Philip Andrew White

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Education

- Doctor of Philosophy: Statistical Science; Duke University; 2019
  - Dissertation: Topics in Bayesian Spatiotemporal Prediction of Environmental Exposure
  - Committee: Alan Gelfand (chair), Fan Li (co-chair), Colin Rundel, and Ben Goldstein
- Master of Science: Statistics; Brigham Young University; 2015
  - Thesis: Bayesian Gaussian Process Model for Antarctic Surface Mass Balance and Proposing New Field Measurements
  - Committee: C. Shane Reese (chair), William F. Christensen, and Shannon Tass
- Bachelor of Science: Applied Physics; Brigham Young University; 2014
  - Graduated *Magna Cum Laude*; speaker at college graduation
  - Senior Thesis: Bayesian Model for Antarctic Surface Mass Balance
  - Minors: Mathematics, Scandinavian Studies

Professional Experience

- Assistant Professor; Brigham Young University; 2019 – Present
- Data Science Intern: Disease Risk Modeling; The Climate Corporation; 2018

Peer-Reviewed Publications

- M. Heiner, M. Heaton, B. Abbott, **P. White**, C. Minaudo, and R. Dupas (2022+), "Model-based clustering of trends and cycles of nitrate concentrations in Rivers across France," accepted at *Journal of Agricultural, Biological and Environmental Statistics*.
- D. Sheanshang†, **P. White**, and D. Keeler (2021+), "Outlier Accommodation with Semiparametric Density Processes: A Study of Antarctic Snow Density Modelling," in press at *Statistical Modelling*. link
- **P. White**, H. Frye, M. Christensen, A. Gelfand, and J. Silander Jr (2022), "Spatial Functional Data Modeling of Plant Reflectances," *Annals of Applied Statistics*, Volume 16, No. 3, 1919-1936. link
- X. Emery, E. Porcu, and **P. White** (2022), "New Validity Conditions for the Multivariate Matérn Coregionalization Model, with an Application to Exploration Geochemistry," *Mathematical Geosciences*, Volume 54, 1043–1068. link
- **P. White**, D. Keeler, D. Sheanshang†, and S. Rupper (2022), "Improving Piecewise Linear Snow Density Models through Hierarchical Spatial and Orthogonal Functional Smoothing," *Environmetrics*, Volume 33, No. 5, e2726. link
- E. Porcu and **P. White** (2022), "Random Fields on the Hypertorus: Covariance Modeling and Applications," *Environmetrics*, Volume 33, No. 1, e2701. link
- A. Bowie, W. Zhou, J. Tan, **P. White**, T. Stoinski, S. Yangjie, and B. Hare (2022), "Motivating children's cooperation to conserve forests," *Conservation Biology*, Volume 36, No. 4 , e13922. link
- G. Cleanthous, E. Porcu, and **P. White** (2021), "Regularity and Approximation of Gaussian Random Fields Evolving Temporally over Two-Point Homogeneous Spaces," *TEST*, Vol. 30, No. 4, 836-860. link
- H. Salomons, K. Smith, M. Callahan-Beckel, M. Callahan, K. Levy, B. Kennedy, E. Bray, G. Gnanadesikan, D. Horschler, M. Gruen, J. Tan, **P. White**, E. MacLean, and B. Hare (2021), "Cooperative Communication with Humans Evolved to Emerge Early in Domestic Dogs," *Current Biology*, Vol. 31, No. 14, 3137-3144. link

- **P. White**, D. Keeler, and S. Rupper (2021), "Hierarchical Integrated Spatial Process Modeling of Monotone West Antarctic Snow Density Curves," *Annals of Applied Statistics*, Vol. 15, No. 2, 556-571. link
- *A. Alegría, P.G. Bissiri, G. Cleanthous, E. Porcu, and **P. White** (2021), "Multivariate Isotropic Random Fields on Spheres: Nonparametric Bayesian Modeling and L^p-Fast Approximations," *Electronic Journal of Statistics*, Vol. 15, No. 1, 2360-2392. link.
- **P. White** and A. Gelfand (2021), "Generalized Evolutionary Point Processes: Model Specifications and Model Comparison,"*Methodology and Computing in Applied Probability*, Vol. 23, 1001–1021 (2021). link.
- **P. White** and A. Gelfand (2021), "Multivariate Functional Data Modeling with Time-varying Clustering," *TEST*, Vol. 30, No. 3, 586–602. link
- M. Gruen, **P. White**, and B. Hare (2020), "Do Dog Breeds Differ in Pain Sensitivity? Veterinarians and the Public Believe They Do," *PLoS ONE*, 15(3): e0230315. link.
- **P. White**, C.S. Reese, W. Christensen, and S. Rupper (2019), "A Model for Antarctic Surface Mass Balance and Ice Core Site Selection," *Environmetrics*, Volume 30, No. 8, e2579. link.
- **P. White** and E. Porcu (2019), "Towards a Complete Picture of Stationary Covariance Functions on Spheres Cross Time," *Electronic Journal of Statistics*, Vol. 13, No. 2, 2566-2594. link.
- **P. White**, A. Gelfand, E. Rodrigues, and G. Tzintzun (2019), "Pollution State Modeling for Mexico City," *Journal of the Royal Statistical Society - Series A*, Volume 182, No. 3, 1039-1060. link.
- **P. White** and E. Porcu (2019), "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone," *Environmetrics*, Volume 30, No. 5, e2558. link
- **P. White**, C. Berrett, S. Tass, and M. Findlay (2019), "Modeling Efficiency of Foreign Aid Allocation in Malawi," *The American Statistician*, Volume 73, No. 4, 385-399. link
- **P. White**, A. Gelfand, and T. Utlaut (2017), "Prediction and model comparison for areal unit data," *Spatial Statistics*, Volume 22, Part 1, 89-106. link
- J. S. Colton, D. Meyer, K. Clark, D. Craft, J. Cutler, T. Park, and **P. White** (2012), "Long-Lived electron spins in a modulation doped (100) GaAs quantum well," *Journal of Applied Physics*, Volume 112, No. 8, 084307. link

Submitted/Under Review/In Revisions

- E. Porcu, **P. White**, and M. Genton, ""Nonseparable Space-Time Stationary Covariance Functions on Networks cross Time". link
- G. Cleanthous, A. G. Georgiadis, and **P. White**, ""Density estimation on metric spaces associated with operators and applications in seismology".
- L. Warr†, M. Heaton, W. Christensen, **P. White**, and S. Rupper, "Distributional Validation of Precipitation Data Products with Spatially Varying Mixture Models".
- *A. Alegría, G. Cleanthous, A. Georgiadis, E. Porcu, and **P. White**, "Random Fields on the Hypertorus: Regularities and Approximations".
- C. Althoff, D. Cutchins, and **P. White**, "A Cognitive Adaptation Study".

∗ *Under the request of one or more coauthors, the authors are listed in alphabetical order.*

† *Mentored Student co-author*

Other Publications

- P. White (2019), "Topics in Bayesian Spatiotemporal Prediction of Environmental Exposure," Ph.D. Dissertation, Duke University.
- P. White (2015), "Bayesian Gaussian Process Model for Antarctic Accumulation and Proposing New Field Measurement," Masters Project, Brigham Young University.
- P. White (2014), "ORCA final report," *2014 Journal of Undergraduate Research* [Online], Brigham

Young University.
- P. White (2014), "Quantifying Climate Change: Bayesian Model for Antarctic Surface Mass Balance," Senior Thesis, Brigham Young University.

Posters and Presentations

- Joint Statistical Meetings (2022), Topic-Contributed Talk, "Spatial Functional Data Modeling of Plant Reflectances."
- Quality & Productivity Research Conference (2022), Invited Talk, "Some Challenges in Spatial Functional Data Analysis of West Antarctic Snow Density."
- National University of Ireland, Maynooth (2021), Invited Talk, "Some Challenges in Spatial Functional Data Analysis of West Antarctic Snow Density."
- ICSA Applied Statistics Symposium (2021), Invited Talk, "Hierarchical Integrated Spatial Process Modeling of Monotone West Antarctic Snow Density Curves."
- Joint Statistical Meetings (2021), Topic-Contributed Talk, "Hierarchical Integrated Spatial Process Modeling of Monotone West Antarctic Snow Density Curves".
- The International Environmetrics Society (TIES) Virtual Conference (2020), Invited Talk, "A Model for Antarctic Surface Mass Balance and Ice Core Site Selection".
- Brigham Young University Department of Statistics Seminar (2020), "Hierarchical Integrated Spatial Process Modeling of Monotone West Antarctic Snow Density Curves".
- Joint Statistical Meetings (2020), Contributed Talk, "Hierarchical Integrated Spatial Process Modeling of Monotone West Antarctic Snow Density Curves".
- New England Statistics Symposium (2019), Contributed Talk, "Multivariate Functional Data Modeling with Time-varying Clustering".
- Joint Statistical Meetings (2019), Contributed Talk, "Multivariate Functional Data Modeling with Time-varying Clustering".
- Brigham Young University Department of Statistics Seminar (2018), Invited Talk, "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone".
- The RAND Corporation (2018), Invited Talk, "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone".
- Los Alamos National Labs Seminar (2018), Invited Talk, "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone".
- Facebook Research Labs (2018), Invited Talk, "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone".
- International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC) (2018), Contributed Talk, "Nonseparable Covariance Models on Circles Cross Time: A Study of Mexico City Ozone".
- ASA ENVR Workshop - Statistics for the Environment: Research, Practice and Policy (2018), Contributed Poster, "Pollution State Modeling for Mexico City".
- Society of Duke Fellows (2017), Invited Talk, "Prediction and Model Comparison for Areal Unit Data".
- American Geophysical Union (2017), New Orleans, LA., Contributed Poster, "A Model for Antarctic Surface Mass Balance and Ice Core Site Selection".
- Conference on Data Analysis (2014), Poster, Santa Fe, NM., Contributed Poster, "A Model for Antarctic Surface Mass Balance and Ice Core Site Selection".

Courses Taught

- Instructor of Record
    - Brigham Young University
        - Statistics 330 (Introduction to Regression): Winter 2020, 2021
        - Statistics 641 (Probability Theory & Mathematical Statistics 1): Fall 2019, 2020, 2021, 2022

        - Swedish 201: Winter 2012
        - Swedish 202: Fall 2011, Fall 2012
    - Duke University
        - Statistics 111 (Probability and Statistics): Summer I 2017
- Teaching Assistant
    - Duke University
        - Statistics 322/522 (Design of Surveys and Causal Studies): Spring 2019
        - Statistics 944 (Spatial Statistics): Fall 2018
        - Statistics 444/644 (Spatio-temporal Modeling): Spring 2018, Fall 2018
        - Statistics 532 (Theory of Inference): Fall 2017
        - Statistics 111 (Probability and Statistics): Spring 2017

Grant Submissions and Funding

- Funded
    - 2021-2023 "Point Process Models for Traffic Risk Analysis and Crash Prevention, the National Science Foundation, 2020 (Role: Co-PI, Amount: $199,941).
    - 2021-2022 (Funded). "The Role of Temperature Variation for Reconstructing the Advance and Retreat of Glacial Ice using Thermal and Radar Imaging," Brigham Young University Interdisciplinary Research (IDR) Origination Awards, 2020 (Role: Co-PI, Amount: $119,910).
- Not Funded
    - 2021-2023. "Atmospheric Drivers of West Antarctic Ice Sheet Surface Mass Balance," Submitted to the National Aeronautics and Space Administration, 2020 (Role: PI for BYU portion, Amount: $249,289).
    - 2020-2022. "Analysis Methods for Multivariate Point Patterns on Linear Networks," submitted to the National Science Foundation, 2019 (Role: Co-PI, Amount: $310,946).
    - 2020-2022. 'Quantifying Snow and Glacier Response to Climate and Aerosol Forcings in High Mountain Asia," submitted to the National Aeronautics and Space Administration, 2019 (Role: PI for BYU portion; Amount: $256,328).

Fellowships, Scholarships, and Awards

- The 2020 BYU Department of Statistics Young Scholar Faculty Fellowship (Amount: $6,000)
- 2019 Wiley-TIES Best Environmetrics Paper Award for "A model for Antarctic Surface mass balance and ice core site selection," (Amount: Travel award and $750).
- 2019 STATMOS Workshop - Young Researcher Travel Award, 2019 (Amount: $1,500)
- James B. Duke Fellowship Recipient, Duke University, 2015-2019 (Amount: $20,000)
- ENVR Workshop - Statistics for the Environment: Research, Practice and Policy, Student travel award, 2018 (Amount: $1,500)
- Department of Statistical Science TA of the Year, 2018 (Amount: $1,500)
- Statistical Science First Year Fellowship, Duke University, 2015-2016
- Conference on Data Analysis Student Travel Award, 2014 (Amount: $1,000)
- Brigham Young University Student Research Conference Session Winner, 2014 and 2015

Statistical Consulting Experience

- Department of Clinical Sciences, North Carolina State University, College of Veterinary Medicine; Raleigh, NC; 2019 – Present
- Arbinger Institute; Farmington, Utah; 2019 – 2020
- Hare Lab, Duke University, Department of Evolutionary Anthropology; Durham, NC; 2017 – 2019

Service

- Student Mentoring

Year Graduated	Student	Role
——	Caleb Dayley	MS Committee Chair
——	Benjamin Dahl	Research Co-Mentor
——	Jason Meziere	Ph.D. Committee Member (Physics)
2022	Carly Lundgreen	Research Co-Mentor
2021	Daniel Sheanshang	MS Committee Chair
2021	Lynsie Warr	MS Committee Member
2021	Madeline Morris	MS Committee Member
2020	Maryanne Allen	Research Mentor
2020	Derik Mehl	Research Mentor
2020	Spencer Ebert	MS Committee Member
2020	Shelby Taylor	MS Committee Member

- Departmental Service
  - Recruiting and Retention Committee (2021 - Present)
  - Comprehensive Exam Committee (2020 - Present)
  - Seminar Co-Coordinator (2019 - 2021)
- To Profession
  - Keynote speaker for Brigham Young University Mu Sigma Rho induction, 2021.
  - Organized or co-organized sessions for statistical conferences – JSM 2020, CMStatistics 2021, QPRC 2022, and CMStatistics 2022.
  - Peer Review for: *Annals of Applied Statistics (1); Biometrics (1); Electronic Journal of Statistics (2); Environmetrics (3); Journal of Agricultural, Biological and Environmental Statistics (1); Mathematical Inequalities & Applications (1); Spatial and Spatio-temporal Epidemiology (1); Spatial Statistics (3); Statistics and Computing (1); Stochastic Environmental Research and Risk Assessment (1)*

Memberships

- American Statistical Association: 2014-Present
- International Society for Bayesian Analysis: 2017-Present
- The International Environmetrics Society (TIES): 2021-Present