geostatistical Space/Time Analysis of Environmental Monitoring Data Using ArcGIS, The New Jersey Department of Environmental Protection, Trenton, NJ, USA, June 12, 2007
- Two-day Short Course, Introduction to Bayesian Maximum Entropy, 2006 International Association of Mathematical Geology, Liège, Belgium, September 8-9, 2006
- One-day Application Development Session: Assessing Surface Water Quality in New Jersey: Using GIS, spatio-temporal Geostatistics, and BME, The New Jersey Department of Environmental Protection, Trenton, NJ, USA, May 15, 2006

To the State of North Carolina

- Advisory Group Member, Public Health Surveillance of Unregulated Drinking Water Systems for North Carolina, Occupational and Environmental Epidemiology Branch, Epidemiology Section, Division of Public Health, North Carolina Department of Health and Human Services, 2011-present.
- Advisory Group Member, North Carolina Radon Program, 2013-present.
- Research Translation Seminar, North Carolina Department of Environmental Natural Resources, Division of Waste Management, Raleigh, NC, June 18, 2008
- Seminar, North Carolina Department of Environmental Natural Resources, Division of Water Quality, Raleigh, NC, August 25, 2008
- Research translation providing the North Carolina State Health Department with a geomasking technology to protect patient confidentiality in spatial epidemiologic studies of cancer cases and sexually transmitted infections, 2006-present
- Seminar, North Carolina Department of Environmental Natural Resources, Division of Waste Management, Raleigh, NC, April 8, 2004

To North Carolina Communities

- Work with community members and the Rural Empowerment Association for Community Help (REACH) in eastern North Carolina to monitor hydrogen sulfides in homes near hog farms, 2005-present
- Participation at meetings of the Duplin Environmental Health Awareness Project (DEHAP) on issues related to environmental air and water quality in Eastern North Carolina, 2006-present
- Use of passive environmental monitoring and modern spatiotemporal geostatistics to assess community exposure to ammonia released from hog CAFOs in eastern North Carolina, Chapel Hill, 2004-present
- Workshop presenter, Community Exposure to Land-Applied Sewage Sludge and Their Local Health Impacts, Chapel Hill, North Carolina, March 3-4, 2006

Within UNC-Chapel Hill

Member of the Occupational and Environmental Exposure Science (OEES) Program, Department of Environmental Science and Engineering, 2002-present

Member of the Environmental Engineering Group, Department of Environmental Science and Engineering

Member, Gillings School of Global Public Health Web Council, 2007-present

Faculty Contact, Environmental Sciences and Engineering Alumni Association 2014-present

Faculty Advisor, Environmental Sciences and Engineering Student Organization (ENVRSO)
2004-2005

Faculty Advisor, Outing Club, 2002-2003