

Marc L. Serre

Curriculum Vitae

Personal

Dept. of Environmental Sciences and Engineering
Gillings School of Global Public Health
University of North Carolina at Chapel Hill
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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 (ENSEEIHT), 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)
(https://mserre.sph.unc.edu/BMElab_web), 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

The Newton Underwood Award is given for inclusive in Teaching, Dept. of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, 2021

Teaching Innovation Award, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, 2019

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

The 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' honors and awards (*total of 38*)

1. Abbott, Nora, (MS, **Serre** Advisor), 1st Place Poster - Master's Level" award, SERRS 2024 Conference, Lexington, KY. Spring 2024
2. Abbott, Nora, (MS, **Serre** Advisor), 1st Place Poster - Master's Level" award, SERRS 2023 Conference, Tampa, FL. Spring 2023
3. Abbott, Nora, (MS, **Serre** Advisor), Weiss Urban Livability award, 2022-2023
4. Strott, Richard. (MSEE, **Serre** Advisor), Bunker Award recognizing an outstanding student in Environmental Engineering, Department of Environmental Sciences and Engineering, UNC, Chapel Hill, NC , Spring, 2021

5. Cleland, Stephanie. (MSPH, **Serre** Advisor), Achievement Award recognizing an outstanding Masters student, Department of Environmental Sciences and Engineering, UNC, Chapel Hill, NC , Spring, 2020
6. Claire Dust (MS, **Serre** Advisor), The Linda West Little Research Endowment in Waste Management, Fall 2019
7. Richard Strott (MSEE, **Serre** Advisor), Baity Award, Department of Environmental Sciences and Engineering, UNC, Chapel Hill, NC, Fall 2019
8. Angela Bittner (MS, **Serre** Advisor), Gillings Merit Award, Department of Environmental Sciences and Engineering, UNC, Chapel Hill, NC, Fall 2019
9. Cleland, Stephanie. (MSPH, **Serre** Advisor), Triangle Global Health Consortium Annual Conference Student Scholarship, “Estimating the Hospital Admissions Attributable to the 2017 California Wildfires”, Durham, NC, October 16, 2019
10. Cleland, Stephanie. (MSPH, **Serre** Advisor), B.B. Parker Fellowship (2018-2019)
11. Claire Dust (MS, **Serre** Advisor)The David Allison Fraser Scholarship Fund, Fall 2019
12. Cleland, Stephanie. (MSPH, **Serre** Advisor), Best student poster, Community Modeling & Analysis System Conference, “Fusing CMAQ with Observations to Estimate Air Quality and Health Impacts of the October 2017 California Wildfires”, Chapel Hill, NC, October 21-23, 2019.
13. Cleland, Stephanie. (MSPH, **Serre** Advisor), Alan and Linda Rimer Endowed Scholarship (2018-2019)
14. Richard Strott (MSEE, **Serre** Advisor) Hazen Award, Department of Environmental Sciences and Engineering, UNC, Chapel Hill, NC, Fall 2019
15. Cleland, Stephanie. (MSPH, **Serre** Advisor), Weiss Urban Livability Fellowship (2018-2019)
16. Claire Dust (MS, **Serre** Advisor)The Charles M. and Shirley F. Weiss Fund for Environmental Sciences and Engineering, Fall 2019
17. Cleland, Stephanie. (MSPH, **Serre** Advisor), Gillings Merit Award (2018-2019)
18. Reyes, Jeanette. (PhD 2016, **Serre** Advisor) Top 5 Abstracts of the Mixtures Specialty Section at the Society of Toxicology, Baltimore, MD. March 2017.
19. Katie Bradford: (MS student, **Serre** Advisor) 2017 Baity scholarship, Environmental Sciences and Engineering, UNC-CH
20. 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
21. 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 PM2.5 from onroad sources in Central North Carolina, *NC Breathe conference*, Charlotte, April 08, 2016

22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. Elizabeth Christenson, (MS student, **Serre** Advisor): American Association of University Women (AAUW) Fellowship, 2014-2015
28. 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.
29. Jeanette Reyes, (PhD student, **Serre** Advisor): The 2014 Koch Travel Award, Gilling School of Global Public Health.
30. 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.
31. 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.
32. Jamie Smedsmo, (PhD student, **Serre** Advisor): Department Of Energy Computational Science Graduate Fellowship, 2012-2014
33. 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.
34. 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.
35. 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.

36. 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
37. 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
38. 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

^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 (total of 113)

1. Power MC, Bennett EE, Lynch KM, Stewart JD, Xu X, Park ES, Smith RL, Vizute W, Margolis HG, Casanova R, Wallace R, Sheppard L, Ying Q, **Serre ML**, Szpiro AA, Chen JC, Liao D, Wellenius GA, van Donkelaar A, Yanosky JD, Whitsel E. (in press) Comparison of PM2.5 Air Pollution Exposures and Health Effects Associations Using 11 Different Modelling Approaches in the Women's Health Initiative Memory Study (WHIMS). *Environmental Health Perspectives*, 132 (1), 017003, 2024
2. C Wiesner-Friedman, NE Brinkman, E Wheaton, M Nagarkar, C Hart, SP Keely, E Varughese, J Garland, P Klaver, C Turner, J Barton, ML Serre, M Jahne, Characterizing Spatial Information Loss for Wastewater Surveillance Using crAssphage: Effect of Decay, Temperature, and Population Mobility, *Environmental Science & Technology*, 57 (49), 20802-20812, 2023
3. K Hoffman^M, D Holcomb, S Reckling, T Clerkin, D Blackwood, R Beattie, F de los Reyes, A Harris, H Mitasova, N Kotlarz, J Stewart, J Kazenelson, L Cahoon, A Frampton, M Munir, A Lee, S Berkowitz, R Noble, V Guidry, L Engel, **ML Serre**, A Christensen, Using Detrending to Assess SARS-CoV-2 Wastewater Loads as a Leading Indicator of Fluctuations in COVID-19 Cases at Fine Temporal Scales: Correlations Across Twenty Sewersheds, *PLOS Water*, 2 (10), e0000140, 2023
4. C Wiesner-Friedman^D, RE Beattie, JR Stewart, KR Hristova, **ML Serre**, Identifying sources of antibiotic resistance genes in the environment using the microbial Find, Inform, and Test framework, *Frontiers in Microbiology*, 14, 1223876, 2023
5. RR Sayre^D, RW Setzer, **ML Serre**, JF Wambaugh, Characterizing surface water concentrations of hundreds of organic chemicals in United States for environmental risk prioritization, *Journal of Exposure Science & Environmental Epidemiology*, 33 (4), 610-619, 2023
6. CT Wang, BH Baek, W Vizute, J Xing, J Green, **ML Serre**, R Strott^M, LS Engel, J Bowden, J-H Woo, Spatiotemporally resolved emissions and concentrations of Styrene, Benzene, Toluene, Ethylbenzene, and Xylenes (SBTEX) in the US Gulf region, *Earth System Science Data Discussions*, 1-37, 2023
7. A Valencia^D, **ML Serre**, S Arunachalam, A hyperlocal hybrid data fusion near-road PM2.5 and NO2 annual risk and environmental justice assessment across the United States, *PLOS One*, 18 (6), e0286406, 2023
8. LC Fox^M, WC Miller, D Gesink, I Doherty, KH Hampton, PA Leone, DE Williams, Y Akita, M Dunn, **ML Serre**, Progression of a large syphilis outbreak in rural North Carolina through space and time: Application of a Bayesian Maximum Entropy graphical user interface, *PLOS Global Public Health*, 3 (5), e0001714, 2023

9. V Goel^D, B Chan, M Ziade, M Yunus, MT Ali, MAF Khan, MN Alam, ASG Faruque, S Babu, MM Kabir, PL Delamater, **ML Serre**, MD Sobsey, MS Islam, M Emch, Deep tubewell use is associated with increased household microbial contamination in rural Bangladesh: Results from a prospective cohort study among households in rural Bangladesh, *Environmental Pollution* 324, 121401, 2023
10. AA Wilkie^D, DB Richardson, TJ Luben, **ML Serre**, CG Woods, JL Daniels, Sulfur dioxide reduction at coal-fired power plants in North Carolina and associations with preterm birth among surrounding residents, *Environmental Epidemiology*, 7 (2), e241, 2023.
11. AM Grube^D, CK Coleman^D, CD LaMontagne^D, ME Miller, NP Kothegeal^D, DA Holcomb, AD Blackwood, TJ Clerkin, **ML Serre**, LS Engel, VT Guidry, RT Noble, JR Stewart, Detection of SARS-CoV-2 RNA in wastewater and comparison to COVID-19 cases in two sewersheds, North Carolina, USA, *Science of The Total Environment* 858, 159996, 2023
12. JS Becker^M, MN DeLang, KL Chang, **ML Serre**, OR Cooper, H Wang, MG Schultz, S Schröder, X Lu, L Zhang, M Deushi, B Josse, CA Keller, JF Lamarque, M Lin, J Liu, V Marécal, SA Strode, K Sudo, S Tilmes, L Zhang, M Brauer, JJ West, Using Regionalized Air Quality Model Performance and Bayesian Maximum Entropy data fusion to map global surface ozone concentration, *Elementa: Science of the Anthropocene* (2023) 11 (1): 00025
13. DA Malashock, MN Delang^M, JS. Becker^M, **ML Serre**, JJ West, KL Chang, OR Cooper, SC Anenberg, Trends in Ozone Concentration and Attributable Mortality for Urban, Peri-Urban and Rural Areas Worldwide between 2000 and 2019: Estimates from Global Datasets, *The Lancet Planetary Health*, 6 (12), e958-e967, 2022
14. AA Wilkie^D, DB Richardson, TJ Luben, **ML Serre**, CG Woods, JL Daniels, North Carolina's Changing Energy Generation Profile and Reductions in Key Air Pollutants, 2000-2019, *North Carolina Medical Journal*, 83 (4), 304-310, 2022
15. SE Cleland^D, LH Wyatt, L Wei, N Paul, **ML Serre**, JJ West, SB Henderson, AG Rappold, Short-Term Exposure to Wildfire Smoke and Cognitive Performance in a Brain-Training Game: A Longitudinal Study of U.S. Adults, *Environmental health perspectives* 130 (6), 067005, 2022
16. D Younan, X Wang, T Gruenewald, M Gatz, **ML Serre**, W Vizuete, MN Braskie, NF Woods, K Kahe, L Garcia, F Lurmann, JE Manson, HC Chui, RB Wallace, MA Espeland, JC Chen, Racial/ethnic disparities in Alzheimer's disease risk: Role of exposure to ambient fine particles, *The Journals of Gerontology: Series A*, 77 (5), 977-985, 2022
17. DA Malashock, MN Delang, JS Becker, **ML Serre**, JJ West, KL Chang, On Cooper, SC Anenberg, Estimates of ozone concentrations and attributable mortality in urban, peri-urban and rural areas worldwide in 2019, *Environmental Research Letters*, 17 (5), 054023, 2022
18. C Wiesner-Friedman^D, RE Beattie, JR Stewart, KR Hristova, **ML Serre**, Characterizing Differences in Sources of and Contributions to Fecal Contamination of Sediment and Surface Water with the Microbial FIT Framework, *Environmental Science & Technology*, 56 (7), 4231-4240, 2022
19. Chen C, Whitsel EA, Espeland MA, Snetselaar L, Hayden KM, Lamichhane AP, **Serre ML**, Vizuete W, Kaufman JD, Wang X, Chui HC, D'Alton ME, Chen JC, Kahe K, B vitamin intakes modify the association between particulate air pollutants and incidence of all-cause dementia:

- findings from the Women’s Health Initiative Memory Study, *Alzheimer's & Dementia*. 1–11, 2022
20. C Chen, KM Hayden, JD Kaufman, MA Espeland, EA Whitsel, **ML Serre**, W Vizuete, TS Orchard, X Wang, HC Chui, ME D’Alton, JC Chen, K Kahe, Adherence to a MIND-Like Dietary Pattern, Long-Term Exposure to Fine Particulate Matter Air Pollution, and MRI-Based Measures of Brain Volume: The Women’s Health Initiative Memory Study-MRI, *Environmental health perspectives*, 129 (12), 127008, 2021
 21. JE Rudolph^D, SR Cole, JK Edwards, EA Whitsel, **ML Serre**, DB Richardson, Estimating Associations Between Annual Concentrations of Particulate Matter and Mortality in the United States, Using Data Linkage and Bayesian Maximum Entropy, *Epidemiology*, 33 (2), 157-166, 2021
 22. A Valencia^D, S Arunachalam, V Isakov, B Naess, **ML Serre**, Improving emissions inputs via mobile measurements to estimate fine-scale Black Carbon monthly concentrations through geostatistical space-time data fusion, *Science of the Total Environment*, 148378, 2021
 23. S Rabouli^D, **ML Serre**, V Dubois, J Gance, H Henine, P Molle, C Truffert, L Delgado-Gonzalez, R Clement, Spatialization of saturated hydraulic conductivity using the Bayesian Maximum Entropy method: Application to wastewater infiltration areas, *Water Research*, 117607, 2021
 24. C Wiesner-Friedman^D, RE Beattie, JR Stewart, KR Hristova, **ML Serre**, The microbial Find, Inform, and Test (FIT) model for identifying spatially distributed contamination sources: Framework foundation, and demonstration for ruminant Bacteroides abundance in river sediment, *Environmental Science & Technology*, 55 (15), 10451-10461, 2021
 25. AM Gómez^D, **ML Serre**, E Wise, T Pavelsky, Integrating community science research and space-time mapping to determine depth to groundwater in a remote rural region, *Water Resource Research*, 57 (6), e2020WR029519, 2021
 26. SE Cleland^D, **ML Serre**, AG Rappold, JJ West, Estimating the Acute Health Impacts of Fire-Originated PM_{2.5} Exposure during the 2017 California Wildfires: Sensitivity to Choices of Inputs, *GeoHealth*, 54 (21), 13439-13447, 2021
 27. MN DeLang^M, JS Becker^M, KL Chang, **ML Serre**, OR Cooper, MG Schultz, S Schröder, X Lu, Lin Zhang, M Deushi, B Josse, CA Keller, J-F Lamarque, M Lin, J Liu, V Marécal, SA Strode, K Sudo, S Tilmes, L Zhang, SE Cleland^M, EL Collins, M Brauer, JJ West, Mapping Yearly Fine Resolution Global Surface Ozone through the Bayesian Maximum Entropy Data Fusion of Observations and Model Output for 1990–2017, *Environmental Science & Technology* 55 (8), 4389-4398, 2021
 28. D Younan, X Wang, R Casanova, R Barnard, SA Gaussoin, S Saldana, AJ Petkus, DP Beavers, SM Resnick, JE Manson, **ML Serre**, W Vizuete, VW Henderson, BC Sachs, J Salinas, Margaret Gatz, MA Espeland, HC Chui, SA Shumaker, SR Rapp, JC Chen, PM_{2.5} Associated With Gray Matter Atrophy Reflecting Increased Alzheimer Risk in Older Women, *Neurology* 96 (8), e1190-e1201, 2021
 29. Christopher JL Murray, Aleksandr Y Aravkin, Peng Zheng, Cristiana Abbafati, Kaja M Abbas, Mohsen Abbasi-Kangevari, Foad Abd-Allah, Ahmed Abdelalim, ...**Marc Serre**, ..., Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019, *The Lancet*, 396 (10258), 1223-1249, 2020
 30. SE Cleland^M, JJ West, Y Jia, S Reid, S Raffuse, S O’Neill, **ML Serre**, Estimating Wildfire Smoke Concentrations during the October 2017 California Fires through BME Space/Time Data Fusion of Observed, Modeled, and Satellite-Derived PM_{2.5}, *Environmental Science & Technology*, 54 (21), 13439-13447, 2020

31. C Chen, P Xun, JD Kaufman, KM Hayden, MA Espeland, EA Whitsel, **ML Serre**, W Vizuete, T Orchard, WS Harris, X Wang, HC Chui, JC Chen, K He, Erythrocyte omega-3 index, ambient fine particle exposure, and brain aging, *Neurology*, 95 (8), e995-e1007, 2020
32. AJ Petkus, D Younan, K Widaman, M Gatz, JE. Manson, X Wang, **ML Serre**, W Vizuete, H Chui, MA Espeland, S Resnick, JC Chen, Exposure to fine particulate matter and temporal dynamics of episodic memory and depressive symptoms in older women, *Environmental International*, 135, 105196, 2020
33. D Younan, AJ Petkus, KF Widaman, X Wang, R Casanova, MA Espeland, M Gatz, VW Henderson, JE Manson, SR Rapp, BC Sachs, **ML Serre**, SA Gaussoin, RBarnard, S Saldana, W Vizuete, DP Beavers, JA Salinas, HC Chui, SM Resnick, SA Shumaker, JC Chen, Particulate matter and episodic memory decline mediated by early neuroanatomic biomarkers of Alzheimer's disease, *Brain*, 143 (1), 289-302, 2020
34. V Isakov, S Arunachalam, R Baldauf, M Breen, P Deshmukh, A Hawkins, S Kimbrough, S Krabbe, B Naess, **ML Serre**, A Valencia^D, Combining Dispersion Modeling and Monitoring Data for Community-Scale Air Quality Characterization, *Atmosphere* 10 (10), 610, 2019
35. AJ Petkus, D Younan, X Wang, **M Serre**, W Vizuete, S Resnick, MA Espeland, M Gatz, H Chui, JE Manson, JC Chen, Particulate air pollutants and trajectories of depressive symptoms in older women, *The American Journal of Geriatric Psychiatry*, 27 (10), 1083-1096, 2019
36. KL Chang, OR Cooper, JJ West, **ML Serre**, MG Schultz, M Lin, V Marécal, B Josse, M Deushi, K Sudo, J Liu, CA Keller. A new method (M3Fusion v1) for combining observations and multiple model output for an improved estimate of the global surface ozone distribution, *Geoscientific Model Development*, 12 (3), 955-978, 2019
37. JE Rudolph^D, SR Cole, JK Edwards, EA Whitsel, **ML Serre**, DB Richardson, Using Animations of Risk Functions to Visualize Trends in US All-Cause and Cause-Specific Mortality, 1968–2016, *American journal of public health*, 109 (3), 451-453, 2019
38. R Ayub, KP Messier^D, **ML Serre**, K Mahinthakumar, Non-point source evaluation of groundwater nitrate contamination from agriculture under geologic uncertainty, *Stochastic Environmental Research and Risk Assessment*, 33 (4), 939-956, 2019.
39. JD Stanaway, A Afshin, E Gakidou, SS Lim, D Abate, KH Abate, ..., **ML Serre**, ... Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017, *The Lancet*, 392 (10159), 1923-1994, 2018
40. 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*. 52 (14), 7775-7784, 2018
41. 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*, 28 (4), 381, 2018
42. 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*, 54 (4), 2561-2579, 2018

43. 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*, 32 (9), 2537-2549, 2018
44. IC Hanigan, GJ Williamson, LD Knibbs, J Horsley, MI Rolfe, M Cope, ..., ML Serre,... , 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
45. 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
46. 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*; 125(4):552-559, 2017
47. 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*. 37 (12), 2420-2434, 2017. PMID: 28244115
48. 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*580:865-872, 2017. NIHMSID: NIHMS838929, PMID: 28017419, PMCID: PMC5326586
49. 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
50. JM Reyes^D, Y Xu^D, W Vizuete, **ML Serre**; Regionalized PM2. 5 Community Multiscale Air Quality model performance evaluation across a continuous spatiotemporal domain, *Atmospheric Environment* 2017; 148, 258-265
51. Messier, Kyle P^D; **Serre, Marc L**; Lung and stomach cancer associations with groundwater radon in North Carolina, USA, *International Journal of Epidemiology*, 46 (2), 676-685, 2016
52. 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
53. Xu, Yadong^D; **Serre, Marc L**; Reyes, Jeanette^D; Vizuete, William; ,Bayesian Maximum Entropy Integration of Ozone Observations and Model Predictions: A National Application, *Environmental science & technology*, 50, 8, 4393-4400, 2016
54. 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*, 28 (11), 1423-1427, 2016
55. Jat, Prahlad^D; **Serre, Marc L**; Bayesian Maximum Entropy space/time estimation of surface water chloride in Maryland using river distances, *Environmental Pollution*, 219, 1148-1155, 2016
56. Casanova, Ramon; Wang, Xinhui; Reyes, Jeanette; Akita, Yasuyuki^D; **Serre, Marc L**; Vizuete, 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

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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
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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 18)

1. **Serre, M.L.** 2022. Bayesian Maximum Entropy space/time mapping of COVID-19 at fine spatial scales: Discussion of current work using reported cases; and future work using data fusion with wastewater SARS-CoV-2 concentrations, *North Carolina Department of Human and Health Services*, August 08, 2022, Raleigh, NC, USA, Oral presentation
2. **Serre, M.L.** 2022. From Land Use Regression and Bayesian Maximum Entropy to Spatiotemporal Data Fusion: Past and future works in mapping water contaminants, air pollution and COVID-19, INRAE - National Research Institute for Agriculture, Food and the Environment (France), Lyon. June 21, 2022. Oral presentation

3. **Serre, M.L.** (together with S Rabouli, V Dubois, J Gance, H Henine, P Molle, R Clement), 2021. Estimation of hydraulic Conductivity using BME data fusion of geophysical and geotechnical data: Theory and Applications. National Seminar on Information Applications, France. February 01-02, 2021. Oral presentation
4. **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
5. **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.
6. **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.
7. **Serre, M.L.**, 2007. Introduction to Bayesian Maximum Entropy, Department of Statistics, University of Nebraska, Invited Talk, Lincoln, July 11-12.
8. **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.
9. **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, IIHR seminar series, IIRH- Hydroscience & Engineering, the University of Iowa, Invited Talk, Iowa City, IA, USA, April 14.
10. **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.
11. **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.
12. **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.
13. **Serre, M.L.**, 2004. Modern Geostatistics for Environmental Mapping Applications, Department of Soil Sciences, North Carolina State University, Invited Talk, Raleigh, September 15.
14. **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.
15. **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.

16. **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.
17. **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.
18. **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 258)

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

1. N Abbott^M, C Wang, L Semone^M, Rd Strott^M, J Green, BH Baek, L Engel, W Vizuite, **ML Serre**, Reducing ambient toluene exposure uncertainty in the US Gulf states – an application of Bayesian Maximum Entropy, *SERRS 2024*, March 25-27, 2024, Lexington, KY, USA, poster
2. C Robbins, N Chang, K McQueen, S Rachita, **ML Serre**, W Bodnar, C Woods, Geospatial analysis of well water contaminants near construction and demolition landfills in North Carolina, A pilot study [Poster Presentation]. *WRRRI Annual Conference 2024*, March 20-21, 2024, Raleigh, NC, United States, poster
3. O Cooper, K-L Chang, S Schröder, S., Selke, N., West, J. J., and **Serre, M.**: The global distribution and trends of ozone health-based metrics: New results from the TOAR-II Database, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-3737, <https://doi.org/10.5194/egusphere-egu23-3737>, 2023
4. A Lee^M, R Strott^M, L Cahoon, S Berkowitz, L Engel, D Holcomb, A Christensen, S Reckling, H Mitasova, A Salzberg, J Stewart, V Guidry, R Noble, **ML Serre**, Daily Inflow and Infiltration at Wastewater Treatment Plants across North Carolina, *WRRRI Annual Conference 2023*, March 22-23, 2023, oral presentation
5. N Abbott^M, C Wang, L Semone^M, Rd Strott^M, J Green, BH Baek, L Engel, W Vizuite, **ML Serre**, A Bayesian Maximum Entropy Framework for Environmental BTEXS Estimation to Inform Total Exposure in the United States Gulf Region, *SERRS 2023*, Feb 27-March 1, 2023, Tampa FL, USA, poster
6. A Lee^M, D Holcomb, A Christensen, L Engel, **ML Serre**, Estimation of Inflow and Infiltration at 28 Wastewater Treatment Plants and Implications for Wastewater-based Epidemiology, *SERRS 2023*, Feb 27-March 1, 2023, Tampa FL, USA, poster
7. RR Sayre^D, RW Setzer, **ML Serre**, JF Wambaugh, Curation Decisions and Statistical Methods for Large-Scale Ecological Risk Prioritization in Surface Water: Maximizing Incomplete and Non-Optimal Data, SETAC Pittsburgh – SETAC North America 43rd Annual Meeting, Pittsburgh, PA, USA 13-17 November 2022, presentation
8. AA Wilkie^D, TJ Luben, K Rappazzo, Kristen Foley, CG Woods, **ML Serre**, DB Richardson, JL Daniels, Exposure to ambient sulfur dioxide during gestation and risk of preterm birth among people in North Carolina, 2003-2014, *International Society of Environmental Epidemiology (ISEE) 2022 Annual Meeting*, Athens, Greece, August 18-21, poster
9. M Power, EE Bennett, KM Lynch, JD Stewart, X Xu, ES Park, Q Ying, R Smith, W Vizuite, HG Margolis, R Casanova, R Wallace, L Sheppard, **ML Serre**, A Szpiro, JC

- Chen, J Yanosky, D Liao, G Wellenius, J Kaufman, E Whitsel, , Comparison of PM2.5 air pollution exposure estimates at cohort participant residential locations based on different modelling approaches and impact on health effects estimation, *International Society of Environmental Epidemiology (ISEE) 2022 Annual Meeting*, Athens, Greece, August 18-21, poster
10. K Hoffman^M, D Holcomb, A Christensen, S Reckling, L Engel, VT Guidry, R Noble, D Blackwood, T Clerkin, S B, **ML Serre**, Assessing Wastewater SARS-CoV-2 Concentrations as a Leading Indicator of COVID-19 Cases: Visual Analysis of Twenty Sewersheds Across North Carolina, *2022 Council of State and Territorial Epidemiologists (CSTE) Annual Conference*, Louisville, KY, USA, June 19-23, 2022, oral
 11. AA Wilkie^D, DB Richardson, CG Woods, **ML Serre**, TJ Luben, JL Daniels, Sulfur Dioxide Reduction at Coal-Fired Power Plants In North Carolina And Associations with Preterm Birth Among Surrounding Residents, *2022 Meeting - Society for Epidemiologic Research*, June 14-17, 2022, Chicago, USA, poster
 12. MC Power, EE Bennett, KM Lynch, JD Stewart, X Xu, ES Park, R Smith, W Vizuet, H Margolis, R Casanova, R Wallace, L Shepperd, Qi Ying, **ML Serre**, A Szpiro, JC Chen, D Liao, G Wellenius, J Yanosky, J Kaufman, E Whitsel, Comparison of PM2.5 Exposures at Residential Addresses of Participants of the Women's Health Initiative (WHI) Cohort Using Different Modeling Approaches, *2022 WHI Investigator Meeting*, Washington DC, May 05-06, 2022, poster
 13. L Semone^M, Rd Strott^M, C Wang, J Green, BH Baek, L Engel, W Vizuet, **ML Serre**, BME Geostatistical Estimation of Benzene in the United States Gulf Region Using Observational Data, *SERRS 2022*, March 21-23, 2022, online, poster
 14. A Lee^M, K Hoffman^M, RH Strott^M, D Holcomb, A Christensen, L Engel, **ML Serre**, Space/time BME geostatistical estimation of precipitation to inform inflow and infiltration impacts on wastewater-based epidemiology, *SERRS 2022*, March 21-23, 2022, online, poster
 15. K Hoffman^M, D Holcomb, RH Strott^M, C Dust^M, A Christensen, S Reckling, L Engel, **ML Serre**, Utilizing the BME Method of Geostatistics to Compare COVID-19 Disease Mapping at Different Spatial Scales Across North Carolina, *SERRS 2022*, March 21-23, 2022, online, poster
 16. JJ West, M DeLang^M, J Becker^M, KL Chang, **ML Serre**, OR Cooper, M Schultz, S Schröder, X Lu, L Zhang, M Deushi, B Josse, C Keller, JF Lamarque, M Lin, J Liu, V Marecal, SA Strode, K Sudo, S Tilmes, L Zhang, SE Cleland, E Collins, M Brauer, Mapping Global Surface Ozone Concentration Annually Through Data Fusion at Fine Resolution for 1990 to 2017 to Support Health Assessment, *AGU Fall Meeting 2021*, December 13-17, New Orleans, presentation
 17. CT Wang^M, W Vizuet, **ML Serre**, R Strott, J Green, L Engel, J Bowden, and BH Baek, The air toxicants (Styrene and BTEX) emission estimate in support of their human exposure assessment in the U.S. Gulf region, *AGU Fall Meeting 2021*, December 13-17, New Orleans, poster
 18. D Malashock, S Anenberg, M DeLang, J Becker, **ML Serre**, JJ West, KL Chang, OR Cooper, Ozone-Attributable Mortality Across the Urban-Rural Continuum Worldwide in 2019, *AGU Fall Meeting 2021*, December 13-17, New Orleans, poster
 19. CT Wang, W Vizuet, **ML Serre**, R Strott, J Green, J Bowden, L Engel, and BH Baek, The U.S. Gulf Region Air Toxicants (Styrene and BTEX) Study: Emission Estimate Result by Source Types and Concentration Estimate, *CMAS 2021*, November 1-5, 2021, online poster

20. R Muralidharan^M, O Nawaz, Y Zhang, D Tong, A van Donkelaar, R Martin, **ML Serre**, and JJ West, Changes in Mortality in Response to Decreases in Ozone and PM2.5 Concentrations Across the United States from 1990 to 2019, *CMAS 2021*, November 1-5, 2021, online poster
21. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O'Neill, **ML Serre**, Fusing Observed, Modeled, and Satellite-Derived Concentrations to Produce Fine-Resolution Estimates of PM2.5 During the 2017 California Wildfires, *MAC-MAQ 2021*, September 14-17, online poster
22. R Muralidharan^M, O Nawaz, Y Zhang, D Tong, A van Donkelaar, R Martin, **ML Serre**, and JJ West, Changes in Mortality in Response to Decreases in Ozone and PM2.5 Concentrations Across the United States from 1990 to 2019, *IGAC 2021*, September 12-18, 2021, online presentation
23. M.N. DeLang^M, J. S. Becker^M, K.-L. Chang, **M. L. Serre**, O. R. Cooper, M. G. Schultz, S. Schroder, X. Lu, L. Zhang, M. Deushi, B. Josse, C. A. Keller, J.-F. Lamarque, M. Lin, J. Liu, V. Marecal, S. A. Strode, K. Sudo, S. Tilmes, S. Cleland, E. Collins, M. Brauer, and J. J. West, Global Surface Ozone Concentration Mapping Through Data Fusion at Fine Resolution for 1990 to 2017 to Support Health Impact Assessment, *IGAC 2021*, September 12-18, 2021, online presentation
24. S Rabouli^D, **ML Serre**, V Dubois, J Gance, H Henine, P Molle, C Truffert, R Clement, Data Fusion of ERT and Infiltration Tests, Using Bayesian Maximum Entropy to Mapping Saturated Hydraulic Conductivity, *NSG2021 2nd Conference on Geophysics for Infrastructure Planning, Monitoring and BIM*, August 29 - September 2, 2021, Bordeaux, France, online presentation
25. NM Egerstrom^M, **ML Serre**, KA Gaetz, Risk Assessment: COPD Mortality Burden due to Ozone Exposure in Europe, *ISEE 2021*, August 23-26, 2021, New York, poster
26. AA Wilkie^D, DB Richardson, TJ Luben, **ML Serre**, CG Wood, J L Daniels, North Carolina's Changing Energy Generation Profile and Reductions in Key Air Pollutants, 2000-2019, *ISEE 2021*, August 23-26, 2021, New York, poster
27. O.R. Cooper, K-LChang, **M.L. Serre**, M.G. Schultz, J.J. West, A collaborative effort to build global ozone exposure maps from a fusion of observations and models, *GAW Symposium 2021*, June 28-July 02, 2021, online presentation
28. RR Sayre^D, RW Setzer, **ML Serre**, JF Wambaugh, Determining Representative National Surface Water Chemical Concentration Ranges for Risk Prioritization, *NMC 2021 conference*, April 19-23, 2021, online presentation
29. Rabouli S.^D, **Serre M. L.**, Dubois V., Gance J., Henine H., Molle P, Truffert C., Clement R, Spatialization Of Physical Variables In Soils By Geophysical, Geotechnical And Geostatistics Methods: The Bayesian Maximum Entropy Data Fusion Approach, *EGU 2021 conference*, April 19-30, online presentation
30. S.E. Cleland^D, **M.L. Serre**, A.G. Rappold, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, J Jason West, Estimating PM2.5 Concentrations and the Acute Health Impacts of Exposure During the 2017 California Wildfires: Sensitivity to Choices of Inputs, *HEI 2021 conference*, April 05 – May 27, 2021, online presentation
31. RR Sayre^D, **ML Serre**, RW Setzer, JF Wambaugh, The quest for average water: Determining Representative Surface Water Concentrations for Chemical Risk Assessment Prioritization, *WRI 2021 conference*, March 25-26, 2021, online presentation
32. Rabouli S.^D, **Serre M. L.**, Dubois V., Gance J., Henine H., Molle P, Truffert C., Clement R, Estimation of hydraulic conductivity using data fusion geophysical and geotechnical data, a BME application, 12th annual GEOCONF, March 9-10, 2021, online presentation.

33. JS Becker^M, MN DeLang^M, K-L Chang, **ML Serre**, OR Cooper, MG Schultz, S Schröder, X Lu, L Zhang, M Deushi, B Josse, CA Keller, J-F Lamarque, M Lin, J Liu, V Marécal, SA Strode, K Sudo, S Tilmes, SE Cleland^M, E Collins, JJ West, Using Bayesian Maximum Entropy And Regionalized Air Quality Model Performance Corrections To Model Global Using Observations And Models For 1990–2017, *SERRS 2021*, February 17-18, 2021, online, poster
34. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O’Neil, A Rappold, **ML Serre**, Characterizing Wildfire Smoke Exposure: A Space/Time Data Fusion Method for Accurately Estimating PM_{2.5} Concentrations During the 2017 California Fires, *SERRS 2021*, February 17-18, 2021, online, poster
35. RH Strott^M, C Dust^M, K Hoffman^M, C Wiesner^D, K Chen, D Holcomb, L Engel, **ML Serre**, A proposed BME geostatistical framework to estimate COVID-19 cases at sewersheds using publicly available data, *SERRS 2021*, February 17-18, 2021, online, poster
36. EM Bahnson, P Strassle, R Xu, M Narain, **ML Serre**, W Vizuette, K McGinagle, Pre-surgical higher ozone exposure may decrease patency after lower extremity bypass: a pilot study, *ASC 2021*, February 01-03, 2021, online presentation
37. **ML Serre**, S Rabouli^D, V Dubois, J Gance, H Henine, P Molle, R Clement. Estimation of hydraulic Conductivity using BME data fusion of geophysical and geotechnical data: Theory and Applications. *National Seminar on Information Applications*, France. February 01-02, 2021.
38. JS Becker^M, MN DeLang^M, K-L Chang, **ML Serre**, OR Cooper, MG Schultz, S Schröder, X Lu, L Zhang, M Deushi, B Josse, CA Keller, J-F Lamarque, M Lin, J Liu, V Marécal, SA Strode, K Sudo, S Tilmes, SE Cleland^M, E Collins, JJ West, Mapping yearly fine resolution global surface ozone through Regionalized Air Quality Model Performance corrections and Bayesian Maximum Entropy data fusion of observations and model output for 1990–2017, *AGU 2020*, December 7-11, 2020, online, poster
39. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O’Neil, A Rappold, **ML Serre**, Using Space/Time Data Fusion to Estimate PM_{2.5} Concentrations and Quantify the Acute Health Impacts of Smoke Exposure During the 2017 California Wildfires, *AGU 2020*, December 7-11, 2020, online, Oral presentation
40. AM Gómez^D, **ML Serre**, E Wise, T Pavelsky, Incorporating Community Science Research into Bayesian Maximum Entropy modeling improves depth to groundwater mapping in a remote rural region, *AGU 2020*, December 7-11, 2020, online, poster
41. D Malashock, S Anenberg, K-Lan Chang, M Delang, J Becker, **ML Serre**, JJ West, K-L Chang, O Cooper, Evaluating Ozone Trends and Attributable Mortality in Urban Areas Worldwide, *AGU 2020*, December 7-11, 2020, online, poster
42. JS Becker^M, MN DeLang^M, K-L Chang, **ML Serre**, OR Cooper, MG Schultz, S Schröder, X Lu, L Zhang, M Deushi, B Josse, CA Keller, J-F Lamarque, M Lin, J Liu, V Marécal, SA Strode, K Sudo, S Tilmes, SE Cleland^M, E Collins, JJ Jason West, Mapping yearly global surface ozone through Regionalized Air Quality Model Performance corrections and Bayesian Maximum Entropy data fusion of observations and model output for 1990–2017, *CMAS 2020*, October 26-30, 2020, online, poster presentation
43. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O’Neil, A Rappold, **ML Serre**, A BME Space/Time Data Fusion Method for Estimating Smoke Concentrations and the Associated Health Impacts of the 2017 California Wildfires, *CMAS 2020*, October 26-30, 2020, online, poster presentation

44. A Valencia^D, S Arunachalam, V Isakov, B Naess, **ML Serre**, Improving emissions inputs via mobile measurements to estimate fine-scale Black Carbon concentrations through geostatistical data fusion, *CMAS 2020*, October 26-30, 2020, online, poster presentation
45. RR Sayre^D, RW Setzer, **ML Serre**, JF Wambaugh, Determining Representative Surface Water Chemical Concentration Values for the United States for Risk Prioritization, *ISES 2020*, September 20-24, 2020, online, e poster
46. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O'Neill, A Rappold, **ML Serre**, A Data Fusion Approach for Evaluating Smoke Exposure: Estimating PM_{2.5} During the 2017 California Wildfires, *ISES 2020*, September 20-24, 2020, online, Poster presentation
47. M Delang^M, J Becker^M, K-L Chang, **ML Serre**, O Cooper, M Schultz, S Schroder, X Lu, JJ West, Global Ozone Concentration Mapping Through Data Fusion at Fine Resolution for 1990 to 2017 to Support Health Impact Assessment, *IGAC 2020*, September 14-18, 2020, online presentation
48. AA Wilkie^D, CG Wood, **Marc L Serre**, TJ Luben, DB Richardson, J L Daniels, Installment of desulfurization equipment at coal-fired power plants in North Carolina and associations with preterm birth among surrounding resident, *ISEE 2000*, August 23-27, 2020, online, Oral presentation
49. D Malashock, S Anenberg, K-Lan Chang, O Cooper, JJ West, Estimates of Ozone-Attributable Burden of Disease in Urban Areas Worldwide, *ISEE 2000*, August 23-27, 2020, online, Oral presentation
50. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O'Neill, **ML Serre**, A Space/Time Data Fusion Method for Estimating Smoke Concentrations During the October 2017 California Fires to Inform Population-Level Exposure, *ISEE 2000*, August 23-27, 2020, online, Oral presentation
51. RR Sayre^D, J Arnot, K Isaacs, P Fantke, **ML Serre**, JF Wambaugh, Bayesian Metamodel to Estimate Risk for Thousands of Chemicals in Surface Water, *ACS 2020*, August 17-20, 2020, online, Oral presentation
52. RR Sayre^D, RW Setzer, **ML Serre**, JF Wambaugh, Determining Representative National Surface Water Chemical Concentration Ranges for Risk Prioritization in Drinking Water, *Environmental Modeling Public Meeting (EMPM) 2020*, August 5, 2020, online, Oral presentation
53. D Younan, X Wang, AJ Petkus, TL Gruenewald, R Casanova, **M Serre**, W Vizuete, DP Beavers, MN Braskie, K He, N Woods, L Garcia, RB Wallace, SM Resnick, JE Manson, M Gatz, HC Chui, MA Espeland, JC Chen, Increased neuroanatomic risk for Alzheimer's disease at preclinical stage: Exploring the interaction of fine particle exposure and psychosocial stress, *Alzheimer's Association International Conference 2020*, July 26-30, 2020, Amsterdam, Oral presentation
54. O Nawaz, Y Zhang, DQ Tong, A Van Dondelaar, R Martin, **ML Serre**, JJ West, Health Benefits of Decreases in PM_{2.5} and Ozone in the United States, 1990-2016, *NASA HAQAST2000, Final Showcase*, July 21-22, 2020, online poster presentation
55. SE Cleland^D, JJ West, Y Jia, S Reid, S Raffuse, S O'Neill, A Rappold, **ML Serre**, Estimating PM_{2.5} Through Data Fusion & Evaluating the Health Impact of the 2017 California Wildfires, *NASA HAQAST2000, Final Showcase*, July 21-22, 2020, online poster presentation
56. SE Cleland^M, **ML Serre**, J Becker^M, M DeLang^M, JJ West; Evaluating the Acute Health Impact of PM_{2.5} Exposure During the October 2017 California Wildfires, The 3rd International Smoke Symposium, April 20-24, 2020, Raleigh, NC, USA, online oral talk

57. EM Bahnson, PD Strassle, R Xu^M, W Vizuete, **ML Serre**, KL McGinagle, Pre-surgical Exposure To Higher Levels Of Ozone May Decrease Patency Rates After Lower Extremity Revascularization: A Pilot Study, *Society For Clinical Vascular Surgery (SCVS) 48th Annual Symposium*, March 14 - 18, 2020, Huntington Beach, CA, USA, e-poster
58. V. Isakov, A. Valencia^D, S. Arunachalam, B. Naess, M. Breen, And **M. Serre**, Application Of Data Fusion Methods For Urban-Scale Air Quality Characterization, *International Conference on Air Quality – Science and Application, 12th International Conference on Air Quality*, March 9-13, 2020, Thessaloniki, Greece, online presentation
59. M Delang, S Cleland, J Becker, **M Serre**, JJ West , Pollutant Concentration Mapping to Support Health Impact Assessment: Global Ozone Concentrations, and PM from California Wildfires, *NASA HAQAST2000*, Webinar Series, March 3, 2020, online presentation,.
60. C Wiesner^D, R Beattie, J Stewart, K Hristova, **ML Serre**, Land-Use Impacts the Flow of Antibiotic Resistance Genes in Recreational Waters, *Epidemics7 - International Conference on Infectious Disease Dynamics*, December 3-6, 2019, Charleston, SC, USA, poster presentation
61. D Younan, AJ Petkus, X Wang, R Casanova, R Barnard, SA Gaussoin, S Saldana, SM Resnick, **ML Serre**, W Vizuete, VW Henderson, BC Sachs, DP Beavers, JA Salinas, SA Shumaker, JE Manson, M Gatz, SR Rapp, HC Chui, MA Espeland, M Gatz, JC Chen, Increased Neuroanatomic Risk for Alzheimer’s Disease Associated with Fine Particle Exposure: Exploring the Role of Cognitive Reserve, *International Conference on Cognitive Reserve in the Dementias and other Disorders (ResDem)*, November 15-16, 2019, Munich, Germany
62. S Cleland^M, **ML Serre**, J Becker^M, M DeLang^M, J West, Fusing CMAQ with Observations to Estimate Air Quality & Health Impacts of Oct. 2017 CA Wildfires, *The 18th Annual CMAS Conference*, October 21-23, 2019, Chapel Hill, NC, USA, poster presentation
63. M DeLang^M, J Becker^M, KL Chang, O Cooper, S Cleland, M Schultz, S Schroder, J West, **ML Serre**, CCMi & NASA modelers, Mapping Global Surface Ozone Concentrations through the Statistical Fusion of Observations and Models, *The 18th Annual CMAS Conference*, October 21-23, 2019, Chapel Hill, NC, USA, poster presentation
64. C Wiesner^D, R Beattie, K Hristova, J Stewart, **ML Serre**, Land-use Impacts the Flow of Antibiotic Resistance Genes in Recreational Surface Waters, *Epidemics7 - International Conference on Infectious Disease Dynamics*, December 3-6, 2019, Charleston, SC, USA, poster presentation
65. N Pisanic, C Ordak, A Corrigan, F Curriero, V Coffman, S Rhodes^D, C Wiesner^D, **ML Serre**, J Stewart, D Hall, CD. Heaney, Environmental contamination of outdoor and indoor household surfaces with pig waste in a region with high density of industrial hog operations, North Carolina, USA, *Environmental Justice Summit*, October 18-19, 2019, Whitakers, NC, USA, poster presentation
66. S Cleland^M, **ML Serre**, J Becker^M, M DeLang^M, J West, Estimating the Hospital Admissions Attributable to the 2017 California Wildfires, *2019 triangle global health annual conference*, Durham, NC, October 16 2019, poster presentation
67. A Valencia^D, **ML Serre**, S Arunachalam, Trade-offs in air pollution exposures due to on-road fleet electrification in North Carolina, *International Technical Meeting on Air Pollution Modelling and its Application*, September 23-27, 2019, Hamburg, Germany
68. AJ Petkus, D Younan, MA Espeland, KF Widaman, X Wang, W Vizuete, **ML Serre**, JE Manson, SM Resnick, JC Chen, Exposure to fine particulate matter and temporal dynamics of episodic memory and depressive symptoms in older women, *International Society for*

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 72. C Chen, P Xun, J Kaufman, KM Hayden, MA Espeland, EA Whitsel, **ML Serre**, W Vizuete, T Orchard, X Wang, HC Chui, JC Chen, Ka He, Adherence to Mind Diet Modifies the Association between Air Pollution and Brain Aging: Findings from the Women's Health Initiative Memory Study – MRI Alzheimer's Association International Conference 2019, July 14-18, 2019, Los Angeles, USA, poster presentation
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 75. J Becker^M, M DeLang^M, KL Chang, O Cooper, S Cleland^M, E Collins, **ML Serre**, JJ West, Mapping Global Surface Ozone Concentrations through the Statistical Fusion of Observations and Models using Bayesian Maximum Entropy, NASA Health and Air Quality Applied Sciences Team 6 (HAQAST6) conference, July 10-12, 2019, Pasadena, CA, USA, poster presentation
 76. C Wiesner^D, R Beattie, K Hristova, J Stewart, **ML Serre**, Space/Time Modeling of Antimicrobial Resistance using qPCR from Antibiotic Resistance Genes in Rivers and Streams in Kewaunee, County, Wisconsin, Water Microbiology Conference, May 14-16, 2019, Chapel Hill, NC, USA, poster presentation
 77. R Sayre^D, **ML Serre**, Spatiotemporal analysis of Di(2-ethylhexyl)phthalate in Indiana surface waters, 1997-2010 Water Research Resources Institute conference, March 21-22, 2019, Raleigh, NC, USA, poster presentation
 78. Andrew J Petkus, Mark Espeland, Xinhui Wang, Diana Younan, William Vizuete, **Marc Serre**, Margaret Gatz, Helena Chui, JoAnn Manson, Susan Resnick, Jiu-Chiuan Chen,

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 80. Diana Younan, Xinhui Wang, Andrew J. Petkus, Ramon Casanova, Ryan Barnard, Sarah A. Gaussoin, Santiago Saldana, Susan M. Resnick, **Marc Serre**, William Vizuete, Sally A. Shumaker, Margaret Gatz, Helena Chang Chui, Mark A. Espeland, Jiu-Chiuan Chen, Environmental Determinants Of Neuroanatomic Risk For Alzheimer's Disease In Older Women: Role Of Fine Particulate Matter, *The Alzheimer's Association International Conference 2018*, July 22-26, 2018, Chicago, USA, *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* 14 (7), P278, poster presentation
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 83. 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, 2017, October 15-19, Research Triangle Park, NC, USA
 84. 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
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 86. 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
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89. 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
90. Shih Ying Chang^D, William Vizuete, **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
91. 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
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95. 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.
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98. 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
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101. 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

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104. 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
105. 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
106. 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
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108. 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
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110. 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.
111. 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
112. 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.
113. 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
114. 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
115. 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
116. 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.

117. 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
118. 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.
119. 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.
120. 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
121. 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.
122. 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.
123. 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.
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128. 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
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130. 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

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146. 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.
147. 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.
148. 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.
149. 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.
150. 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.
151. 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.
152. 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.

153. 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.
154. 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.
155. 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.
156. 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.
157. 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.
158. 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.
159. 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 BMEGUI Tool of Modern Space/Time Geostatistics, *18th International Society for Sexually Transmitted Diseases Research Annual Meeting*, Oral Presentation, London, UK. June 28 – July 1.
160. 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.
161. 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.
162. 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.
163. 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.
164. 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.
165. 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.
166. 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.
167. Hampton, K.H., M.K. Fitch, W.B. Allshouse, 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, *International Society for Environmental Epidemiology & International Society of Exposure Analysis, 2008 Joint Annual Conference*, Poster Presentation, Pasadena, CA, USA. October 12-16.
168. 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.
169. 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.
170. 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.
171. **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.
172. 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.
173. 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.
174. 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.

175. 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.
176. 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.
177. 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.
178. 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.
179. 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.
180. 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.
181. 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.
182. 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.
183. **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.
184. **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.
185. 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.
186. 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.
187. 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.

188. 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.
189. **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.
190. **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.
191. 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.
192. 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.
193. 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.
194. 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.
195. **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.
196. 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.
197. 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.
198. 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.
199. 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.
200. 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.

201. 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.
202. 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.
203. **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.
204. 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.
205. 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.
206. 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, ISSTD 2005, poster presentation, Amsterdam, July 10-15.
207. 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.
208. 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.
209. 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.
210. 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.
211. 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.
212. 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.
213. 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.

214. **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.
215. 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.
216. 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.
217. 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.
218. 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.
219. 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.
220. 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.
221. 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.
222. 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.
223. 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.
224. 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.
225. 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.
226. 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.
227. 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.
228. **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.
229. 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.
230. **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.
231. 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.
232. **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.
233. 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.
234. **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.
235. **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.
236. 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.
237. 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.
238. 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.
239. 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.

240. 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.
241. 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.
242. 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 Europ. on Geostatistics for Envir. Appl's), Avignon, France, November 22-24.
243. 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.
244. 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.
245. 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.
246. 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.
247. 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.
248. **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.
249. **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.
250. **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.
251. 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.
252. **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.
253. **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.

254. **Serre, M. L.**, G. Christakos and D. Hristopoulos. 1997. Using the space transform method in geosciences, Fourth SIAM Conference on Mathematical and Computational Issues in the Geosciences, June 16-17.
255. **Serre, M. L.**, 1996. The Space Transform and the Stochastic Flow Equation Problem, Superfund Student meeting at UNC-Chapel Hill, May
256. Odgaard, A. J. , Y. Wang., **M. L. Serre** and R. A. Elder. 1993. Hydraulic Modeling of Fish Screens, ASCE Hydraulic Conf. '93, August.
257. **Serre, M. L.** and A. J. Odgaard, 1992. Turbulence and Energy Loss at Combining Pipe Junctions, A.S.C.E. Mech. Conf. '92, June.
258. **Serre, M. L.** and A. J. Odgaard, 1992. Energy loss at combining pipe junction, A.S.C.E. Water Conf. '92, March.

Inclusive Excellence Training (8hr/academic year)

2023-04-03. Monte Achenbach, Katherine L. Turner, Erika Castellanos Advancing Inclusion in Global Health: A conversation with LGBTQ+ global health professionals. Lecture. During this talk and following discussion and research I learned about the LGBTQ+. 2 hours.

2023-04-03. Dr. David Williams, Understanding and Effectively Addressing Inequities in Health, Dean's Inclusive Excellence Lecture. During this talk and following discussion and research I learned about socioeconomic and racial/ethnic inequities in health and how they can be addressed through interventions. 2 hours.

2022-12-01 and 2022-12-02. Equity Advocacy Training. Staff. Learn do be an advocate when reviewing applications. 1 hour on 2022-12-01 and 1 hour on 2022-12-02

2022-02-22. Pandemic while Black: COVID conversations centering Black experiences. I learned about how views on equity and inclusiveness can be used to process what the Black community has been through during the pandemic. 2 hour on 2022-02-22

2022-02-17. Measurement in research: Using an antiracism framework. I learned about the theoretical and empirical methods of item response theory (IRT), which can permit antiracist measurement across different socioethnic groups. 2 hour on 2022-02-17

2022-02-03. Why Does Racial Inequality Persist? A conversation with Glenn Loury. I learned why inequalities persists. 2 hour on 2022-01-20.

2022-01-20. Equity Advocacy in the Admissions Process Training. Online presentation by UNC SPH faculty and staff members. I learned how to advocate for minorities in the application process. 2 hours on 2022-01-20.

2021-9-9. The Many Faces of Environmental (In)justice: Scholarship addressing Racism, Infrastructure, and Climate Action. Moderator Travis Albritton and co-convener Anderson (Andy) Al Wazni, Seth Lajeunesse, Morgan Richey and Danielle Spurlock. I learned that Environmental racism takes many forms and the importance of holding people accountable for environmental injustices. 1.5 hours

2020-02-24. ARTivism: Using Arts-Based Scholarship to Interrogate and Dismantle Racism. Presenters Charlie Dupee, Michael A. Figueroa and others. I learned about music, genres, visual artism, art by immigrants, etc. 1.5 hours by listening to the recording in July 2021.

2020-11-11. Cultural Industry, Techno-capitalism, and Labor: The Mediated Exploitation of Black and Brown Bodies. Convener Travis Albritt and presenters including Clara Childs, Stephany Mahin, Ashley Mattheis. I learned from different case studies about issues of black feminist, cultural representation, black lives matter and other topics. 1.5 hours by listening to the recording in July 2021.

<https://diversity.unc.edu/programs/race-racism-and-racial-equity-r3-symposium/>

2020-07-10. The Exploitation of Black and Brown Bodies at UNC: Learning from the Past to Change the Present". co-convener Allison De Marco and other presenters from UNC. I learned how the history of black and brown at UNC. 1.5 hours by listening to the recording in May and July 2021.

<https://sph.unc.edu/diversity/inclusive-excellence-trainings/>

2020-11-19. Equity Advocacy in the Admissions Process Training. Online presentation by UNC SPH faculty and staff members. I learned how to advocate for minorities in the application process. 2 hours on 2020-11-19.

Teaching Activity

Summary of Courses Taught (since 2002):

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
Fall 2024	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	
	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	
	ENVR 991-100	Research In ESE	Mean=	Instructor (100%)	
	ENVR 993-100	Master’s Research and Thesis	3	Instructor (100%)	
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	
Spring 2024	ENVR 695	Undergrad research	1	Instructor (100%)	0
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	10
	ENVR 991-100	Research in ESE	Mean=6	Instructor (100%)	1
	ENVR 992-100	Master’s Tech Report	3	Instructor (100%)	0
	ENVR 993-100	Master’s Research And Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
Fall 2023	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	31
	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	2
	ENVR 991-100	Research In ESE	Mean=3	Instructor (100%)	2
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1
Spring 2023	ENVR 695	Undergrad research	1	Instructor (100%)	1
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	14
	ENVR 991-100	Research in ESE	Mean=5	Instructor (100%)	2
	ENVR 992-100	Master's Tech Report	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%)	2

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
Fall 2022	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	31
	ENST 468	Temporal GIS and Geostatistics	3	Instructor (100%)	2
	ENVR 991-100	Research In ESE	Mean=3	Instructor (100%)	2
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1
Spring 2022	ENVR 981-100	Practicum	Mean=1	Instructor (100%)	1
	ENVR 991-100	Research in ESE	Mean=6.3	Instructor (100%)	3
	ENVR 992-100	Master's Tech Report	3	Instructor (100%)	1
	ENVR 993-100	Master's Research And Thesis	3	Instructor (100%)	2
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	28
Fall 2021	ENVR 991-100	Research In ESE	Mean=4.5	Instructor (100%)	5
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	1
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	11
Spring 2021	ENVR 991-100	Research in ESE	Mean=5.2	Instructor (100%)	6
	ENVR 992-100	Master's Tech Report	3	Instructor (100%)	2
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	4

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
Fall 2020	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	21
	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	2
	ENVR 981-100	ENVR Practicum	Mean=1	Instructor (100%)	1
	ENVR 991-100	Research In ESE	Mean=5.8	Instructor (100%)	5
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	3
Spring 2020	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	15
	ENVR 981-100	ENVR Practicum	Mean=2	Instructor (100%)	2
	ENVR 991-100	Research In ESE	Mean=5.7	Instructor (100%)	6
	ENVR 992-100	Master's Tech Report	3	Instructor (100%)	1
	ENVR 994-100	Doct Research And Dissertation	3	Instructor (100%)	2

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	22
Fall 2019	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	1
	ENVR 991-100	Research In ESE	Mean=7.1	Instructor (100%)	5
	ENVR 695-100	Undergrad Research	0	Instructor (100%)	0
	ENVR 765	Space-Time exposure mapping and risk assessment	3	Instructor (100%)	17
Spring 2019	ENVR 992-100	Master's Tech Report	3	Instructor (100%)	0
	ENVR 993-100	Master's Research and Thesis	3	Instructor (100%)	0
	ENVR 991-100	Research in ESE	Mean=7.12	Instructor (100%)	4

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
	ENVR 468	Temporal GIS and Geostatistics	3	Instructor (100%)	15
Fall 2018	ENEC 468	Temporal GIS and Geostatistics	3	Instructor (100%)	0
	ENVR 991-100	Research In ESE	Mean=8	Instructor (100%)	3
	ENVR 695-100	Undergrad Research	3	Instructor (100%)	1
	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

Term	Course ID	Course Title	Credit Hours	Role in the course (% course effort)	Students Enrolled
	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
Spring 2012	ENVR 765	Model-based exposure mapping and risk assessment	3	Instructor (100%)	13
	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 or Committee Chair

1. Nora Abbott (MS)
2. George Heidkamp (MSEE)
3. Praful Dodda (PhD)
4. Risa Sayre (PhD)

Current Graduate Student Supervision – Committee Member (total of 10)

1. Kelsey Bruning, PhD
2. Eli Hinerfeld, MS
3. Kennedy Holt, PhD
4. Meghan Miller, PhD
5. Nikhil Kothegal, PhD
6. Hunter Quintal, PhD
7. Hantao Wang, PhD
8. Ying Yu, PhD

Completed Post Doctoral Research Associate Supervision – (total of 2)

Dr Yasuyuki Akita, May 2010 - 2014

Dr Gavino Puggioni, 2008 – 2009

Completed Graduate Student Supervision - Primary Advisor or Committee Chair (total of 33)

1. Allison Lee (MSEE) Space/Time Estimation of Precipitation and Evaluation of Daily Inflow and Infiltration Across North Carolina Wastewater Treatment Plants to Inform Wastewater-Based Epidemiology, 08/2023
2. Angelina Bittner (MS) [Spatial and Temporal Changes in Groundwater Manganese and Infant Mortality in North Carolina](#), 08/2023

3. Kelly Hoffman (MSPH) [Evaluating The Bayesian Maximum Entropy Space/Time Method to Map COVID-19 Incidence Rates at Fine Spatial Scales Across North Carolina](#), 08/2022
4. Lucie Semone (MS) [Bayesian Maximum Entropy Estimation of BTEXS in the Gulf Region Using Data Fusion And Land Use Regression](#) 05/2022
5. Alejandro Valencia (PhD) [Evaluation and Application of Data Fusion Geostatistical Methods to Improve the Spatiotemporal Resolution of Air Pollution Exposures from Complex Multimodal Environments](#) 08/2021
6. Richard (Rickie) Strott (MSEE) [Bayesian Maximum Entropy Geostatistical Estimation Of Btex And Styrene In The United States Gulf Region Using Observational Data](#) 08/2021
7. Claire Dust (MS) [Exploratory Analysis of the Variability of Viral and Bacterial Indicators of Fecal Contamination in Private Wells](#) 08/2021
8. Calvin Arter (PhD) [Quantifying the Impact of Transportation Sector Emissions on Regional Air Quality](#) 08/2021
9. Corinne Wiesner (PhD) [Find, Inform, and Test \(FIT\): A Spatial Modeling Framework to Estimate Contributions of Spatially Distributed Sources to Microbial Contaminants in The Environment](#) 08/2021
10. Ruozhang Xu (MSPH) [The Effect Of Grid Resolution On The Global Mortality Burden Of Fine Particulate Matter And Ozone](#) 5/2020
11. Stephanie Cleland (MSPH) [Estimating Wildfire Smoke Concentrations During The October 2017 California Fires Through BME Space/Time Data Fusion Of Observed, Modeled, And Satellite-Derived PM2.5](#) 5/2020
12. Gar Yeung (MSEE) [Creating a Database of Land Applied Residuals to Predict Contamination in the Cape Fear River Basin, North Carolina](#) 5/2020
13. Kathleen Bradford (MS) [Land Use Regression and Other Geo-Statistical Analysis Methods to Predict At-Risk Private Well Consumers in North Carolina](#) 12/2018
14. Prahlad Jat (PhD) [Geostatistical Estimation of Water Quality using River and Flow Covariance Models](#) 08/2017
15. Jeanette Reyes (PhD) [Geostatistical data fusion estimation methods of ambient PM2.5 and polycyclic aromatic hydrocarbons](#) 08/2016
16. 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
17. 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
18. Kyle Messier (PhD) [Spatiotemporal Geostatistical Methods for Exposure and Epidemiological Analyses of Groundwater Nitrate and Radon](#) 08/2015
19. Scott Boone (MS) [Calculation Of Sensitivity Coefficients Using CMAQ-DDM For Individual Airport Emissions In The United States](#) 05/2015
20. Jamie Smedsmo (MS) [Surface Water Nitrate Variability In North Carolina: Estimation From Monitoring Data, Land Use, And Point Sources](#) 05/2015
21. Williams Allshouse (PhD) [Modern Space/Time Geostatistical Approaches to Mapping Point Sources of Pollution and Infectious Disease](#) 12/2014

22. Molly Murchison (MSPH) *Spatial Analysis of Industrial Sites and North Carolina Groundwater Contamination* 08/2014
23. Tania Jordanova (MSPH) *Fecal Coliform Pollution As A Function Of Land Use And Stormwater Management Policies In North Carolina* 05/2013
24. Lani Clough (M.S.) *Disease mapping of syphilis in Forsyth County, North Carolina with enhanced geoprivacy and spatial resolution* 08/2012-
25. Jeanette Reyes, (MS) *Global Land Use Regression and Bayesian Maximum Entropy Spatiotemporal Estimation of PM2.5 Yearly Average Concentrations Across The United States* 05/2011
26. 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
27. 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
28. Janie Tarman (M.S.P.H.) *Predicting Rural PM10 Concentrations in North Carolina Using BMEGUI*, May 2010
29. Eric Money (Ph.D.) *Modern Space/Time Geostatistics Using River Distances: Theory and Applications for Water Quality Mapping*, May 2009
30. Sitthichok Puangthongtub (Ph.D.) *Bayesian Maximum Entropy Space/Time Analysis of Ambient Particulate Matter and Mortality In Thailand*, 2006
31. Yasukuki Akita (M.S.) *Spatiotemporal Non-Attainment Assessment Analysis Of The Surface Water Quality Standard For Tetrachloroethene In The Streams Of New Jersey*, 2005
32. Kristen Hampton (M.S.P.H.) *Adjusting For Sampling Variability In Sparse Data: A Bayesian Maximum Entropy Approach To Disease Mapping*, 2005
33. 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)

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

Completed Undergraduate Student Supervision - Primary Advisor or Committee Chair (total of 1 BSPH.)

1. 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

Completed Graduate Student Supervision - Committee Member (total of 84)

1. Kira Moodliar, 08/2023, MSPH
2. Samantha Feinstein, 08/2023, MSPH
3. Zachary Hirsch, 08/2023, MS
4. Stephanie Cleland, 05/2023, PhD
5. Nicole Egerstrom, 08/2022, MS
6. Lunide Sylne, 08/2022, MS
7. Revathi Muralidharan, 08/2022, MS
8. Maggie Wiener, 08/2022, MSPH
9. Sara Rabouli, 06/2022, PhD, France
10. Adrien Wilkie, 12/2021, PhD, EPID
11. Andrew Hamilton, 12/2021, PhD
12. Varun Goel, 08/2021, PhD, Geog
13. Angelica Gomez, 08/2021, PhD, Geog
14. David Gorelick, 08/2021, PhD
15. Jacob Becker, 05/2021, MS
16. Yufei Su, 08/2020, PhD
17. Aleah Walsh, 05/2020
18. Marissa DeLang, 05/2020, MS
19. Ghanja O'Flaherty, 08/2019, MS
20. David Holcomb, 08/2019, PhD
21. Elizabeth Christenson, 08/2019, PhD
22. Kristen Hampton, 08/2019, PhD
23. Rachel Baum, 08/2019, PhD
24. Jackie Rudolph, 05/2019, PhD
25. Sarah Rhodes, 12/2018, PhD
26. Peter Kane, 08/2018, MS
27. Omar Nawaz, 08/2018, MS
28. Eliot Meyer, PhD 12/2017
29. Ann Corrigan, MS, 05/2017
30. Lakshmi Vennam, PhD, 12/2016
31. Elizabeth Cromwell, PhD, 12/2016
32. Shih Ying Chang, PhD, 08/2016
33. Jin Jan, MSEE, 08/2016
34. Ranxin Tao, MS, 08/2016
35. Yadong Xu, PhD, 05/2016

36. Harrison Zeff, PhD, 05/2016
37. Raquel Silva, PhD, 12/2015
38. John Wallace, PhD, *Characterization of arboviral disease in North Carolina* 05/2015
39. Anna Cope, PhD, *Assessment of HIV transmission and diagnosis patterns in North Carolina* 05/2015
40. Jordan Kern, PhD, *Dynamic Hydrologic Economic Modeling Of Tradeoffs In Hydroelectric Systems*, 05/2014
41. 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
42. Ya-Ru Li, PhD, *Assessing Exposure to and Risks of Fine Particulate Air Pollution from Multiple Sources*, 12/2014
43. Chidsanuphong Chart Asa, PhD, *Quantifying Health Impacts Of Traffic-Related Fine Particulate Air Pollution At The Urban Project Scale*, 12/2013
44. Taylor Dennerlein, MS, *Predicting Effects Of Urban Design On Public Health: A Case Study In Raleigh, North Carolina*, 05/2013
45. Jill Johnston, PhD, *Assessing Exposure Of Chlorinated Solvents from the Subsurface to Indoor Air Pathway*, 05/2013
46. Melissa Tinling, MS, *Emergency Department Diagnoses In Eastern North Carolina Associated With Smoke Exposure From The 2011 Pains Bay Wildfire*, 08/2012
47. Chieh-Han Lee, (MS), *Effects Of Outdoor Land Use On Indoor Air Quality: A 600-Household Study In The United Arab Emirates* 12/2012
48. 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
49. Joe LoBuglio (PhD) *Probability-based Approaches for Incorporating Uncertainty into Water Resource Models* 01/2012
50. 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
51. Ovik Banerjee (BS) *Evaluating country level population vulnerabilities to water access due to climate related hazards using high spatial resolution methods* 05/2012
52. Stephen Teet (M.S.) *Estimation of Speciated PM_{2.5} Values from the Speciation Trends Network Using the Bayesian Maximum Entropy Method* 05/2012
53. Veronica Escamilla (PhD) *The Geography Of Groundwater And Childhood Diarrheal Disease In Bangladesh* 09/2011
54. Dana Sackett (PhD) *Evaluating mercury dynamics and trophic transfer in aquatic ecosystems* 08/2011
55. Brian Lopes (PhD) *A Ridge Restricted Maximum Likelihood Approach to Spatial Models* 05/2011
56. Jianyong Wu (PhD) *Diarrheal Diseases In Rural Bangladesh: Spatial-Temporal Patterns, Risk Factors And Pathogen Detection* 2011
57. 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

58. 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
59. Jordan Kern (M.S.) *Influence of De-regulated Electricity Markets on Hydropower Generation and Downstream Flow Regime*, May 2010
60. 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
61. Christopher Heaney (Ph.D.), *Contact with beach sand and risk of illness*, May 2009
62. Angela D. Coulliette (Ph.D.) *Characterization of Fecal Contamination in the Newport River Estuary (North Carolina, USA)*, 2008
63. 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
64. Casey Caldwell (M.S.E.E.) *Considerations of risk tolerance in developing probability-based interutility transfer agreements*, 2008
65. 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
66. Dohyeong Kim, (Ph.D.), (City and Regional Planning) *Strategy for Determining Vaccination User Fees and Locations: A Case Study in Rural China*, 2007
67. Audrey de Nazelle (Ph.D.) *Risk Assessment Of A Pedestrian-Oriented Environment*, 2007
68. 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
69. Sacoby Wilson (Ph.D.) *Environmental Monitoring and Spatial Assessment of of Atmospheric Ammonia Levels near hog CAFOs and Human Receptor Sites in Eastern Carolina*, 2005
70. Huina Li (Ph.D.) *Modeling Multiphase Flow in Porous Medium Systems at Multiple Scales*, 2006
71. Linlin Wang, (M.S.) *Spatiotemporal Analysis of Black Death in France: 1347-1350*, 2005
72. Hwa-Lung Yu (Ph.D.) *Development and Implementation of Knowledge Synthesis Methods for Stochastic Natural Systems*, 2005
73. Yi-chun Evelyn Chao (Ph.D.) *Determination of Dermal Exposure to JP-8 Jet Fuel Using the Tape-Strip Method*, 2005
74. Dale Jobes (M.S.) *Analyzing the Spatiotemporal Relationships of Ozone Exceedances, Transient High Ozone Events, and Meteorological Factors using GIS*, 2005
75. Ruth Alkons Wolinsky (M.S.E.E.) *Geoinformatics Applied To Usgs Sparrow Modeling: Data Needs For Large Scale Environmental Databases*, 2005
76. 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
77. Sally Moncastle (Ph.D., Epidemiology) *A Descriptive And Spatial Analysis Of Sexually Transmitted Infections In Cumberland County, North Carolina*, 2004
78. 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

79. 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
80. 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
81. Rebecca Kauffmann (M.S.E.E.) *Residential Water Consumption in the OWASA Service Area: Chapel Hill and Carrboro, North Carolina*. 2002
82. Scott Durbin (M.S.) *Utilization of a Water Market to Optimize Water Acquisition in the Edwards Aquifer Region*, 2002
83. Audrey de Nazelle (M.S.) *Short Trips: An Opportunity for Sustainable Transportation*, 2001
84. Kung-mee Choi (Ph.D.) *BME-Based Spatiotemporal Local Scale Mapping and Filtering of Mortality Data: The California Study*, 2001

Contract and Grants

Current

- Investigator, Renewable ENergy, Environmental justice, and public Wellbeing (RENEW) - Evaluating biogas transformation in Eastern NC, EPA, PI Crystal Lee Pow Jackson (RTI), 09/01/2023 – 6/30/2027, UNC subaward \$299,839, PI of UNC subaward Courtney Woods, effort on subaward 0.2 calendar month in year 1, 2, 3 and 4
- Co-I/Science PI, Mapping Global Surface Ozone Concentrations Through Data Fusion of Satellite and Ground Observations with Models for Informing Management of Global Health and Agricultural Impacts, NASA, PI Jason West, 06/01/2023 – 05/31/2026, \$754,715, effort 1 calendar month in year 1, 2 and 3
- Co Investigator, Neurological Effects of Environmental Styrene and BTEX Exposure in a Gulf of Mexico Cohort, NIH, PI Larry Engel, 06/01/2020 – 5/31/2025, \$1,951,379, effort 1.2 calendar month in year 1, 2, 3 and 4, and minimal in NCE year 5
- Investigator, EMAQ: Emissions, Air Quality, and Meteorological Modeling Support, EPA, PI Sarav Arunachalam, 01/01/2021 – 05/31/2025, \$11,200,000.00 (Ceiling, on a Level of Effort Contract), effort 0 month (upon work assignment)

In review

- Project Lead for Project 3, The UNC Chapel Hill Superfund Research Program (UNC-SRP), NIEHS, PI Rebecca Fry, 02/01/2025 – 01/31/2030, \$15,330,871, Project 3 title: Geospatial modeling of iAs exposure, Project 3 budget: \$2,482,533, effort 1.8 calendar months in years 1 and 5; 2.4 in years 2 and 4; 2.16 in year 3
- Co investigator of project 1, The UNC Center for Climate Impacts on Women's Health across the Lifespan, NIEHS, PI Stephanie Engel, 06/01/2024 – 05/31/2027, \$3,881,610, Project 1 title: Climate, Chemicals, And Stress: Impact on Preterm Birth in NC, PI of project 1: Rebecca Fry, Project 1 budget \$1,634,160, effort 1.2 calendar month in year 1, 2, and 3

Completed

- PI, Gaston Watermap: A webGIS to inform private well owners in Gaston County of groundwater quality, subcontract to WRII (prime Eric Delmelle, UNC-Charlotte), 03/01/20-12/31/21, \$18,000, effort 0.55 calendar month
- Investigator, NC DHHS/CDC National Wastewater Surveillance System – phase 2, CDC, PI Rachel Noble, 7/1/2021-6/30/2022, \$1,352,522, 1 calendar month
- Investigator, NC Expansion of the NC Wastewater Monitoring Network in collaboration with the UNC System, DHHS/CDC, PI Rachel Noble, 7/1/2022-6/30/2023, \$ 1,337,519, 1 calendar month
- Investigator, Rapid: Impact of Hurricane Florence on Drinking Water Safety in Eastern and Central North Carolina: Rapid Assessment and Recommendations for Recovery and Resilience, NSF, PI Emanuele Sozzi, 5/5/2021-5/31/2022, \$25,001, 0.12 calendar month
- Co Investigator, Effects of Extreme Flooding in Areas of Dense Food Animal Production, WRII, PI Jill Stewart, 03/01/20-12/31/21, \$60,000, effort 0.36 calendar month
- Investigator, NC DHHS/CDC National Wastewater Surveillance System – phase 1, CDC, PI Rachel Noble, 1/1/2021-6/30/2021, \$ 160,654, 0.16 calendar month
- Investigator, Tracking SARS-CoV-2 in the Wastewater Across a Range of North Carolina Municipalities, NC Collaborative, PI Rachel Noble, 3/4/2020-12/30/2020, \$1,714,999.31, 1.51 calendar
- Investigator, EMAQ Work Assignment 5-08, Evaluating Air Quality Products (Sensors Data Fusion), EPA, PI Sarav Arunachalam, 10/01/19 – 06/30/2020, \$75,000, 0.5 calendar
- Investigator, CMAS Work Assignment 3-06 Fine Scale Mapping, EPA, PI Sarav Arunachalam, 6/01/2019 – 06/30/2020, \$129, 997, 0.5 calendar
- Investigator, EMAQ: Emissions, Air Quality, and Meteorological Modeling Support, EPA, PI Sarav Arunachalam, 10/01/2012 - 12/31/2020, \$18,832,964.00, effort 0 month (upon work assignment)
- Co Investigator, Health and Air Quality Applied Sciences Team: Using Science to Inform Management, NASA, PI Jason West, 08/11/16-08/10/20, \$374,999, effort 0.11 calendar month, yr 1-4
- Co-Principal Investigator, “The impact of intensive livestock production on the disease ecology of antibiotic resistant staphylococcus”, NSF, PI Jill Stewart, 09/15/2013-08/31/2018, \$1,410,870, 1 month (8.33%), yr 1-5.
- 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, yr 1-11
- 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 Vizuete, Project PI: JC Chen (U. Southern California), 03/15/2011-02/28/2015, Subcontract total \$137,997.00, 5% effort, yr 1-4
- 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%)

- 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, WRRI/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 WRRI, 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 Committee for the Review of a Clinical Assistant Professor’s application to the rank of Clinical Associate Professor (2019-2020)
- Environmental Sciences and Engineering Information Technology Steering Committee (2014 - present)
- Chair of the Environmental Sciences and Engineering Search Committee for a Research Assistant Professor position (2018 – 2019)
- School of Public Health Committee for the Development of New Undergraduate Core Courses (2018)
- School of Public Health MPH Evaluation Subcommittee (2018 – 2019)
- Environmental Sciences and Engineering Committee for the Review of the Water Institute at UNC and its Director (2016)
- Environmental Sciences and Engineering Committee to Update the Adjunct Faculty Policy (2015-2016)
- Environmental Sciences and Engineering Committee for the Review of an Assistant Professor at mid tenure (2010)
- School of Public Health Student Award Committee (2009-2018)
- 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

Frontiers in Oncology

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