Curriculum vitae for Peter F. Craigmile

Department of Mathematics and Statistics
Hunter College, 695 Park Ave, New York, NY 10065
peter.craigmile@hunter.cuny.edu
http://craigmile.com/peter/

Education

2000 Ph.D in Statistics, University of Washington (UW)
Wavelet–based estimation of trend contaminated long memory processes,
Advisers: Drs. Donald B. Percival and Peter Guttorp

1997 Diploma in Mathematical Statistics, University of Cambridge

1996 B.Sc. (Hons.) in Mathematics and Statistics, University of Glasgow (GU)

Employment

8/23–	Professor, Department of Mathematics and Statistics, Hunter College, City University of New York (CUNY)
12/13–	Honorary Research Fellow, School of Mathematics and Statistics, GU
6/15–8/23	Professor, Department of Statistics, Ohio State University (OSU)
5/19–8/23	Affiliated Faculty, Translational Data Analytics Institute, OSU
5/19–8/23	Affiliated Faculty, Sustainability Institute, OSU
6/22–5/23	Adjunct Professor, Dept. of Biostatistics, Global Public Health, New York University
10/07–6/15	Associate Professor, Department of Statistics, OSU
14-15	Director, Program for Spatial Statistics and Environmental Statistics, Department of Statistics, OSU
9/12–11/13	Reader, School of Mathematics and Statistics, GU
11/01–1/07	Assistant Professor, Department of Statistics, OSU
12/00–8/01	Lecturer/Postdoctoral Research Assistant, Department of Statistics, UW
9/98–12/00	Graduate Research Assistant, Department of Statistics, UW (National Center for Statistics and the Environment and Air Force Office of Scientific Research)
9/97–6/98	Teaching Assistant, Department of Statistics, UW

Honors and awards

2020 Fellow, Institute of Mathematical Statistics

2019 Alumni Award for Distinguished Teaching, OSU

2018 The Thomas and Jean Powers Faculty Award for excellence in teaching, Department of Statistics, OSU

2017 Elected Member, International Statistical Institute

2016 Fellow, The American Statistical Association

2012 El-Shaarawi Young Researcher's Award, The International Environmetrics Society

2011 The Thomas and Jean Powers Faculty Award for excellence in teaching, Department of Statistics, OSU

2003-04 One of the most cited articles in *Journal of Time Series Analysis*: Simulating a class of stationary Gaussian processes using the Davies–Harte algorithm, with application to long memory processes

1997-98 EPSRC funding for the Diploma in Mathematical Statistics

1995 Nuffield Research Scholarship

1993 First year computing class prize, GU

Students

Postdoctoral advising

2009-2010 Postdoctoral advisor to Elizabeth Mannshardt-Shamseldin in the SAMSI Space-Time Analysis for Environmental Mapping, Epidemiology and Climate Change program.

Ph.D. advising

Current Rui Qiang, Statistics, OSU

Current Pashmeen Kaur, Statistics, OSU

2021 Nathaniel Onnen, Statistics, OSU: Estimation of Bivariate Spatial Data

2020 Shuhan Tang, Statistics, OSU: Spectral Analysis Using Multitaper Whittle Methods with a Lasso Penalty (Co-advisor: Y. Zhu)

2019 Ge Liu, Statistics, OSU: Statistical Inference for Multivariate Stochastic Differential Equations (Co-advisor: R. Herbei)

2019 Shreyan Ganguly, Statistics, OSU: Modeling Non-stationarity Using Locally Stationary Basis Processes

2018 Huong (Sophie) Nguyen, Statistics, OSU: Near-optimal designs for Gaussian Process regression models (Co-advisor: M. Pratola)

2018 Qingying Shu, School of Mathematics and Statistics, GU: Statistical modelling of the near-Earth magnetic field in space weather (Co-advisers: M. Scott, M. Ceriotti, L. Fletcher)

2017 Jeffrey Gory, Statistics, OSU: Marginally Interpretable Generalized Linear Mixed Models (Co-advisor: S. MacEachern).

2014 Jiangyong (Matthew) Yin, Statistics, OSU: Bayesian Analysis Of Non-Gaussian Stochastic Processes For Temporal And Spatial Data (Co-advisor: X. Xu).

2014 Grant Schneider, Statistics, OSU: Maximum Likelihood Estimation for Stochastic Differential Equations Using Sequential Kriging-Based Optimization (Co-advisor: R. Herbei).

2014 Wenjun Zheng, Statistics, OSU: Wavelet-based estimation for Gaussian time series and spatio-temporal processes.

2012 Xiaohui Chang, Statistics, The University of Chicago (Advisor: M. Stein). I advised her while she visited OSU, Winter 2012.

2008 Lai Wei, Statistics, OSU: Spectral-based Tests for Periodicities.

2008 Clint D. Roberts, Statistics, OSU: Imputing missing values in time series of count data using hierarchical models. (Co-advisor: E. Stansy).

2007 Jian Zhang, Statistics, OSU: Loss function approaches to predict a spatial quantile and its exceedance region (Co-advisor: N. Cressie).

M.S. advising

2023 Jiahao Ping, Statistics, OSU. Wavelet methods for longitudinal data.

2023 Cong Wang, Department of Biostatistics, College of Global Public Health, New York University. Model selection for spatial conditional autoregressive models.

2021 Joshua Radack, Statistics, OSU. Statistical methods for spatio-temporal modeling.

2014 Katie Allison, M.Sc. in Statistics (by research), University of Glasgow: Statistical Methods for Constructing an Air pollution Indicator for Glasgow (Co-advisor: M. Scott).

2013 Shan Shi, Statistics, OSU (M.S. and Ph.C.): Spectral methods for estimating in space-time models.

B.Sc. advising

2008 David Garewal, Actuarial Science, OSU: A Time Series Analysis of the Volatility in Three Financial Sector Large Caps.

Undergraduate research experience

2013 Katie Pyper, Undergraduate summer studentship in Statistics, GU (Funded by the Carnegie Foundation of Scotland)

2003 Stephanie Jones, Undergraduate summer research experience, Department of Statistics, OSU: Predicting distortion products in healthy females: a robustness study.

Graduate Research Assistants

1. Rui Qiang (Sp 2023; joint with M. Roberts), Department of Statistics, OSU
2. Nathaniel Onnen (Sp 2018–Au 2019; joint with M. Roberts), Department of Statistics, OSU
3. Ge Liu (Sp 2017–Su 2019; joint with R. Herbei), Department of Statistics, OSU.
4. Deborah Kunkel (Su 2016, Su 2017, Sp 2018; joint with M. Peruggia and T. Van Zandt), Department of Statistics, OSU.
5. Michael Matthews (Sp 2015, Su 2015; joint with R. Herbei), Department of Statistics, OSU.
6. Zhifei Yan (Su 2014, 2015; joint with R. Herbei), Department of Statistics, OSU.
7. Sungmin Kim (Su 2011–Sp 2014; joint with M. Peruggia and T. Van Zandt), Department of Statistics, OSU.
8. Shan Shi (Su 2011), Department of Statistics, OSU.
9. Jiangyong Yin (Su 2011), Department of Statistics, OSU.
10. Jian Zhang, Hongfei Li, Rajib Paul, and Ke Wang (Au 2004–Sp 2007; not all funded at the same time), Deptartment of Statistics, OSU. These students were supported on the U.S. EPA/American Chemistry Council, From Sources to Biomarkers: a Hierarchical Bayesian Approach for Human Exposure Modeling. Co-advisers: K. Calder, T. Santner, N. Cressie.

Service on examination committees

1. Ph.D. exam committee, CUNY.

   2024: Jiaqi Zhu (Epidemiology/Biostatistics, CUNY Graduate School of Public Health and Health Policy).

2. External examiner, Ph.D. in Statistics, Universite Lyon 1, France (in French; 2016).

3. External examiner, Ph.D. in Statistics, University of Otago, Dunedin, New Zealand. 2013–2016.

4. External examiner, Ph.D. in Statistics, Lancaster, United Kingdom, 2013.

5. Internal examiner, Ph.D. in Statistics, University of Glasgow, United Kingdom, 2013.

6. Ph.D. final exam committee, OSU (Statistics unless otherwise stated).

   2023: Andrew Soltisz (Biomedical Engineering); 2021: James Matuk; 2015: Linchao Chen, Staci White, Zachary Thomas, Mark Risser; 2014: Yulei Zhang; 2012: Erin Greenlee (EEOB); 2011: Jenny Brynjarsdottir, Matthias Katzfuss; 2010: Candace Berrett; 2009: Dianne Carrol Bautista; 2008: Arun Kumar, Soma Roy; 2006: Tena Katsaounis, Guangjian Zhang (Psychology); 2004: Subharup Guha, Martina Pavlicova; 2003: Gardar Johannesson.

7. Ph.D. candidacy exam committee, OSU (Statistics unless otherwise stated).

   2023: Yongqi Liu, Kartik Lovekar, John Yannotty; 2022: Andrew Soltisz (Biomedical Engineering); 2021: Nikki Schnitzler; 2020: Xiaohan Guo (Biostatistics); 2020: James Matuk; 2017: Corey Smith; 2014: Mark Risser, Zachary Thomas; 2013: Linchao Chen, Staci White; 2012: Marian Frazier, Aritra Sengupta; 2011: Pingbo Lu, Aaron Quan; 2010: Jenny Brynjarsdottir, Matthias Katzfuss; 2009: Candace Berrett, Erin Greenlee; 2008: Danel Draguljic, Xiuyun Zhang; 2007: Arun Kumar, Soma Roy; 2006: Dianne Bautista, Gang Han, Cheryl LeSaint; 2005: Longjuan Liang; 2004: Cheryl Dingus, Yifan Huang, Tena Katsaounis, Martina Pavilcova; 2003: Kristin Duncan, Subharup Guha; 2002: Gardar Johannesson; 2001: Qing Liu.

8. M.S. thesis committee, OSU (Statistics unless otherwise stated).

   2019: Selena Shuo Wang.

9. B.Sc. honours project committee, OSU:

   2008: Christopher Emrick (Speech and Hearing science).

10. Capstone exam committee, OSU:

    2007: Claudia Dome (Speech and Hearing Science).

11. Graduate faculty representative, OSU:

    2022: Gabrielle Tiede; 2022: Ka Chon Ng; 2020: Seo Wook Choi; 2019: Apoorva Ramesh Shastry; 2018: Yao Wan; 2016: Daniel Huber; 2014: Phoebe Gordon; 2013: Eric Wohleb; 2011: Julie Drexler; 2010: Gregory Lyons; 2009: Mark Magleby; 2008: Joni McCullar Criswell; 2007: Ryan Fogt; 2006: Bindu Raghavan.

Teaching

In the Department of Mathematics and Statistics, Hunter College:

STAT 715/ECO 723: Time Series Analysis (Sp 24)

STAT 214, Data Analysis Using Statistical Software (Au 23; Sp 22)

STAT 787, Statistical Models for Spatial Data (Au 23)

In the Department of Statistics, OSU:

STAT 528, Data Analysis I (Wi 02–03, Wi 05–06, Au 06–07)

STAT 529, Data Analysis II (Wi 07–10)

STAT 628, Statistical Practice (Su 08)

STAT 635, The Analysis of Time Series (Au 01–02, Au 04–11)

STAT 641, Design and Analysis of Experiments (Sp 12)

STAT 673, Introduction to Statistical Computing (Au 02–05, Au 08)

STAT 693, Statistical Methods for the Analysis of Time Series Data (Au 10)

STAT 743/894, Generalized Linear Models (Wi 04–12)

STAT 893, The Spectral Analysis of Time Series (Sp 08, Su 11)

STAT 882, Time Series Theory and Methods (Wi 12)

STAT 3302, Statistics for Discovery II (Sp 16–17)

STAT 4302, Computational Statistics (Sp 21, Sp 22)

STAT 5301, Intermediate Data Analysis I (Au 13)

STAT 6410, Design and Analysis of Experiments (Sp 17)

STAT 6530, Introduction to Spatial Statistics (Sp 18, Sp 20)

STAT 6550, The Analysis of Time Series (Sp 16, Sp 23)

STAT 6910, Applied Statistics 1 (Au 19, Au 20, Au 21, Au 22)

STAT 7410, Theory of Linear Models (Au 13–17)

STAT 7430, Generalized Linear Models (Sp 15, Sp 20, Sp 21, Sp 22, Sp 23)

STAT 7550: Time Series Theory and Methods (Sp 18)

Online content development:

- With Elly Kaizar and Vince Vu, developed the "Foundation of Statistics" course for the online Certificate in the Practice of Data Analytics (CPDA) program, based in the College of Engineering, OSU (2017–2023).

Short courses:

- Special topics course: Applied Spatial Statistics for Public Health, Department of Biostatistics, School of Global Public Health, New York University, NY. Jan 2023.

- Special topics course: Applied Spatial Statistics for Public Health, Department of Biostatistics, School of Global Public Health, New York University, NY. Jul 2022.
- Short course in Spatio-temporal methods, Extreme value modeling and water resources summer school, Universite Lyon 1, France, Jun 2016.
- Introduction to spatial risk assessment, Spatial change-of-support and misalignment problems, Hierarchical Statistical Modeling, Statistics for Environmental Evaluation, Quantifying Environmental Risk and Resilience Workshop, University of Glasgow, Glasgow, Scotland, Jan 2016.
- Short course: Wavelet methods, Department of Mathematical Sciences, Aalborg University, Aalborg, Denmark, Dec 2013.
- Short course: Time-frequency methods for spatio-temporal data, Summer School On Topics In Space-Time Modeling And Inference, Aalborg University, Department of Mathematical Sciences, May 2013.

In the School of Mathematics and Statistics, GU:

Linear Models 3 (Au 12)

Spatial Statistics M (Sp 13)

In the Department of Statistics, UW:

STAT 534, Statistical Computing (Sp 01)

STAT 390, Statistics for Engineers (Au 01, Sp 01)

Introduction to Statistical Computing (Au 00)

I taught methods of experimental design and analysis at Roosevelt High School, Seattle, WA, with S. Emerson, Department of Biostatistics, UW (1998)

Grants

2023-28 Modeling the equity impact of age restricted in-person location policies for youth tobacco use Co-investigator with M. Roberts (PI) and others. RO1 grant. National Cancer Institute/National Institutes of Health (NCI/NIH)

2017-20 Evaluating how licensing-law strategies will change neighborhood disparities in tobacco retailer density. Co-investigator with M. Roberts (PI) and A. Ferketich (co-I). R21 grant. National Cancer Institute/National Institutes of Health (NCI/NIH)

2014-19 New Methods for the Analysis of Human Performance Data. Co-PI with M. Peruggia and T. Van Zandt. National Science Foundation, Divison of Social and Economic Sciences (NSF/SES).

2014-19 Statistical inference for space-time models involving stochastic differential equations. Co-PI with R. Herbei. National Science Foundation, Division of Mathematical Sciences (NSF/DMS)

2013-16 Educational & Health Impacts of Socio-Ethnic Migration & Neighbourhood Dynamics in Scotland. Lord Kelvin & Adam Smith Scholarship. Pryce (Urban Studies), Craigmile (Statistics) and Smith (Sociology), GU.

2013-16 Interactive representations of uncertainty for modern statistical inference. Sensors University Scholarship, P. Craigmile (Statistics) and J. Williamson (Computing Science), GU.

2012-17 Modelling and design of a 3D sensor network for space weather monitoring. Sensors University Scholarship. P. Craigmile (Statistics), M. Scott (Statistics), M. Ceriotti (Engineering), and L. Fletcher (Physics and Astronomy), GU.

2010-14 Modeling trends, dependence, and tail structure in sequential response time data. Co-PI with M. Peruggia and T. Van Zandt, NSF/SES.

2009–12 Stat. methods for space-time processes, time-frequency methodologies, and applications. PI, NSF/DMS.

2006–10 Space-time models, methods and applications. PI, NSF/DMS.

2006–08 Conference grant to fund part of the Ninth and Tenth Meeting of New Researchers in Statistics and Probability Co-PI on NCI/NIH.

2006–07 Conference grant to fund part of the Ninth Meeting of New Researchers in Statistics and Probability. Co-PI on National Security Agency grant.

2004–07 From sources to biomarkers: a hierarchical Bayesian approach for human exposure modeling. Co-PI on a U.S. EPA/American Chemistry Council grant.

2004–05 Stat. methods for the analysis of otoacoustic emissions, Seed grant, College Math. & Phys. Sciences, OSU.

Publications

Peer-Reviewed Journal Articles

1. M.E. Roberts, J.M. Singer, B. Lu, D.D. Wagner, L.E. Wold, R. Qiang, P.F. Craigmile, and A.P. Tackett (2024). The case of young people who use e-cigarettes infrequently: Who is this population? What becomes of them? To appear in *Drug and Alcohol Dependence*.
2. A. Soltisz, P. Craigmile, and R. Veeraraghavan (2024), Spatial pattern analysis using closest events (SPACE) – A Nearest Neighbor Point Pattern Analysis Framework for Assessing Spatial Relationships from Digital Images. To appear in *Microscopy and Microanalysis*.
3. P. F. Craigmile and P. Guttorp (2023), Comparing CMIP6 climate model simulations of annual global mean temperatures to a new combined data product, *Earth and Space Science*, DOI: 10.1029/2022EA002468.
4. C. Jenkins, E. Schwartz, N. Onnen, P.F. Craigmile, and M.E. Roberts (2022). Variations in tobacco retailer type across community characteristics: Place matters. *Preventing Chronic Disease*, 19, 210454.
5. P. F. Craigmile, R. Herbei, G. Liu, and G. Schneider (2022). Statistical Inference for Stochastic Differential Equations. *WIREs Computational Statistics*. DOI: 10.1002/wics.1585.
6. A. Glasser, N. Onnen, P. Craigmile, E. Schwartz, and M. Roberts (2022). Associations Between Disparities in Tobacco Retailer Density and Disparities in Tobacco Use. *Preventive Medicine*, **154**, 106910.
7. P. F. Craigmile and P. Guttorp (2021). A combined estimate of global temperature. Discussion paper. *Environmetrics*, **33**, e2076, DOI: 10.1002/env.2706.
8. E. Schwartz, N. Onnen, P. F. Craigmile, M. E. Roberts (2021). The legacy of redlining: Associations between historical neighborhood mapping and contemporary tobacco retailer density in Ohio. *Health & Place*, **68**, 102529.
9. D. Kunkel, Z. Yan, P. F. Craigmile, M. Peruggia, and T. Van Zandt (2021), Hierarchical Hidden Markov Models for Response Time Data. *Computational Brain and Behavior*, **4**, 70-86.
10. J. J. Gory, P. F. Craigmile, and S. N. MacEachern (2021), A Class of Generalized Linear Mixed Models Adjusted for Marginal Interpretability. *Statistics in Medicine*, **40**, 427–440.
11. P. F. Craigmile, N. Onnen, E. Schwartz, A. Glasser, M. E. Roberts (2020), Evaluating How Licensing-Law Strategies Will Impact Disparities in Tobacco Retailer Density: A Simulation in Ohio. *Tobacco Control*, DOI: 0.1136/tobaccocontrol-2020-055622.
12. R. A. Dillon, J. D. Conroy, L. G. Rudstam, P. F. Craigmile, D. M. Mason, S. A. Ludsin (2020), Towards more robust hydroacoustic estimates of fish abundance in the presence of pelagic macroinvertebrates. *Fisheries Research*, **230**, 105667.
13. G. Liu, P. F. Craigmile, and R. Herbei (2020), A Study of the Data Augmentation Strategy for Stochastic Differential Equations. *Journal of Statistical Computation and Simulation*, **90**, 1753-1772.
14. P. F. Craigmile and D. Mondal (2020), Estimation of long-range dependence in gappy Gaussian time series. *Statistics and Computing*, **30**, 167-185.

15. S. Tang, P. F. Craigmile, and Y. Zhu (2019), Spectral estimation using multitaper Whittle methods with a lasso penalty, *IEEE Transactions on Signal Processing*, **67**, 4992-5003.

16. C. Adibe, P. F. Craigmile, N. Onnen, E. Schwartz, and M. E. Roberts (2019), The Relationship Between Tobacco Retailer Density and Neighborhood Demographics in Ohio. *Ohio Journal of Public Health*, **4**.

17. D. Kunkel, K. Potter, P. F. Craigmile, M. Peruggia, T. Van Zandt (2019), A Bayesian race model for response times under cyclic stimulus discriminability, Annals of Applied Statistics, **13**, 271-296.

18. J. Yin, P. F. Craigmile, X. Xu, and S. MacEachern (2019), Shape-constrained semiparametric additive stochastic volatility models. *Statistical Theory and Related Fields*, **3**, 71-82.

19. M. L. Burgoon, T. Albani, B. Keller-Hamilton, B. Lu, M. E. Roberts, P. F. Craigmile, C. Browning, W. Xi, and A. K. Ferketich (2019), Exposures to the Tobacco Retail Environment among Adolescent Boys in Urban and Rural Environments. *The American Journal of Drug and Alcohol Abuse*, **45**, 17-226.

20. J. Yin, and P. F. Craigmile (2018), Heteroscedastic asymmetric spatial processes (HASP). *Stat*, **7**, e206.

21. P. F. Craigmile and B. Li (2017). Instruments, Proxies, and Simulations: exploring imperfect measures of climate. *Chance*, **30**, 12-18.

22. S. Kim, K. Potter, P. F. Craigmile, M. Peruggia, T. Van Zandt (2017), A Bayesian Race Model for Recognition Memory, *Journal of the American Statistical Association*, **112**, 77-91.

23. G. Schneider, P. F. Craigmile, and R. Herbei (2017). Maximum likelihood estimation for stochastic differential equations using sequential kriging-based optimization. *Technometrics*, **59**, 178-188.

24. M. Tingley, P. F. Craigmile, M. Haran, B. Li, E. Mannshardt, and B. Rajaratnam (2015), On discriminating between GCM forcing configurations using Bayesian reconstructions of Late-Holocene temperatures. *Journal of Climate*, **28**, 8264-8281.

25. P. F. Craigmile, P. Guttorp, R. Lund, R. L. Smith, P. W. Thorne, and D. Arndt (2014). Warm Streaks in the US Temperature Record: What are the Chances? *The Journal of Geophysical Research-Atmospheres*, **119**, 5757-5766.

26. P. F. Craigmile and P. Guttorp (2013). Can a regional climate model reproduce observed extreme temperatures? *Statistica*, **73**, 103-122.

27. R. W. Katz, P. F. Craigmile, P. Guttorp, M. Haran, B. Sanso and M. L. Stein (2013). Uncertainty analysis in climate change assessments, *Nature Climate Change*, **3**, 769 - 771 (Editor reviewed).

28. E. Mannshardt, P. F. Craigmile, and M. P. Tingley (2013). Statistical modeling of extreme value behavior in North American tree-ring density series. *Climatic Change*, **117**, 843-858.

29. L. Wei, P. F. Craigmile, and W. M. King (2012). Spectral-based noncentral F mixed effect models, with application to otoacoustic emissions, *Journal of Time Series Analysis*, **33**, 850-862.

30. V. J. Berrocal, P. F. Craigmile, and P. Guttorp (2012). Regional climate model assessment using statistical upscaling and downscaling techniques. *Environmetrics*, **23**, 482-492.

31. C. Hans, G. M. Allenby, P. F. Craigmile, J. H. Lee, S. MacEachern, and X. Xu (2012). Covariance Decompositions for Accurate Computation in Bayesian Scale-Usage Models, *Journal of Computational and Graphical Statistics*, **21**, 538-557.

32. M. Tingley, P. F. Craigmile, M. Haran, B. Li, E. Mannshardt, and B. Rajaratnam (2012). Piecing together the past: Statistical insights into paleoclimatic reconstructions. *Quaternary Science Reviews*, **35**, 1-22.

33. P. F. Craigmile and P. Guttorp (2011). Space-time modeling of trends in temperature series, *Journal of Time Series Analysis*. **32**, 378-395.

34. P. F. Craigmile, M. Peruggia, and T. Van Zandt (2010). Hierarchical Bayes Models for Response Time Data, *Psychometrika*, **73**, 613-632.

35. L. Wei and P. F. Craigmile (2010). Global and local spectral-based tests for periodicities, *Biometrika*, **97**, 223-230.

36. C. A. Calder, P.F. Craigmile, and J. Zhang (2009). Regional Spatial Modeling of Topsoil Geochemistry, *Biometrics*, **65**, 206-215.

37. P. F. Craigmile, C. A. Calder, R. Paul, H. Li, and N. Cressie (2009). Hierarchical Model Building, Fitting, and Checking: A Behind-the-Scenes Look at a Bayesian Analysis of Arsenic Exposure Pathways. *Bayesian Analysis*, **4**, 1-35 (with Discussion 37-62).

38. T. J. Santner, P. F. Craigmile, C. A. Calder, and R. Paul (2008). Demographic and Behavioral Modifiers of Arsenic Exposure Pathways: A Bayesian Hierarchical Analysis of NHEXAS Data. *Environmental Science and Technology*, **42**, 5607-5614.

39. J. Zhang, P. F. Craigmile, and N. Cressie (2008). Loss Function Approaches to Predict a Spatial Quantile and Its Exceedance Region. *Technometrics*, **50**, 216-227.

40. C. A. Calder, P. F. Craigmile, and E. Mosley-Thompson (2008). Spatial Variation in the Influence of the North Atlantic Oscillation on Precipitation Across Greenland. *Journal of Geophysical Research-Atmospheres*, **113**, D06112, doi:10.1029/2007JD009227.

41. N. Cressie, B. E. Buxton, C. A. Calder, P. F. Craigmile, C. Dong, N. J. McMillan, M. Morara, T. J. Santner, K. Wang, G. Young, and J. Zhang (2007). From sources to biomarkers: a hierarchical Bayesian approach for human exposure modeling, *Journal of Statistical Planning and Inference*. **137**, 3361–3379.

42. P. F. Craigmile, N. Kim, S. Fernandez, B. Bonsu (2007). Modeling and detection of respiratory-related outbreak signatures, *BMC Medical Informatics and Decision Making*, **28**, doi:10.1186/1472-6947-7-28

43. C. R. Readinger, E. Mosley-Thompson, P. Craigmile, L. G. Thompson, and C. A. Calder (2005). Regional sensitivity of Greenland precipitation to NAO variability, *Geophysical Research Letters*, **32**, L24707, doi:10.1029/2005GL024776.

44. B. Whitcher, P. F. Craigmile, and P. Brown (2005). Time-varying spectral analysis in neurophysiological time series using Hilbert wavelet pairs, *Signal Processing*, **85**, 2065–2081.

45. P. F. Craigmile, N. Cressie, T. J. Santner, and Y. Rao (2005). A loss function approach to identifying environmental exceedances, *Extremes*, **8**, 143–159.
46. P. F. Craigmile, D. B. Percival, and P. Guttorp (2005). Wavelet based estimation for polynomial contaminated fractionally differenced processes. *IEEE Transactions on Signal Processing*, **53**, 3151–3161.
47. P. F. Craigmile (2005). Approximate wavelet based simulation of long memory processes. *Journal of Statistical Computation and Simulation*, **75**, 363–380.
48. P. F. Craigmile, and D. B. Percival (2005). Asymptotic decorrelation of between–scale wavelet coefficients. *IEEE Transactions on Information Theory*, **51**, 1039–1048.
49. B. Whitcher, and P. F. Craigmile (2004). Multivariate spectral analysis using Hilbert wavelet pairs, *International Journal of Wavelets, Multiresolution and Information Processing*, **2**, 567–587.
50. P. F. Craigmile, and W. M. King (2004). Periodogram based tests for distortion products otoacoustic emissions, *The Journal of the Acoustical Society of America*, **116**, 442–451.
51. P. F. Craigmile, P. Guttorp, and D. B. Percival (2004). Trend assessment in a long memory dependence model using the discrete wavelet transform, *Environmetrics*, **15**, 313–335.
52. P. F. Craigmile (2003). Simulating a class of stationary Gaussian processes using the Davies-Harte algorithm, with application to long memory processes, *Journal of Time Series Analysis*, **24**, 505–511.
53. P. F. Craigmile, and D. M. Titterington (1997). Parameter estimation for finite mixtures of uniform distributions, *Communications in Statistics – Theory and Methods*, **26**, 1981–1995.

Chapters in Edited Books

1. P. F. Craigmile, Time series methodology (2019), A chapter in A. Gelfand, M. Fuentes, J. Hoeting, and R. Smith (Eds.): *Handbook of Environmental and Ecological Statistics*, Chapman and Hall/CRC, New York: NY (peer-reviewed).
2. P. F. Craigmile and P. Guttorp, Modeling and assessing climatic trends (2019), A chapter in A. Gelfand, M. Fuentes, J. Hoeting, and R. Smith (Eds.): *Handbook of Environmental and Ecological Statistics*, Chapman and Hall/CRC, New York: NY (peer-reviewed).
3. P. F. Craigmile, M. Haran, B. Li, E. Mannshardt, B. Rajaratnam, and M. Tingley, Paleoclimate reconstruction: looking backwards to look forward (2019), A chapter in A. Gelfand, M. Fuentes, J. Hoeting, and R. Smith (Eds.): *Handbook of Environmental and Ecological Statistics*, Chapman and Hall/CRC, New York: NY (peer-reviewed).
4. P. F. Craigmile, M. Peruggia, and T. Van Zandt (2012). A Bayesian Hierarchical Model for Response Time Data Providing Evidence for Criteria Changes Over Time. Eds: J. Edwards and R. MacCallum. Current Issues in the Theory and Application of Latent Variable Models. New York, NY: Routledge.

5. P. F. Craigmile, M. Peruggia, and T. Van Zandt (2009). Detrending Response Time Series. Eds: S. M. Chow, E. Ferrer, and F. Hsieh. Statistical methods for modeling human dynamics: An interdisciplinary dialogue. Notre Dame Series on Quantitative Methodology (Vol. 4). New York, NY: Taylor and Francis. (peer-reviewed).
6. P. F. Craigmile, and D. B. Percival (2002). Wavelet–based trend detection and estimation, Entry in the Encyclopedia of Environmetrics. Eds: A. El–Shaarawi and W. W. Piegorsch, Chichester, UK: John Wiley and Sons (peer reviewed).

Non-peer reviewed articles

1. P. F. Craigmile (2017). Editorial: The Role of Statistics in Climate Research, *Chance*, **30**, 4-5.
2. B. Sanso, L. M. Berliner, D. S. Cooley, P. Craigmile, N. A. Cressie, M. Haran, R. B. Lund, D. W. Nychka, C. Paciorek, S. R. Sain, R. L. Smith, and M. L. Stein (2014). Statistical Science: Contributions to the Administrations Research Priority on Climate Change. A White Paper of the American Statistical Association's Advisory Committee for Climate Change Policy.
3. P. F. Craigmile (2009). Some interesting facets of spectral analysis. *The ISBA Bulletin*, **16**, 8-11.
4. N. Altman, D. Banks, J. Hardwick, K. Roeder, P. Craigmile, J. Hardin, and M. Gupta (2005). The Institute of Mathematical Statistics new researchers' survival guide.
5. P. F. Craigmile (2000). Wavelet-based estimation for trend contaminated long memory processes Ph.D. Dissertation, UW.

Papers in Proceedings

1. P. F. Craigmile, M. P. Tingley, and J. Yin (2013). Paleoclimate reconstruction using statistical nonlinear forward models. Invited Paper, Proceedings of the 59th ISI World Statistics Congress, Hong Kong.
2. R. Paul, N. Cressie, B. E. Buxton, C. A. Calder, P. F. Craigmile, H. Li, N. J. McMillan, M. Morara, J. Sanford, T. J. Santner, and J. Zhang (2007). Bayesian Hierarchical Model of Arsenic Exposure Based on NHEXAS Data: A Comparison of US EPA Region 5 and Arizona. Proceedings of the 2007 Joint Statistical Meetings, 1055-1062.
3. N. Cressie, J. Zhang, and P. F. Craigmile (2005). Geostatistical prediction of spatial extremes and their extent, Geostatistics for Environmental Applications, Proceedings of the Fifth European Conference on Geostatistics for Environmental Applications, eds: P. Renard, H. Demougeot–Renard, R. Froidevaux, Springer, 27–37 (peer-reviewed).
4. P. F. Craigmile, D. B. Percival, and P. Guttorp (2001). The impact of wavelet coefficient correlations on fractionally differenced process estimation, European Congress of Mathematics (Barcelona, July 10–14, 2000), Volume II, eds: C. Casacuberta, R. M. Miro–Roig, J. Verdera and S. Xambo–Descamps, Basel, Switzerland: Birkhauser Verlag, 591–599.

Discussions and book reviews

1. P. F. Craigmile and D. B. Percival (2017). Discussionof Guy Nason, Ben Powell, Duncan Elliott and Paul A Smith, "Should we sample a time series more frequently? Decision support via multirate spectrum estimation". *Journal of the Royal Statistical Society: Series A*, DOI: 10.1111/rssa.12210.
2. P. F. Craigmile (2016). Book review of "Steven P. Millard, EnvStats: An R Package for Environmental Statistics". *Journal of Agricultural, Biological, and Environmental Statistics*, **22**, 107-108.
3. P. F. Craigmile (2016). Discussion of by Ilvonen et al., "A Bayesian multinomial regression model for paleoclimate reconstruction with time uncertainty", *Environmetrics*, **27**, 423-424.
4. C. Chanialidis, P. Craigmile, V. Davies, N. Dean, L. Evers, M. Filiippone, M. Gupta, S. Ray and S. Rogers (2013). Discussion of Henning and Liao, "How to find an appropriate clustering for mixed type variables with application to socio-economic stratification", *Journal of the Royal Statistical Society: Series C*, **62**, 309-369.
5. P. Craigmile and B. Rajaratnam (2011). Discussion of McShane And Wyner, "A Statistical Analysis of Multiple Temperature Proxies: Are Reconstruction of Surface Temperature Over the Last 1000 Years Reliable?", *Annals of Applied Statistics*, **5**, 88-90.
6. P. F. Craigmile, (2005). A book review of L. Wasserman (2004), All of statistics: a concise course in statistical inference, Springer–Verlag, New York. *The American Statistician*, **59**, 203–204.

Professional activities

National and international

- Member, Scientific Committee, Institute for Mathematical and Statistical Innovation (IMSI; https://www.imsi.institute) (2023–).
- Panelist, Division of Mathematical Sciences, National Science Foundations (Spring 2023).
- Member, Scientific Advisory Committee of Canadian Statistical Sciences Institute (CANSSI; https://canssi.ca) (2023–).
- Co-organizer of Online Seminar on Spatial and spatio-temporal Point processes and beyond (OSSP) – https://sites.google.com/view/os-spatial-point-processes/home (2020–).
- Discussion group leader, Byrd Center Symposium on Climate Change, The Ohio State University (Oct 8-9, 2020).
- Member of Scientific Committee, 14th International Meeting on Statistical Climatology (2018-19).
- Led ENVR Mentoring Session, JSM 2018, Vancouver, Canada. Jul 28-Aug 2, 2018.
- Member, Nominations committee, International Environmetrics Society (2017) (appointed by the president of the society).
- Guest Editor, Special issue on Climate Change, Chance (2016–2017).

- Associate Editor, Journal of the Royal Statistical Society, Series B (2013–2017).
- Associate Editor, Environmetrics (2009–2016). Was guest editor for a discussion paper in Environmetrics entitled "Threshold modelling of spatially dependent non-stationary extremes with application to hurricane-induced wave heights", by P. J. Northrop and P. Jonathon.
- Representative to the JSM 2016 program committee for the Royal Statistical Society.
- Chair, Organizing committee (2013–2017). Challenges in the Statistical Modeling of Stochastic Processes for the Natural Sciences. Lead Organizer for Banff International Research Station workshop, Banff, Canada. 9-14 Jul 2017.
- Chair, Scientific Committee. 26th Annual Conference of The International Environmetrics Society (18-22 Jul 2016). Heriot-Watt University, Riccarton, Edinburgh, Scotland.
- Member, Organizing Committee. ENVR/EnviBayes Workshop on Bayesian Environmetrics (31 Mar-2 Apr 2016). OSU, Columbus, Ohio.
- Spatially-varying stochastic differential equations, with application to the biological sciences, MBI workshop, Columbus, Ohio, July 7-10, 2015. Co-organized workshop with Radu Herbei.
- Seminar organizer for STATMOS, the Research Network for Statistical Methods for Atmospheric and Oceanic Sciences (2014–2015).
- Reviewer, Distinguished Master's Thesis awards, Midwestern Association of Graduate Schools (2015).
- Member, Scientific program committee for ISBA 2014 (2013–2014).
- American Statistical Association (ASA) Advisory Committee on Climate Change Policy (2011-2014; Vice-chair: 2015; Chair: 2016).

  Participated in Climate Science Day, visiting members of Congress in Washington DC to discuss the role that scientists can offer in Climate Science matters (11 Feb 2015).

  Participated in Climate Science Day, visiting members of Congress in Washington DC to discuss the role that scientists can offer in Climate Science matters (1 Feb 2012) – http://www.aaas.org/news/releases/2012/0207climate_science_day.shtml http://magazine.amstat.org/blog/2012/04/01/climate-science-day/

  Represented the American Statistical Society, visiting members of Congress in Washington DC to discuss the importance of National Science Funding (11 May 2011) – http://magazine.amstat.org/blog/2011/07/01/capitol-hill-event-nsf/

  Participated in Climate Science Day, visiting members of Congress in Washington DC to discuss the role that scientists can offer in Climate Science matters (16–17 Feb, 2011) – http://magazine.amstat.org/blog/2011/04/01/climatescienceday/
- Guest co-editor for a special issue on Modern Statistical Methods in Ecology, in *Statistical Methodology* (2011–2013) (co-edited with Murali Haran). Articles, editorial, and introductory video at http://www.sciencedirect.com/science/journal/15723127/17.
- Member of Scientific Committee, Fifth Midwest Statistics Research Colloquium (2012).

- Active participant in the SAMSI Space-Time Analysis for Environmental Mapping, Epidemiology and Climate Change program (The extremes and paleoclimate groups) (2010-2011).

  I was an advisor to a postdoctoral research assistant, Elizabeth Mannshardt-Shamseldin, in the SAMSI program (SAMSI funded this postdoc).

- Member of Scientific Committee, Third Midwest Statistics Research Colloquium (2010–2011).
- Judge, student paper competition for the Statistical Computing and Statistical Graphics sections of the ASA (2008, 2009, 2010).
- Council of Sections Representative, ASA Section on Statistical Graphics (2008–2010).
- Member, Institute of Mathematical Statistics (IMS) Committee on Nominations (2008–2009).
- Chair, IMS Committee on New Researchers (2005–2006).
- Member, IMS Committee on New Researchers (2004–2007).
- Member, IMS Committee on Electronic Issues (2003–2005).
- Member of the American Statistical Association, the Institute of Mathematical Statistics, the Royal Statistical Society, the International Environmetrics Society, the International Society for Bayesian Analysis, and the Edinburgh Mathematical Society.
- Reviewed papers for Advances in Statistical Climatology, Meteorology and Oceanography, The American Statistician, Annals of Applied Statistics, Annals of Statistics, Astrophysical Journal, Bayesian Analysis, Bernoulli, Biometrical Journal, Biometrics, Biometrika, Climatic Change Communications in Statistics, Computational Statistics and Data Analysis, Dynamics of Atmospheres and Oceans, Dendrochronologia, Environmental and Ecological Statistics, Environmetrics, Electronic Journal of Statistics, Extremes, European J. of Soil Science, International J. of Climatology, International J. of Ecological Economics and Statistics, International J. of Forecasting Italian Journal of Statistics, Geophysical Research Letters J. of Agricultural, Biological, and Environmental Sciences, J. of the American Statistical Association, J. of Computational and Graphical Statistics, J. of Climate, J. of Multivariate Analysis, J. of Nonparametric Statistics, J. of Royal Statistical Society – Series B, J. of Royal Statistical Society – Series C, J. of the Royal Society – Interface, J. Stat Software, J. of Statistical Computation and Simulation, J. of Statistical Planning and Inference, J. of Time Series Analysis, IEEE Signal Processing Letters, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Image Processing, IEEE Transactions on Information Theory, IEEE Transactions on Signal Processing, International Journal of Climatology, Metrika, Nature, Nature Communications, Ocean Engineering, Proceedings of the National Academy of Sciences, Psychometrika, Sankyha, Science, Signal Processsing, Spatial and Spatio-temporal Epidemiology, Spatial Statistics, Stat, Statistics and Computing, Statistics and Its Interface, Statistics and Probability Letters, Statistics in Medicine, Statistica Sinica, Technometrics, Water Resources Research.
- Reviewer of numerous grant proposals and faculty promotion cases, nationally and internationally.

Departmental Service

Sp 2001	Member, Computing committee, Department of Statistics, University of Washington
2001-2002	Job search committee, Program for Spatial Statistics and Environmental Statistics, Department of Statistics, OSU
2001-2009	Member, Computing committee, Department of Statistics, OSU
Au 2004	Member, Seminar committee, Department of Statistics, OSU
2008-2012	Chair, Curriculum committee, Department of Statistics, OSU
2009-2012	Co-chair, Semester conversion committee, Department of Statistics, OSU. Responsible (with other faculty) for managing semester conversion (the conversion of over 100 statistics courses, 1 undergraduate, and 8 graduate programs)
2012-2013	Head of 3rd year of undergraduate degree in Statistics, School of Mathematics and Statistics, GU
2012-2013	In charge of 2+2 Mathematics and Statistics degree program with two universities in China, School of Mathematics and Statistics, GU
2012-2013	Member, Advancement committee, School of Mathematics and Statistics, GU
2012-2013	Degree advertising committee, School of Mathematics and Statistics, GU
2012-2013	Member, Open day committee, School of Mathematics and Statistics, GU
2012-2013	Chair, School student lecture, School of Mathematics and Statistics, GU and The Royal Institution of Great Britain
2013-2015	Member, Hiring committee, Department of Statistics, OSU
2013-2015	Chair, Curriculum committee, Department of Statistics, OSU
2013-2015	Member of distance learning committee, Department of Statistics, OSU
Sp 2014	Member, Seminar committee, Department of Statistics, OSU
2015-2016	Chair, Translational Data Analytics Committee, Department of Statistics, OSU.
2016-2017	Member, Seminar committee, Department of Statistics, OSU
2016-2018	Elected member, Executive Committee, Department of Statistics, OSU
Au 2017	Procedures Oversight Designee (POD) for a promotion and tenure case, Department of Statistics, OSU
2017-2018	Member, Curriculum committee, Department of Statistics, OSU
2017-2018	Member, Graduate Admission Committee, Department of Statistics, OSU
2019-2021	Elected member, Executive Committee, Department of Statistics, OSU
2020-2021	Co-writer with Shili Lin, Research Section, Departmental Review Document, Department of Statistics, OSU
2019-2023	Chair, Curriculum committee, Department of Statistics, OSU
2023-2024	Co-developer, Statistical Data Science Track, Statistics and Applied Math MA, Department of Mathematics and Statistics, Hunter College, CUNY
2023-2024	Co-organizer, Applied Probability and Statistics Seminar Series, Dept. of Mathematics and Statistics, Hunter College, CUNY; http://www.craigmile.com/probstat/

Mentored faculty in Department of Statistics, OSU: Dena Asta (2019–2022); Jonathan Baker (2022–2023); Douglas Critchlow (2014–2020); Christopher Hans (2022–2023); Radu Herbei (2014–2019); Jared Huling (2017–2020); Sebastian Kurtek (2019–2022); Matthew Pratola (2013–2023); Yunzhang Zhu (2014–2020).

Examination committees, Department of Statistics, OSU: Masters of Applied Statistics Exam Committee: Spring 2002, Autumn 2003, Spring 2004. Ph.D. Masters of Science/Qualifying Exam I Committee: Autumn 2005, Winter 2006, Autumn 2006, Winter 2007, Autumn 2008, Winter 2009, Autumn 2009 (Chair), Winter 2010, Autumn 2010, Winter 2011, Autumn 2011 (Chair), Winter 2012, Autumn 2013, Spring 2014 (Chair), Autumn 2014, Spring 2015, Autumn 2015 (Chair), Spring 2016, Autumn 2019, Spring 2020 (Chair), Autumn 2020, Spring 2021, Autumn 2021, Spring 2022, Autumn 2022 (Chair), Spring 2023; Ph.D. Qualifying Exam II Committee: Autumn 2016, Spring 2017, Autumn 2017 (Chair), Spring 2017;

Regular participation in the research groups in Design of Physical and Computer Experiments (8750.02), Quantitive Methods in Consumer Behavior (8750.04), and the Spatial Statistics and Environmental Statistics (8750.06), Department of Statistics, OSU.

College or University Service

2007-2008	Member, Chair search committee in the Department of Statistics, College of Math and Physical Sciences
2007-2012	Member, Curriculum Committee in the College of Math and Physical Sciences
2009-2012	Departmental contact for Semester conversion for the College and University
Au 2013	Participated in Environmental Data Science Institute data analytics proposal meetings
2013-2016	Member, Arts and Sciences curriculum committee. Also served on the Division of Natural and Mathematical Sciences panel. Dean's appointee
Mar 2014	Judge, Denman Undergraduate Research Forum, OSU
2015-2016	Chair, Division of Natural and Mathematical Sciences panel
2015-2017	Member, Disciplinary committee in the Graduate School. Dean's appointee
2017-2018	Reappointment committee for Dean of College Arts and Sciences in the Office of Academic Afffairs. Appointed by vice-provost
2019-2022	Member, Arts and Sciences curriculum committee. Also served on the Division of Natural and Mathematical Sciences panel. Dean's appointee

Presentations

1. *Bayesian models for response times in cognitive experiments (Mar 5, 2024).* Functional data analysis working group (FDAWG), Department of Biostatistics, Columbia University, NY
2. *Spectral Analysis Using Multitaper Whittle Methods with a Lasso Penalty (Dec 16–18, 2023).* Regularized methods for statistical inference, CMStatistics 2023, HTW Berlin, University of Applied Sciences, Berlin, German.
3. *Enhancing statistical inference for stochastic processes using modern statistical methods (Apr*

27, 2023). Statistics seminar, Department of Statistics, The Pennsylvania State University, University Park, PA.

4. *Enhancing statistical inference for stochastic processes using modern statistical methods (Mar 9, 2023).* Statistics seminar, Department of Mathematics and Statistics, Hunter College of CUNY, NY.
5. *A class of generalized linear mixed models adjusted for marginal interpretability (Dec 17-19, 2022).* Marginal and conditional inference for dependent data, CMStatistics 2022, London, England.
6. *A combined estimate of global temperature time series and a comparison to climate models (Sep 19-23, 2022).* Climate Model Evaluation and Uncertainty workshop, Institute for Mathematical and Statistical Innovation, University of Chicago.
7. *Optimal Design Emulators: A Point Process Approach (Sep 14, 2022).* Online Seminar on Spatial and spatio-temporal Point processes and beyond (OSSP).
8. *Evaluating spatially-varying disparities in tobacco retailer density across Ohio (Aug 8, 2022).* Seminar, Department of Biostatistics, NYU School of Global Public Health, NY.
9. *Spectral Analysis Using Multitaper Whittle Methods with a Lasso Penalty (Jun 24-26, 2022).* Multitaper Spectral Analysis workshop, Banff International Research Station, Banff, Canada. Online.
10. *Locally Stationary Basis Processes (Dec 14, 2021).* Statistics Seminar, Paul H. Chook Department of Information Systems and Statistics, Zicklin School of Business, Baruch College, CUNY, NY.
11. *Locally Stationary Processes and their Application to Climate Modeling (Oct 18, 2021).* Statistics Seminar, Department of Statistics, Columbia University, NY.
12. *A combined estimate of global temperature time series and a comparison to climate models (Aug 7-12, 2021).* Joint Statistical Meetings. Online.
13. *Evaluating spatially-varying disparities in tobacco retailer density across Ohio (Aug 7-12, 2021).* Joint Statistical Meetings, Online. Invited poster.
14. *Locally Stationary Spatio-Temporal Modeling (Jun 28-Jul 2, 2021).* ISBA 2021 World Meeting, Online.
15. *Modeling Nonstationary Time Series using Locally Stationary Basis Processes (May 27, 2021).* Institute of Mathematical Stochastics, Department of Mathematics, Otto-von-Guericke, University Magdeburg, Germany, Online.
16. *Locally Stationary Processes and their Application to Climate Modeling (Dec 14-16, 2019).* CM Statistics 2019, London, England.
17. *Enhancing statistical inference for stochastic processes using modern statistical methods (Jun 2-7 2019).* 20th Workshop on Stochastic Geometry, Stereology and Image Analysis (SGSIA), Centre for Stochastic Geometry and Advanced Bioimaging (CSGB), Aaarhus University, Sandbjerg Estate, Denmark.

18. *Locally Stationary Processes and their Application to Climate Modeling (Oct 2-4, 2018).* SWGEN 2018, Stochastic Weather Generators Conference, Boulder, CO.

19. *Enhancing statistical inference for stochastic processes using modern statistical methods, Department of Applied Mathematics, University of Colorado Boulder (Sep 28, 2018).* Boulder, CO.

20. *Maximum likelihood estimation for stochastic differential equations using sequential Gaussian-process-based optimization (Jul 28-Aug 2, 2018).* JSM, Vancouver, Canada.

21. *Locally Stationary Processes and their Application to Climate Modeling (Jun 24-29, 2018).* Session: Points, Areas, Places, and Times: Modern Bayesian modeling of environmental phenomena, ISBA 2018, Edinburgh.

22. *Wavelet-based estimation for spatio-temporal processes (12-13 Apr 2018).* Workshop on Statistical Signal Processing, University of Lancaster, England.

23. *Regional climate model assessment via spatio-temporal modeling (3-8 Dec 2017).* Workshop on Inferential Challenges for Large Spatio-Temporal Data Structures, Banff International Research Station workshop, Banff, Canada.

24. *Heteroscedastic asymmetric spatial processes (HASP) (29 Jul-3 Aug 2017).* JSM, Baltimore, MD.

25. *Can a regional climate model reproduce observed extreme temperatures? (24-25 Oct 2016).* Workshop on the analysis of environmental extremes, The Pennsylvania State University, University Park, PA.

26. *Maximum likelihood estimation for stochastic differential equations using sequential Gaussian-process-based optimization (29 Sep 2016).* Department of Statistical Sciences seminar, University of Toronto, Toronto, Canada.

27. *Can a regional climate model reproduce observed extreme temperatures? (18-22 Jul 2016).* 26th Annual Conference of The International Environmetrics Society, Heriot-Watt University, Riccarton, Edinburgh, Scotland.

28. *Short course in Spatio-temporal methods (13-24 Jun 2016).* Extreme value modeling and water resources summer school, Universite Lyon 1, France,

29. *Introduction to spatial risk assessment, Spatial change-of-support and misalignment problems, Hierarchical Statistical Modeling (3 talks) (5–8 Jan 2016).* Statistics for Environmental Evaluation, Quantifying Environmental Risk and Resilience Workshop, GU, Scotland.

30. *Time series modeling, with application to SDEs and the biological sciences (7-10 Jul 2015).* Spatially-varying stochastic differential equations, with application to the biological sciences, Math Biosciences Institute workshop, OSU.

31. *Wavelet-based estimation for spatio-temporal processes (1 Jun 2015).* Mathematical and Statistical Analysis of Spatial Data. Workshop hosted by the Department of Mathematical Sciences, Aalborg University, Denmark.

32. *Heteroscedastic asymmetric spatial processes (HASP) (13 May 2015).* Big Data in Environmental Science workshop, University of British Columbia, Vancouver, Canada.

33. *Time-frequency methods for spatio-temporal data (24 Apr 2015).* Workshop on Complex Spatio-temporal Data Structures: Methods and applications, Thematic Program on Statistical Inference, Learning, and Models for Big Data, The Fields Institute For Research In Mathematical Sciences, Toronto, Canada.

34. *Wavelet-based estimation of the long memory parameter in Gaussian non-gappy and gappy time series (16 Apr 2015).* Seminar, Department of Statistics, University of Akron, OH.

35. *Shape-constrained Semiparametric Additive Stochastic Volatility Models (31 Oct 2014).* Workshop: High-dimensional, high-frequency and spatial time series data, Karlsruhe Institute of Technology, Germany.

36. *Heteroscedastic asymmetric spatial processes (HASP) (29 Oct 2014).* Mini Symposium on Spatial Statistics, Heidelberg Institute for Theoretical Studies, Germany.

37. *Shape-constrained Semiparametric Additive Stochastic Volatility Models (4 Sep 2014).* Statistics seminar, Department of Statistics, The Pennsylvania State University, University Park, PA.

38. *Spatio-temporal models for space weather monitoring (2-7 Aug 2014).* Session: Environmental monitoring using networks of sensors, Joint Statistical Meetings, Boston, MA.

39. *Spatial change-of-support and misalignment problems (19-27 Jun 2014).* Lecture and practicum, Pan-American Advanced Study Institute on Spatio-Temporal Statistics, Búzios, RJ, Brazil.

40. *A Bayesian Race Model for Recognition Memory (21 Mar 2014).* Midwest Statistics Research Colloquium, University of Chicago, Chicago, IL.

41. *Modeling spatial nonstationarity and inference for exceedances in environmental applications (28 Jan 2014).* "Programme on Inference for Change-Point and Related Processes", Isaac Newton Institute for Mathematical Sciences, Cambridge, UK.

42. *Short course in wavelet methods (16-20 Dec 2013).* Department of Mathematical Sciences, Aalborg University, Aalborg, Denmark.

43. *Paleoclimate reconstruction using statistical nonlinear forward models (25-30 Aug 2013).* Statistical methods in the study of palaeoclimate, The 59th World Statistics Congress, Hong Kong, China.

44. *Long range dependence – it's hard to forget (14 Jun 2013).* Department of Mathematics and Statistics, Lancaster University.

45. *Short course in Time-frequency methods for spatio-temporal data (27-31 May 2013).* Summer School On Topics In Space-Time Modeling And Inference, Aalborg University, Department of Mathematical Sciences.

46. *Spectral-based non-central F mixed effect models, with application to otoacoustic emissions (6 Mar 2013).* Combining Health Information, Computation and Statistics (CHICAS) Lancaster Medical School, Lancaster University.

47. *Statistical modeling of extreme value behavior in paleoclimate proxies (5 Mar 2013).* Extremes reading group, Department of Mathematics and Statistics, Lancaster University.

48. *Wavelet-based estimation of the long memory parameter in Gaussian non-gappy and gappy time series (5 Mar 2013).* Recent Advances in Nonstationary Time Series, Department of Mathematics and Statistics, Lancaster University.

49. *A Young Person's Guide to Stationary Stochastic Processes (18 Feb 2013).* Sandwiches and Light Theorems (encompassing Definitions), School of Mathematics and Statistics, GU

50. *Wavelet-based estimation of the long memory parameter in Gaussian non-gappy and gappy time series (8 Feb 2013).* Probability and Statistics seminar, School of Mathematics, University of Bristol

51. *Hierarchical Bayes Models for Response Time Data (7 Feb 2013).* School of Clinical Veterinary Sciences, University of Bristol

52. *Space-time modelling of climatic trends (15 Jan 2013).* Statistics meeting, Centre for Ecology & Hydrology, Edinburgh

53. *Spatial models for environmental monitoring (14 Jan 2013).* Statistics meeting, Centre for Ecology & Hydrology, Edinburgh

54. *Space-time modelling of climatic trends (29 Nov 2012).* Sensor systems seminar, GU

55. *Wavelet-based estimation of the long memory parameter in Gaussian non-gappy and gappy time series (19 Oct 2012).* Statistical Laboratory, University of Cambridge

56. *Spatio-temporal modelling (31 Aug 2012).* Statistics for Environment Evaluation, GU

57. *Discussant for the Water and Climate session (2 Aug 2012).* JSM, San Diego, CA

58. *Modeling volatility in environmental space-time data (13 July 2012).* Space-time data session, 8th World Meeting in Probability and Statistics, Istanbul, Turkey

59. *Regional climate model assessment using statistical upscaling and downscaling techniques (23 Jun 2012).* "Spatial modeling, Applied Stochastics and Climatology" session at the 8th International Purdue Symposium on Statistics, Purdue University, West Lafayette, IN

60. *Statistical modeling of extreme value behavior in paleoclimate proxies, Frontiers in the Detection and Attribution of Climate Change (30 May 2012).* Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada

61. *Regional climate model assessment using statistical upscaling and downscaling techniques (24 Apr 2012).* SSES Conference on Spatial and Environmental Statistics, Department of Statistics, OSU

62. *Wavelet-based estimation of the long memory parameter in Gaussian non-gappy and gappy time series (19 Apr 2012).* Department of Statistics seminar, OSU

63. *Statistical insights into paleoclimate reconstructions (25 Jan 2012).* Discussion Group on Paleoclimate Data and Models, Department of Statistics, OSU

64. *Spectral-based methods for space-time models (3 Jan 2012).* 22nd Annual Conference of The International Environmetrics Society, Hyderabad, India

65. *Spectral-based methods for space-time models (5 Aug 2011).* JSM, Miami, FL

66. *Space-time modelling of climatic trends (2 Jun 2011).* Interface 2011: Statistical, Machine Learning, and Visualization Algorithms, Cary, NC

67. *Space-time statistical modeling applied to Climatology (11 May 2011).* Coalition for National Science Funding 17th Annual Exhibition, Washington DC (Representing the American Statistical Association). Invited poster.

68. *Latent variable models for discriminating trend, dependence, and tail structure in response time data (10 Sep 2010).* Current Topics in the Theory and Application of Latent Variable Models: A Conference Honoring the Scientific Contributions of Michael W. Browne. OSU

69. *Hierarchical Model Building, Fitting, and Checking: A Behind-the-Scenes Look at a Bayesian Analysis of Arsenic Exposure Pathways (2 Aug 2010).* JSM, Vancouver, British Columbia, Canada.

70. *The analysis of long memory climate series (14 Jul 2010).* 11th International Meeting on Climatology, Edinburgh, Scotland.

71. *Statistical models relating the North Atlantic Oscillation to Precipitation across Greenland / Paleoclimate working group problems (17 Feb 2010).* Climate Change Workshop, SAMSI, Research Triangle Park, NC

72. *Loss-based prediction of spatial exceedance regions (10 Nov 2009).* Spatio-temporal Extremes and Applications, Lausanne, Switzerland

73. *Loss-based prediction of spatial exceedance regions (26 Oct 2009).* Extremes working group, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC.

74. *Statistical models relating the North Atlantic Oscillation (NAO) to Precipitation across Greenland (22 Oct 2009).* Paleoclimate working group, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC.

75. *Time-frequency methods for space-time models (2 Aug 2009).* JSM, Washington DC.

76. *Space time data: paleoclimatology (17 Apr 2009).* Discussion Group on Space-Time Data and Modeling, OSU.

77. *Statistical models relating the North Atlantic Oscillation (NAO) to Precipitation across Greenland (18 Nov 2008).* Geospatial Data and Analysis discussion, OSU.

78. *Scale-Usage Models (SCUM) (14 Nov 2008).* Quantitative Studies in Consumer Behavior seminar, OSU, Thu 14 Nov 2008.

79. *Hierarchical Model Building, Fitting, and Checking: A Behind-the-Scenes Look at a Bayesian Analysis of Arsenic Exposure Pathways (19 Jun 2008).* Robertson Centre for Biostatistics, GU.

80. *Space-Time Models: A Spatially-Dependent Filtering Approach (11 Jun 2008).* Department of Statistics, GU.

81. *Space-time models: a spatially-dependent filtering approach (7 Dec 2007).* Department of Statistics, Univ. Michigan.

82. *Space-Time Models: A Spatially-Dependent Filtering Approach (4 Aug 2008).* JSM, Denver, CO.

83. *Space-time models: a spatially-dependent filtering approach (27 Jun 2007).* Financial Forecasting in a Global Economy, 27th Annual International Symposium on Forecasting, New York, NY.

84. *Spatial Variation in the Influence of the North Atlantic Oscillation on Precipitation Across Greenland (21 Jun 2007).* TIES North American Regional Meeting, Seattle, WA.

85. *Hierarchical time series models for sequences of response time data (30 May 2007).* Statistical Methods for Modeling Human Dynamics: An Interdisciplinary Dialogue, The Notre Dame Quantitative Psychology Program, University of Notre Dame, South Bend, IN.

86. *Loss-based prediction of spatial exceedance regions (28 Oct 2006).* Multivariate Methods In Environmetrics, Chicago

87. *Spectral and wavelet–based methods for nonstationary processes (11 May 2006).* Department of Statistics, OSU.

88. *Computational Strategies for Fitting and Learning from Complex Bayesian Hierarchical Models (9 Aug 2006).* JSM, Seattle, WA.

89. *A mixture model for sequences of response time data (9 May 2006).* Quantitative Studies in Consumer Behavior seminar, OSU.

90. *Spectral and wavelet–based methods for nonstationary processes (8 Dec 2005).* School of Statistics, University of Minnesota, Minneapolis, MN.

91. *Wavelet–based inferences for long memory processes (11 Aug 2005).* Joint Statistical Meetings (JSM), Minneapolis

92. *Bayesian inferences on environmental exceedances and their spatial locations (8 Aug 2004).* JSM, Toronto, Canada.

93. *Statistical methods for the detection of distortion products in otoacoustic emissions (5 Aug 2004).* The Seventh North American New Researchers Conference, York University, Toronto, Canada.

94. *Bayesian Inferences on environmental exceedances and their spatial locations (18 Jun 2004).* Graybill Conference, Spatial Statistics: Agricultural, Ecological, and Environmental Applications, Fort Collins, CO.

95. *Multivariate spectral analysis using Hilbert wavelet pairs (20 May 2004).* Center for Integrating Statistical and Environmental Science, University of Chicago, IL.

96. *Statistical methods for the analysis of distortion product otoacoustic emissions (30 Mar 2004).* ENAR/IMS Eastern Regional Spring Meeting, Pittsburg, PA.

97. *Inference on spatial locations and magnitudes of exceedances (19 Jun 2003).* Battelle, Statistics and Data Analysis Systems, Columbus, OH.

98. *Statistical methods for the detection of distortion products in otoacoustic emissions (9 Apr 2003).* Department of Biostatistics seminar, The Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

99. *Trend assessment in a long memory dependence model using the discrete wavelet transform (18 Jul 2002).* Conference on Current Advances and Trends in Nonparametric Statistics, Crete, Greece.
100. *Wavelet–based estimation for fractional exponential time series models (13 Aug 2002).* JSM, New York, NY.
101. *Modelling long range dependence using the discrete wavelet transform (16 Jun 2002).* Fourth Biennial International Conference on Statistics, Probability and Related Areas, Northern Illinois University in DeKalb, IL.
102. *Wavelet–based maximum likelihood estimation for trend contaminated long memory processes (Aug 2001).* European Meeting of Statisticians, Funchal, Madeira.
103. *Decorrelation properties of wavelet based estimators for FD processes (12 Jul 2000).* Third European Congress of Mathematics, Barcelona.
104. *Wavelet based parameter estimation of trend contaminated long memory processes (May 2000).* Fifth World Congress of The Bernoulli Society For Probability And Mathematical Statistics and 63rd Annual Meeting of The Institute of Mathematical Statistics, Mexico.
105. *Trend estimation using wavelets (Jun 1999).* International Institute of Forecasting Conference, Washington DC.
106. *Trend estimation using wavelets (May 1999).* Environment, Statistics and Information: EPA's Vision for the 21st Century, Temple, Philadelphia, PA.

Talks to students and working group discussions

1. *My research interests (24 Jan 2023).* Stat 8010, Department of Statistics, OSU.
2. *My research interests (10 Jan 2020).* Stat 8010, Department of Statistics, OSU.
3. *Discussion of "Asymptotically Exact, Embarrassingly Parallel MCMC" by Neiswanger, Wang, and Xing (22 Feb 2016).* Stat 8750.04, Department of Statistics, OSU (With Jojo Wang).
4. *My research interests (22 Jan 2016).* Stat 8010, Department of Statistics, OSU.
5. *Spatial change-of-support and misalignment problems (14 & 28 Sep 2015).* Stat 8750.06: Research Group in Spatial Statistics & Environmental Statistics, Department of Statistics, OSU.
6. *Heteroscedastic asymmetric spatial processes (HASP) (27 Apr 2015).* Stat 8750.06: Research Group in Spatial Statistics & Environmental Statistics, Department of Statistics, OSU.
7. *Maximum likelihood estimation for stochastic differential equations using sequential kriging-based optimization (2 Dec 2014).*Research Group in Computer Experiments, Department of Statistics, OSU.
8. *A review of traditional stationary geostatistical models (2 Sep 2014).* Stat 8750.06: Research Group in Spatial Statistics & Environmental Statistics, Department of Statistics, OSU.
9. *Why uncertainty matters: The role of Statistics and its application (18 Jun 2013 and 9 Jul 2013).* Statistics Taster for Secondary School Children, GU.
10. *Having a whale of a time! (10 Jun 2013).* Glasgow Science Festival event for Secondary School Children, GU.

11. *A statistics degree is for you! (13 Mar 2013).* School of Mathematics and Statistics, GU.
12. *Is it a boy or a girl? Using statistics to distinguish between different subpopulations (1 Dec 2012).* A masterclass to secondary school children, School of Mathematics and Statistics, GU and The Royal Institution of Great Britain.
13. *Why uncertainty matters: The role of Statistics and its application (3 Mar 2012).*The Ohio State Academic Summit, The Office of Undergraduate Admissions and First Year Experience, OSU.
14. *Time Series Analysis (24 Jun 2011).* Stat 801 talk, OSU.
15. *A discussion of a discussion: 'Why Tables Are Really Much Better Than Graphs', by Andrew Gelman and others (13 May 2011).* Quantitative Studies in Consumer Behavior seminar, OSU
16. *Travels through time, (2 Jul 2010).* Stat 801 talk, OSU.
17. *Space-time modeling (26 Jun 2009).* Stat 801 talk, OSU.
18. *A tail of two time series (20 Jun 2007).* Stat 801 talk, OSU.
19. *Statisical inferences for long memory processes (7 Jul 2006).* Stat 801 talk, OSU.
20. *Time for a change? (24 Jun 2005).* Stat 801 talk, OSU.
21. *Modeling air pollution and mortality time–series (13 May 2005).* Discussion Group in Environmental Statistics: Statistical Methods in Environmental Health, OSU.
22. *Time and frequency analysis of time series (25 Jun 2004).* Stat 801 talk, OSU.
23. *My research interests (1 Jul 2003).* Stat 801 talk, OSU (Stat 801/8010 is a summer seminar series given to the students in the Department of Statistics at OSU).
24. *A discussion of Chapter 7 of R. Smith's manuscript, Environmental Statistics (14 May 2003).* Discussion Group in Environmental Statistics, OSU.
25. *A discussion of Spatial modelling in irregularly shaped regions: kriging estuaries (19 Feb 2003).* Discussion Group in Environmental Statistics, OSU.
26. *A discussion of Bayesian hotspot detection in the presence of spatial trend: application to total nitrogen concentration in Chesapeake Bay (3 Dec 2002, 15 Jan 2003).* Discussion Group in Environmental Statistics, OSU.

Session organizer

1. *Novel statistical methodologies in the climate and environmental sciences (Dec 16-18, 2023).* CMStatistics 2023, Berlin, Germany.
2. *Spatial and temporal modeling in the climate and environmental sciences (Dec 17-19, 2022).* CMStatistics 2022, London, England.
3. *Statistical methods for multivariate spatial and spatiotemporal models with application to the environment (Aug 1-6, 2020).* JSM 2020 – held online.
4. *Computational methods applied to the environment (Dec 14-16, 2019).* CM Statistics 2019, London, England.

5. *Modern Bayesian modeling of environmental phenomena (Aug 2018).* ISBA, Edinburgh Scotland
6. *Climate change, extremes, and impacts (Aug 2017).* JSM, Baltimore, MD (organized with Prof. D. Cooley)
7. *Uncertainty Quantification in Climate Science (Aug 2016).* JSM, Chicago, IL (organized with Prof. B. Sanso)
8. *Environmental monitoring using networks of sensors (Aug 2014).* JSM, Boston, MA (organized with Prof. M. Scott)
9. *Spatio-temporal statistical methods applied to the environment (July 2012).* JSM, San Diego, CA

Open source software

All of these projects are hosted on Github (https://github.com/petercraigmile/), under a GNU General Public License.

1. An R package to carry out the spectral analysis of time series. Now includes many spectral-based tests of periodicity (with Lai Wei).
2. R routines for carrying out the Discrete Wavelet Transforms (DWT) and Maximum Overlap Discrete Wavelet Transforms (MODWT) for univariate time series.
3. Simulation of stationary Gaussian time series using the Davies-Harte algorithm.
4. Approximate simulation of stationary Gaussian time series using the Gaussian Spectral Synthesis Method (GSSM).
5. Various functions useful for the analysis of time series in R.
6. R functions to detrend response time (RT) sequences (with M. Peruggia and T. Van Zandt).
7. The statistical analysis of Areal (lattice) processes.
8. Geostatistical stationary processes.
9. An R package with functions for univariate truncated normal distributions (with C. Hans).
10. R functions involving the noncentral F distribution (with L. Wei).
11. A Bayesian Race Model for Recognition Memory (with S. Kim, K. Potter, M. Peruggia, and T. Van Zandt)
12. Modeling and assessing climatic trends (with P. Guttorp)
13. Estimation of long range dependence in gappy Gaussian time series (with D. Mondal)
14. Estimation and Forecasting of Generalized Integer Autoregressive (GINAR) Processes (with P. Kaur)