

## David J. Kahle, Ph.D.

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| CONTACT INFORMATION     | Department of Statistical Science<br>Baylor University<br>One Bear Place #97140<br>Waco, Texas 76798, USA<br><i>ORCID</i> 0000-0002-9999-1558   | <i>Office</i> (254) 710-6102<br><i>E-mail</i> david@kahle.io<br><i>WWW</i> www.kahle.io<br><i>GitHub</i> www.github.com/dkahle |
| RESEARCH INTERESTS      | Statistical computing, data visualization, algebraic statistics, Bayesian statistics, pharmaceutical statistics, data science technologies, statistical machine learning  |  |
| PROFESSIONAL EXPERIENCE | <b>Associate Professor</b><br>Department of Statistical Science, <b>Baylor University</b> , Waco, Texas, USA<br><b>August 2017 – Present</b>  |  |
|                         | <b>Research Fellow</b><br>Baylor Collaborative on Hunger and Poverty<br>Diana R. Garland School of Social Work, <b>Baylor University</b> , Waco, Texas, USA<br><b>September 2017 – Present</b>  |  |
|                         | <b>Assistant Professor</b><br>Department of Statistical Science, <b>Baylor University</b> , Waco, Texas, USA<br><b>August 2011 – July 2017</b>  |  |
| EDUCATION               | <b>Rice University</b> , Houston, Texas, USA<br><br>Doctor of Philosophy (Ph.D.), <i>Statistics</i><br>• <i>Minimum Distance Estimation in Categorical Conditional Independence Models</i><br>• Advisor : Prof. Javier Rojo<br><b>December 2011</b><br><br>Master of Arts (M.A.), <i>Statistics</i><br><b>August 2006 – December 2010</b><br><br><b>University of Richmond</b> , Richmond, Virginia, USA<br><br>Bachelor of Arts (B.A.), <i>Mathematics</i><br><b>August 2003 – June 2006</b>   |  |
| AWARDS                  | <b>Professional</b> <ul style="list-style-type: none"><li>• Mike Kutner Junior Faculty Travel Award, Southern Regional Council on Statistics, 2014, 2015.</li><li>• Travel Award, Korean National Institute for Mathematical Science's (NIMS) Thematic Program on Applied Algebraic Geometry, Summer 2014.</li><li>• Recognition for outstanding performance in the classroom by the Alpha Chi Omega women's fraternity (Theta Iota Chapter), Fall 2013.</li><li>• Boyd Harshbarger Travel Award, Southern Regional Council on Statistics, 2012.</li><li>• Wolfram Research's <i>Mathematica Experts Live: One-Liner Competition 2012</i> Honorable Mention.</li></ul> <b>Graduate</b> <ul style="list-style-type: none"><li>• 2010 <i>ggplot2 Case Study Competition</i> grand prize winner.</li><li>• SACNAS Travel scholarship, 2008, 2009, 2010.</li><li>• George R. Brown Fellowship, 2008. Awarded by department for exceptional performance on qualifying exams.</li></ul> <b>Undergraduate</b> <ul style="list-style-type: none"><li>• <i>Joint Mathematics Meetings Undergraduate Poster Session Winner</i>, 2006.</li><li>• The National Dean's List, 2004, 2005, 2006.</li></ul> |  |

- COMAP Mathematical Contest in Modeling Meritorious Ranking, 2005.
- Golden Key International Honour Society

- PUBLISHED PEER  
REVIEWED  
ARTICLES
18. Otto, J. and D. Kahle (2023). “**ggdensity**: Improved Bivariate Density Visualization in R.” *The R Journal*, 15(2): 220–236. [Available here](#).
  17. Casement, C. and D. Kahle (2023). “The Phorofter Method – A Stochastic Graphical Procedure for Prior Elicitation in Univariate Data Models.” *Journal of Korean Statistical Society*, 52:60–82. [Available here](#).
  16. Kahle, D., C. O’Neill, and J. Sommars (2020). “A Computer Algebra System for R: Macaulay2 and the **m2r** Package.” *Journal of Statistical Software*, 93(9):1–31. [Available here](#).
  15. Lukens, W., G. Stinchcomb, L. Nordt, D. Kahle, S. Driese, and J. Tubbs (2019). “Recursive Partitioning Improves Paleosol Proxies for Rainfall.” *American Journal of Science*, 319:819–845. [Available here](#).
  14. Kahle, D. (2018). “Poisson Distribution.” *The SAGE Encyclopedia of Educational Research, Measurement and Evaluation*. Ed. Bruce Frey.
  13. Kahle, D. (2018). “Bayesian Statistics.” *The SAGE Encyclopedia of Educational Research, Measurement and Evaluation*. Ed. Bruce Frey.
  12. Kahle, D., R. Yoshida, and L. Garcia-Puente (2018). “Hybrid Schemes for Exact Conditional Inference in Discrete Exponential Families.” *Annals of the Institute of Statistical Mathematics*, 70(5):983–1011. [Available here](#).
  11. Mansell, A., D. Kahle, and D. Bellert (2017). “Calculating RRKM Rate Constants from Vibrational Frequencies and their Dynamic Interpretation.” *The Mathematica Journal*, 19:1–20. [Available here](#).
  10. Casement, C. and D. Kahle (2017). “Graphical Prior Elicitation in Univariate Models.” *Communications in Statistics – Simulation and Computation*, 0(0):1–19. [Available here](#).
  9. Young, P., D. Kahle, and D. Young (2017). “On the Independence of Singular Multivariate Skew-Normal Components.” *Statistics & Probability Letters*, 122: 58–62. [Available here](#).
  8. Kahle, D., J. Stamey, F. Natanegara, K. Price, and B. Han (2016). “Facilitated Prior Elicitation with the Wolfram CDF.” *Biometrics & Biostatistics International Journal*, 3(6):1–6. [Available here](#).
  7. Kahle, D., P. Young, B. Greer, and D. Young (2016). “Confidence Intervals for the Ratio of Two Poisson Rates Under One-Way Differential Misclassification Using Double Sampling.” *Computational Statistics & Data Analysis*, 95:122–132. [Available here](#).
  6. Wu, W., J. Stamey, and D. Kahle (2015). “A Bayesian Approach to Account for Misclassification and Overdispersion in Observational Count Data.” *International Journal of Environmental Research and Public Health*, 12(9):10648–10661. [Available here](#).
  5. Sides, R., D. Kahle, and J. Stamey (2015). “Bayesian Sample Size Determination in Two-Sample Poisson Models.” *Biometrics & Biostatistics International Journal*, 2(1):1–5. [Available here](#).

4. Kahle, D. (2014). “Animating Statistics: A New Kind of Applet for Exploring Probability Distributions.” *Journal of Statistics Education*, 20(2): 1–12. [Available here](#).
3. Kahle, D. (2013). “**mpoly**: Multivariate polynomials in R.” *The R Journal*, 5(1): 162–170. [Available here](#).
2. Kahle, D. and H. Wickham (2013). “**ggmap**: Spatial visualization with ggplot2.” *The R Journal*, 5(1): 144–161. [Available here](#).
1. Stein, R. M., B. Buzcu-Guven, L. Dueñas-Osorio, D. Subramanian, D. Kahle (2013). “How risk perceptions influence evacuations from hurricanes and compliance with government directives.” *Policy Studies Journal*, 41(2): 319–342. [Available here](#).

ARTICLES UNDER  
PEER REVIEW

Daggers (†) indicate that the item is currently in revision.

Hebdon R., J. Stamey, D. Kahle, and X. Zhang. “**unmconf**: An R Package for Bayesian Regression with Unmeasured Confounders.”

Kim, F. S., D. Kahle, N. Fleming, M. Gallagher, T. Houston, S. Lamsal, and R. X. Sturdivant. “Comparing Costs and Utilization Between Airrosti and Five Provider Types for Back and Neck Pain.”

Young, P., D. Kahle, J. Patrick, and D. Young. “A Sufficient Linear-Dimension Reduction Model for Supervised Classification for Multiple Multivariate Skew-Normal Populations.”

ARTICLES AND  
CHAPTERS IN  
PREPARATION

Mitchell, C., P. James, D. Kring, and D. Kahle. “Impact Induced Porosity of Meteor Crater.”

Otto, J. and D. Kahle. “**tldr**: Quick Documentation in the R Console.”

Kahle, D. and J. Hauenstein. “Stochastic Exploration of Real Varieties via Variety Distributions.”

Kahle, D. and J. Hauenstein. “Algebraic Pattern Recognition.”

Kahle, D. and J. Stamey. “**invgamma**: The Inverse Gamma Distribution in R.”

Ma, Q. and D. Kahle. “Parameterizing One-Dimensional Real Varieties with Deep Learning.”

Blair, S., D. Kahle, and J. Seaman. “A Tissot-Style Indicatrix for Visualizing Sensitivity in Prior Elicitation.”

Prajapati, P., J. Stamey, D. Kahle, J. Seaman, and M. Sonksen. “Elicitation of a Prior for the Weibull Distribution.”

BOOK CHAPTERS

Daggers (†) indicate that the item is in press.

D. Kahle, J. Seaman, and J. Stamey (2022). “An Overview of Bayesian Computation” in *Case Studies in Bayesian Methods for Biopharmaceutical CMC*, eds. Paul Faya and Tony Pourmohamad. Chapman & Hall/CRC Biostatistics.

Seaman, J., D. Kahle, and J. Stamey (2022). “Basic Bayesian Model Checking” in *Case Studies in Bayesian Methods for Biopharmaceutical CMC*, eds. Paul Faya and Tony Pourmohamad. Chapman & Hall/CRC Biostatistics.

Kahle, D. and M. Sonksen (2019). “Computational Tools” in *Bayesian Applications in Pharmaceutical Development*, eds. Fanni Natanegara and Mani Lakshminarayanan. Chapman & Hall/CRC Statistics.

Seaman, J., J. Stamey, D. Kahle, and S. Blair (2019). “A Brief Guide to Bayesian Model Checking” in *Bayesian Applications in Pharmaceutical Development*, eds. Fanni Natanegara and Mani Lakshminarayanan. Chapman & Hall/CRC Statistics.

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20. Hebdon R. , J. Stamey, D. Kahle, and X. Zhang (2023–2024). **unmconf**: Modeling with Unmeasured Confounding. R package [version controlled with Git on GitHub](#). License : MIT. Co-maintained through all versions—0.1.0.
19. Kahle, D. and J. Otto (2022–2024). **registers**: Registers for R. R package [version controlled with Git on GitHub](#). License : MIT.
18. Otto, J. and D. Kahle (2022–2024). **tldr**: Short-form documentation in the R console. R package [version controlled with Git on GitHub](#). License : MIT.
17. Otto, J. and D. Kahle (2021–2024). **ggdensity**: An R Package for Interpretable Visualizations of Density Estimates. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : MIT. Co-maintained through all versions—0.0.1, 0.1.0, and 1.0.0.
16. Kahle, D. (2018–2024). **bertini**: Bertini in R. R package [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.0.
15. Gao, P., G. Innerst, D. Kahle, D. Kim, R. Yoshida, and X. Zhang (2017–2024). **tropical**: Tropical Geometry in R. R package [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.0.
14. Casement, C. and D. Kahle (2016–2024). Interactive Graphical Elicitation Tool. Shiny App available from [ccasement.shinyapps.io/graphicalElicitation/](https://ccasement.shinyapps.io/graphicalElicitation/) and [version controlled with Git on GitHub](#). License : MIT.
13. Kahle, D. (2016–2024). **betalu**: The Beta Distribution with Support [l,u]. R package [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.
12. Kahle, D. (2016–2024). **dirchlet**: The Dirichlet Distribution. R package [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.
11. Kahle, D. (2016–2024). **chi**: The Chi Distribution. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.
10. Kahle, D. and J. Stamey (2016–2024). **invgamma**: The Inverse Gamma Distribution. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0, 0.1, and 1.0.
9. Kahle, D., C. O’Neill, and J. Sommars (2016–2024). **m2r**: Macaulay2 in R. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : GPL-2. Maintained through all versions—0.0.0, 0.1.0, 1.0.0, 1.0.1, and current version 1.0.2.
8. Kahle, D., L. Garcia-Puente, and R. Yoshida (2016–2024). **latte**: LattE and 4ti2 in R. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : GPL-2. License : GPL-2. Maintained through all versions—0.0, 0.1, 0.2.0, and current version 0.2.1.
7. Baker, M., R. King, and D. Kahle (2015–2024). **TITAN2**: Threshold Indicator Taxa Analysis. R package [distributed by CRAN](#). License : GPL-2. Maintained from version 2.1 (CRAN genesis), 2.2, 2.3, 2.4, 2.4.1, 2.4.2, and current version 2.4.3.

6. Kahle, D., J. Stamey, and R. Sides (2015–2024). **bayesRates**: Two-Sample Tests and Sample Size Determination from a Bayesian Perspective. R package [version controlled with Git on GitHub](#). License : [GPL-2](#). Maintained through all versions—0.0, and current version 1.1.1.
5. Kahle, D., P. Young, and D. Young (2014–2024). **poisDoubleSamp**: Confidence Intervals with Poisson Double Sampling. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : [GPL-2](#). Maintained through all versions—0.0, 0.1, 1.0 and current version 0.1.
4. Kahle, D., L. Garcia-Puente, and R. Yoshida (2014–2024). **algstat**: Algebraic Statistics in R. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : [GPL-2](#). Maintained through all versions—0.0.0, 0.0.1, 0.0.2, 0.1.0, 0.1.1 and current version 1.0.0.
3. Kahle, D., J. Stamey, and J. Seaman (2013–2024). **glmcmp**: Prior Elicitation in Generalized Linear Models. Internal R package. License: Proprietary package of Eli Lilly & Company and Baylor University. Maintained through all versions—0.0, 1.0, 1.1, 1.2, 1.2.1, 1.2.2, 1.2.3, 1.3.0, 1.3.1, 1.3.2, 1.4, 1.5, 1.6, 1.6.1, 1.6.2 and current version 1.7.
2. Kahle, D. (2012–2024). **mpoly**: Symbolic computation and more with multivariate polynomials. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : [GPL-2](#). Maintained through all versions—0.0.1, 0.0.2, 0.0.3, 0.0.4, 0.0.5, 0.0.6, 0.1.0, 0.1.1, 1.0.0, 1.0.1, 1.0.2, 1.0.3, 1.1.0, and current version 1.1.1.
1. Kahle, D., H. Wickham (2011–2024). **ggmap**: Spatial Visualization with **ggplot2**. R package [distributed by CRAN](#) and [version controlled with Git on GitHub](#). License : [GPL-2](#). Maintained through all versions—0.7, 1.2, 1.3, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5.2, 2.6, 2.6.1, 2.6.2, 3.0.0, 3.0.1, and current 4.0.0.

CONFERENCE PROCEEDINGS AND OTHER ARTICLES Kahle, D., J. Stamey, and J. Seaman (2021). “An Introduction to JAGS for Bayesian Inference.” An internal document of Eli Lilly & Company and Baylor University, 24 pages.

Seaman, J., J. Stamey, D. Kahle, and W. Landau (2021). “A Quick Guide to Priors for Variance Components and Covariance Matrices.” An internal document of Eli Lilly & Company and Baylor University, 26 pages.

Elrod, C., D. Kahle, J. Seaman, J. Stamey, and J. Song (2019). “Totality of Evidence Modeling.” An internal document of Eli Lilly & Company and Baylor University, 6 pages.

Kahle, D., J. Song, and J. Seaman (2019). “A Note on Hitting Time Probabilities.” An internal document of Eli Lilly & Company and Baylor University, 8 pages.

Seaman, J., J. Stamey, D. Kahle, and S. Stanley (2018). “A Brief Introduction to Bayesian Methods.” An internal document of Eli Lilly & Company and Baylor University, 117 pages.

Kahle, D., J. Stamey, and J. Seaman (2016). “An Introduction to **glmcmp**.” A vignette for the **glmcmp** package, v.2.0. An internal document of Eli Lilly & Company and Baylor University, 16 pages.

Seaman, J., J. Stamey, D. Kahle, and S. Blair (2016). “A Brief Guide to Bayesian Model Checking.” An internal document of Eli Lilly & Company and Baylor University, 18 pages.

Seaman, J., J. Stamey, S. Blair, and D. Kahle (2016). “Constructing a Prior on the Correlation Coefficient.” An internal document of Eli Lilly & Company and Baylor University, 9 pages.

Baker, M., R. King, and D. Kahle (2015). “An Introduction to Threshold Indicator Taxa Analysis with **TITAN2** v2.1” A vignette for the **TITAN2** package, 18 pages.

Kahle, D., J. Stamey, and J. Seaman (2015). “An Introduction to **glmcmp** v1.5” A vignette for the **glmcmp** package. An internal document of Eli Lilly & Company and Baylor University, 18 pages.

Seaman, J., J. Stamey, S. Blair, and D. Kahle (2015). “An Introduction to Bayesian Meta Analysis: Part I.” An internal document of Eli Lilly & Company and Baylor University, 36 pages.

Seaman, J., D. Kahle, J. Stamey, and S. Blair (2015). “Power Priors and Conditional Means Priors for Generalized Linear Models.” An internal document of Eli Lilly & Company and Baylor University, 50 pages.

Seaman, J., J. Stamey, and D. Kahle (2014). “A Brief Introduction to Bayesian Methods.” An internal document of Eli Lilly & Company and Baylor University, 81 pages.

Kahle, D., J. Stamey, F. Natanegara, K. Price, and B. Han (2014). “Facilitated Prior Elicitation with the Wolfram CDF.” In *JSM Proceedings*, Statistical Computing Section. Alexandria, Virginia: American Statistical Association.

Krey, K., E. Nolen, D. Kahle, D. Burton, J. Wise, and J. Singletary (2013). “Assessing the Impact of School Breakfast: A Study of Breakfast in the Classroom in Little Rock School District.” December 2013 Final Report to funder No Kid Hungry Center for Best Practices by the Texas Hunger Initiative at the Baylor University School of Social Work. Listed as first contributor.

Krey, K., E. Nolen, D. Kahle, D. Burton, J. Wise, and J. Singletary (2013). “Assessing the Impact of School Breakfast: A Study of Breakfast in the Classroom in Dallas Independent School District.” December 2013 Final Report to funder Dairy MAX by the Texas Hunger Initiative at the Baylor University School of Social Work. Listed as first contributor.

FUNDED RESEARCH    Asterisks (\*) indicate that the item is in preparation.  
                                 Daggers (†) indicate that the item is under review.

30. Title : Bayesian Pharmaceutical Statistics  
PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
         James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
         David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
         Joon Song, Ph.D. (Prof., Stat. Sci., Baylor)  
Source : Eli Lilly & Company                    Type : Research Contract  
Amount : [Redacted, \$250–\$500k]            Period : 06/01/2023 – 05/31/2024

29.

- Title : How Do Costs and Utilization Compare Between Airrosti<sup>®</sup> and Traditional Providers of Musculoskeletal Treatments?
- PI(s) : Forest S. Kim, Ph.D. (Clin. Assoc. Prof., Econ. and Director, Robbins MBA Healthcare Program, Baylor)  
David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
Neil Fleming, Ph.D. (Clin. Prof., Econ. and Clin. Prof., Robbins Institute for Health Policy & Leadership, Baylor)  
Rodney Sturdivant, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)
- Source : Airrosti Rehab Center, LLC      Type : Research Contract  
Amount : [Redacted, \$50–\$100k]      Period : 02/28/2023 – 05/31/2023
28. Title : Computational Aspects of Bayesian Estimation for Unmeasured Confounding
- PI(s) : David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)
- Source : CSL Behring      Type : Research Contract  
Amount : [Redacted, \$10–\$50k]      Period : 01/01/2023 – 12/31/2023

27. Title : Computational Aspects of Bayesian Estimation for Unmeasured Confounding  
 PI(s) : David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 Source : CSL Behring Type : Research Contract  
 Amount : [Redacted, \$10–\$50k] Period : 01/01/2022 – 08/01/2022
26. Title : Bayesian Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Joon Song, Ph.D. (Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2022 – 05/31/2023
25. Title : FY21 Summer Meals to You Expansion Project  
 (2022 Emergency Meals To You Expansion)  
 PI(s) : Kathy Krey, Ph.D. (Senior Director of Research & Administration  
 Baylor Collaborative on Hunger and Poverty, Diana R. Garland School of Social Work)  
 Source : US Dept. of Agriculture (USDA) Role : Funded collaborator  
 Amount : \$7,125,675 Period : 05/13/2022 – 06/30/2023
24. Title : Bayesian Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Joon Song, Ph.D. (Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2021 – 05/31/2022
23. Title : Bayesian Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Joon Song, Ph.D. (Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2020 – 05/31/2021
22. Title : FY20 Summer Food Service Program Rural Summer Meals Demonstration Project  
 PI(s) : Kathy Krey, Ph.D. (Senior Director of Research & Administration  
 Baylor Collaborative on Hunger and Poverty, Diana R. Garland School of Social Work)  
 Benjamin Ryan, Ph.D. (Assoc. Clin. Prof., Env. Sci., Baylor)  
 Van Pham, Ph.D. (Prof., Econ., Baylor)  
 Carson Mencken, Ph.D. (Prof., Soc., Baylor)  
 Source : US Dept. of Agriculture (USDA) Role : Funded collaborator  
 Amount : \$188,582,841 Period : 03/25/2020 – 06/30/2022  
 A public service and research program organizing, orchestrating, and assessing  
 food deliveries to rural families during the summer, this work was expanded  
 nationwide during the COVID19 pandemic. Role co-lead data science efforts.
21. Title : Bayesian Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2019 – 05/31/2020

20. Title : FY19 Summer Food Service Program Rural Summer Meals Demonstration  
 PI(s) : Kathy Krey, Ph.D. (Senior Director of Research & Administration  
 Baylor Collaborative on Hunger and Poverty, Diana R. Garland School of Social Work)  
 Source : US Dept. of Agriculture (USDA) Role : Funded collaborator  
 Amount : \$5,000,000 Period : 05/31/2019 – 06/30/2022
19. Title : HDR DSC: Modernizing Water and Wastewater Treatment through Data  
 Science Education & Research  
 PI(s) : Amanda Hering, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 G. Michael Poor, Ph.D. (Assoc. Prof., Comp. Sci., Baylor)  
 Greg Hammerly, Ph.D. (Assoc. Prof., Comp. Sci., Baylor)  
 Douglas Nychka, Ph.D. (Prof., Appl. Math. and Stat., Colorado School of Mines)  
 Tzahi Cath, Ph.D. (Prof., Civ. and Env. Engr., Colorado School of Mines)  
 SP(s) : Jeanne Hill, Ph.D. (Sr. Lect., Stat. Sci., Baylor), funded  
 Grant Morgan, Ph.D. (Assoc. Prof., Ed. Psych., Baylor), funded  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor), funded  
 Greg Speegle, Ph.D. (Prof., Comp. Sci., Baylor), funded  
 Source : National Science Foundation  
 Harnessing the Data Revolution (HDR): Data Science Corps (DSC)  
 Amount : \$1,332,848 Period : 09/01/2019 – 08/31/2022
18. Title : Bayesian Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2018 – 05/31/2019
17. Title : Applied Algebraic Statistics through R: Applications of Bertini  
 PI(s) : David Kahle, Ph.D. (Assoc. Prof., Stat. Sci., Baylor)  
 Source : Baylor University *Undergraduate Research and Scholarly Activities  
 Program (URSA)*  
 Amount : \$4,133 Period : 06/01/2018 – 05/31/2019
16. Title : Science Driven Adaptive Program – Bayesian  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2017 – 05/31/2018
15. Title : Applied Algebraic Statistics through R: Applications of LattE and 4ti2  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Baylor University *Undergraduate Research and Scholarly Activities  
 Program (URSA)*  
 Amount : \$3,200 Period : 06/01/2017 – 05/31/2018
14. Title : A Computer Algebra System for R: Macaulay2 and the **m2r** Package  
 PI(s) : Christopher O’Neill, Ph.D. (Krener Asst. Prof., Math., UC Davis)  
 Jeff Sommars (Grad. Student, Math., Stat., and C.S., U Illinois Chicago)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : American Mathematical Society through the National Science Foundation  
 Amount : \$1,500 Period : 05/03/2017 – 05/07/2017

13. Title : A Computer Algebra System for R: **Macaulay2** and the **m2r** Package  
 PI(s) : Christopher O'Neill, Ph.D. (Krener Asst. Prof., Math., UC Davis)  
 Jeff Sommars (Grad. Student, Math., Stat., and C.S., U Illinois Chicago)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : American Mathematical Society through the National Science Foundation  
 Amount : \$1,500 Period : 11/09/2016 – 11/13/2016
12. Title : Collaborative Research: CDS&E: Applied Algebraic Statistics through R  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : National Science Foundation: Division of Mathematical Sciences  
 Computational and Data-Enabled Science and Engineering in Mathematical  
 and Statistical Sciences (Award No. 1622449, CDS&E–MSS, PD 11-8069)  
 Amount : \$63,897 Period : 09/15/2016 – 07/31/2019  
 Note : Collaborative proposal with Ruriko Yoshida, Ph.D.  
 (Assoc. Prof., Op. Res., Naval Postgraduate School), \$100,404
11. Title : Science Driven Adaptive Program – Bayesian  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2016 – 05/31/2017
10. Title : Mathematics Research Community 2016: Algebraic Statistics  
 PI(s) : Matthias Drton, Ph.D. (Prof., Stat., Washington)  
 Elizabeth Gross, Ph.D. (Asst. Prof., Math., San Jose State)  
 Serkan Hosten, Ph.D. (Prof., Math., San Francisco State)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Sonya Petrović, Ph.D. (Asst. Prof., Appl. Math., IIT)  
 Source : American Mathematical Society through the National Science Foundation  
 Amount : Travel and accommodation for 40 graduate student, post-docs, and organizers  
 Period : 06/12/2016 – 06/18/2016
9. Title : Science Driven Adaptive Program – Bayesian  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$250–\$500k] Period : 06/01/2015 – 05/31/2016
8. Title : Development and Training for **glmcmp** Software  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company Type : Research Contract  
 Amount : [Redacted, \$10–\$25k] Period : 01/01/2015 – 05/31/2015  
 Collab. : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
 James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)
7. Title : Validation of Onsite Health Diagnostics Statistical Tool  
 PI(s) : James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Onsite Health Diagnostics Type : Research Contract  
 Amount : \$4,500 Period : 01/01/2015 – 05/31/2015
6. Title : Accelerating Algebraic Statistics: A Fast Hybrid Scheme for Exact Inference  
 in Log-Linear Models with CUDA  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Nvidia Corporation  
 Amount : A hardware donation of a Tesla K40 GPU, valued at \$3,000 – \$4,000

5. Title : Effects of Universal Breakfast in the Classroom on Participation and Behavior  
 PI(s) : Jon Singletary, Ph.D. (Diana R. Garland Endowed Chair in Child and Family Studies, Baylor University School of Social Work)  
 Source : Share Our Strength                      Role : Unfunded collaborator  
 Amount : \$50,000                                      Period : 01/01/2012 – 12/31/2013
4. Title : Effects of Universal Breakfast in the Classroom on Participation, Behavior and Flavored Milk Consumption  
 PI(s) : Jon Singletary, Ph.D. (Diana R. Garland Endowed Chair in Child and Family Studies, Baylor University School of Social Work)  
 Source : Dairy MAX, Inc.                              Role : Unfunded collaborator  
 Amount : \$115,304                                      Period : 01/01/2012 – 12/31/2013
3. Title : Bayesian Methods for Pharmaceutical Statistics  
 PI(s) : John Seaman, Jr., Ph.D. (Prof., Stat. Sci., Baylor)  
          James Stamey, Ph.D. (Prof., Stat. Sci., Baylor)  
 Source : Eli Lilly & Company                      Type : Research Contract  
 Amount : [Redacted, \$100–\$250k]                      Period : 02/01/2012 – 12/31/2014  
 Collab. : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor), funded
2. Title : Facilitator : Interactive tools for Bayesian prior elicitation  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Baylor University *College of Arts and Sciences Summer Sabbatical*  
 Amount : \$16,440                                      Period : 06/01/2013 – 07/31/2013
1. Title : Baylor University Interactive Statistics Modules (BaylorISMs)  
 PI(s) : David Kahle, Ph.D. (Asst. Prof., Stat. Sci., Baylor)  
 Source : Baylor University *Undergraduate Research and Scholarly Activities Program (URSA)*  
 Amount : \$5,000                                      Period : 06/01/2012 – 05/31/2013

INVITED  
PRESENTATIONS

Asterisks (\*) indicate a scheduled talk. Bold indicates presenter.

**Kahle, D.**, J. Seaman, and J. Stamey. “An Intuitive Introduction to Bayesian Computation.” *Bayesian Statistics Seminar Series*, Eli Lilly & Company, Online, December 7, 2023.

**Kahle, D.** and J. Hauenstein. “Variety Distributions and Applications.” *Seminar*, Department of Statistics and Data Science, Southern Methodist University, Dallas, Texas, USA, November 17, 2023.

**Kahle, D.** and J. Hauenstein. “An Invitation to Algebraic Statistics via Variety Distributions.” Banquet speaker, *Southern Regional Council on Statistics Summer Research Conference*, Baylor University, Waco, Texas, USA, June 12–14, 2023.

**D. Kahle.** “Practical Strategies for Bayesian Computation.” Eli Lilly & Company, Online, May 27, 2022.

**Seaman, J., J. Stamey,** and **D. Kahle.** “A Brief Introduction to Bayesian Methods.” Eli Lilly & Company, Online, September 29, 2021.

**Seaman, J., J. Stamey,** and **D. Kahle.** “Priors for Variance Components and Covariance Matrices.” Eli Lilly & Company, Online, July 30, 2021.

**Seaman, J., J. Stamey,** and **D. Kahle.** “An Introduction to Bayesian Meta-Analysis and Network Meta-Analysis II.” Eli Lilly & Company, Online, April 20, 2021.

**Seaman, J., J. Stamey, and D. Kahle.** “An Introduction to Bayesian Meta-Analysis and Network Meta-Analysis I.” Eli Lilly & Company, Online, March 16, 2021.

**Seaman, J., J. Stamey, and D. Kahle.** “A Brief Introduction to Bayesian Hierarchical Modeling.” Eli Lilly & Company, Online, October 20, 2020.

**Seaman, J., J. Stamey, and D. Kahle.** “A Brief Introduction to Bayesian Methods.” Eli Lilly & Company, Online, March 24, 2020.

**Kahle, D.** and Q. Ma. “Exploring Varieties – A Practical Guide.” *The 2nd Annual Meeting of SIAM Texas-Louisiana Section*, Southern Methodist University, Dallas, Texas, USA, November 1–3, 2019. [Slides/code available here.](#)

**Kahle, D.** and Q. Ma. “Parameterizing Algebraic Curves using Autoencoders.” *AMS Special Session on Applications of Algebra and Geometry Fall Central Sectional Meeting*, University of Wisconsin-Madison, Madison, Wisconsin, USA, September 14–15, 2019.

**Beattie, S., M. Gamalo, D. Kahle, and A. Nikooienejad.** “Statistical Inference in the 21st Century: A World Beyond  $p < .05$ .” Panelist, organized by Richard Payne. *Bayesian Seminar Series*, Eli Lilly & Company, Indianapolis, Indiana, July 26, 2019.

**Kahle, D., J. Hauenstein, and Q. Ma.** “Stochastic Exploration of Real Varieties and Applications.” *Summer School on Randomness and Learning in Non-Linear Algebra*, Max Planck Institute for Mathematics in the Sciences, Leipzig, Saxony, Germany, July 1–5, 2019. [Slides/code available here.](#)

**Kahle, D.,** and J. Hauenstein. “Stochastic Exploration of Real Varieties.” *Workshop on Nonlinear Algebra in Applications*, Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence, Rhode Island, USA, November 12–16, 2018. [Recording here.](#)

**Seaman, J., D. Kahle, and J. Stamey.** “An Overview of Bayesian Statistics for Non-statisticians.” Eli Lilly & Company, Indianapolis, Indiana, USA, October 10, 2018.

**Kahle, D.** “Algebraic Statistics through R.” *Department of Statistics Colloquium*, Pennsylvania State University, State College, Pennsylvania, USA, April 19, 2018.

**Seaman, J., J. Stamey, and D. Kahle.** “A Brief Introduction to Bayesian Hierarchical Models.” Eli Lilly & Company, Indianapolis, Indiana, USA, April 10, 2018.

**Kahle, D.** “Research in Statistics.” *Baylor Undergraduate Research in Science and Technology (BURST)*, Baylor University, Waco, Texas, USA, April 5, 2018.

**Kahle, D.** “Becoming a Statistician.” *Baylor Undergraduate Research in Science and Technology (BURST)*, Baylor University, Waco, Texas, USA, November 16, 2017.

**Kahle, D., C. O’Neill, and J. Sommars.** “**m2r**: Macaulay2 in R.” *AMS Special Session on Applicable and Computational Algebraic Geometry Fall Central Sectional Meeting*, University of North Texas, Denton, Texas, USA, September 9–10, 2017. [Slides available here.](#)

**Kahle, D.** “Algebraic Statistics in R – A State of the Union.” *SIAM 2017 Conference on Applied Algebraic Geometry*, Georgia Tech, Atlanta, Georgia, USA, July 31–August 4, 2017. [Slides available here.](#)

**Kahle, D.** “An Introduction to Applied Algebraic Statistics through R.” *Statistics Colloquium Lecture*, Baylor University, Waco, Texas, USA, October 6, 2016.

**Kahle, D.** “**glmcmp 2.0**: Conditional Means Priors in R” *Eli Lilly & Company Science Driven Adaptive Program (SDAP) online meeting on prior elicitation tools.* October 5,

2016.

**Kahle, D.** “Simple Algebraic Regression.” *2016 Society for Industrial and Applied Mathematics (SIAM) Annual Meeting*, The Westin Boston Waterfront, Boston, Massachusetts, USA, July 11–15, 2016. [Slides available here](#).

**Kahle, D.**, R. Yoshida, and L. Garcia-Puente. “Applied Algebraic Statistics in R: The **algstat** Package.” *2016 Mathematics Research Community*, Snowbird Ski and Summer Resort, Snowbird, Utah, USA, June 12–18, 2016.

**Kahle, D.** “Reflections on Big Data: What it is, why you should care, and why you shouldn’t.” *Baylor Undergraduate Research in Science and Technology (BURST)*, Baylor University, Waco, Texas, USA, November 19, 2015.

**Kahle, D.** and **M. Sonksen.** “Getting Started with **glmcmp**.” *Eli Lilly & Company Bayesian Educational Training (BET) Forum online meeting*. September 25, 2015.

**Kahle, D.** and **M. Sonksen.** “Getting Started with **glmcmp**.” *Eli Lilly & Company Bayesian Central Hub online meeting*. August 28, 2015.

**Kahle, D.** “**glmcmp** Nonlinear Programming.” *Eli Lilly & Company Science Driven Adaptive Program (SDAP) online meeting on prior elicitation tools*. August 26, 2015.

**Kahle, D.**, R. Yoshida, and L. Garcia-Puente. “Applied Algebraic Statistics in R with **algstat**.” *SIAM 2015 Conference on Applied Algebraic Geometry*, National Institute for Mathematical Sciences, Daejeon, Hoseo, South Korea, August 3–7, 2015.

**Kahle, D.** “Recent Advances in Visualizing Spatial Data in R with **ggmap**.” *45<sup>th</sup> Symposium on the Interface of Computing Science and Statistics: Data Science*, Waterfront Place Hotel, Morgantown, West Virginia, USA, June 10–13, 2015. [Slides available here](#).

**Kahle, D.** and **J. Stamey.** “Reference Priors in **glmcmp**.” *Eli Lilly & Company Science Driven Adaptive Program (SDAP) online meeting*. April 17, 2015.

**Kahle, D.** and **J. Stamey.** “Induced Priors on Unelicited Scenarios: Preliminary results for a hypothetical pilot study.” *Eli Lilly & Company Science Driven Adaptive Program (SDAP) online meeting*. February 20, 2015.

**Seaman, J.**, **J. Stamey**, and **D. Kahle.** “A Brief Introduction to Bayesian Methods.” Eli Lilly & Company, Indianapolis, Indiana, USA, November 18, 2014.

**Kahle, D.** and **J. Stamey.** “Logistic Regression with Conditional Means Priors and **glmcmp**.” *Eli Lilly & Company Science Driven Adaptive Program (SDAP) online meeting*. June 27, 2014.

**Kahle, D.** “**algstat**: Algebraic Statistics for the Masses.” University of Kentucky, Lexington, Kentucky, USA, September 11, 2014. [Slides available here](#).

**Kahle, D.** and L. Garcia-Puente. “Algebraic Statistics in R: Discrete Multivariate Analysis and the **algstat** Package.” *Southern Regional Council on Statistics Summer Research Conference*, Hotel Galvez, Galveston, Texas, USA, June 1–4, 2014. [Poster available here](#).

**Kahle, D.** “Can you see me now? A consumers’ guide to data visualization.” *Together at the Table: Hunger Summit at Baylor University*, Baylor University, Waco, Texas, USA, October 24–25, 2013. [Slides available here](#).

**Kahle, D.** “Introducing Algebraic Statistics.” Stephen F. Austin State University, Nacogdoches, Texas, USA, October 7, 2013.

**Kahle, D.** “Introducing Algebraic Statistics.” *Southern Regional Council on Statistics*

*Summer Research Conference*, Montgomery Bell State Park, Burns, Tennessee, USA, June 2–5, 2013. [Slides available here](#).

**Kahle, D.** “The Grammar of Graphics and Spatial Visualization in R.” *Sam Houston State University*, Huntsville, Texas, USA, October 3, 2012. [Slides available here](#).

**Kahle, D.** “The Algebraic Side of Contingency Tables.” *2012 Conference of Texas Statisticians*, Lamar University, Beaumont, Texas, March 3, 2012. [Slides available here](#).

CONFERENCE  
PRESENTATIONS

**Bold** denotes presenter. Daggers (<sup>†</sup>) indicate that the item is in under review.

**Morgan, N.** and D. Kahle. “**ggclassify**: an R package for visualizing bivariate classifiers and clustering rules.” *2024 American Statistical Association Conference on Statistical Practice*, The Ritz Carlton, New Orleans, Louisiana, USA, February 27–29, 2024.

**Lamsal, S.** and D. Kahle. “In-game Win Prediction Models for Cricket.” *2024 American Statistical Association Conference on Statistical Practice*, The Ritz Carlton, New Orleans, Louisiana, USA, February 27–29, 2024.

**Kahle, D.** and J. Hauenstein. “Variety Distributions and Applications.” *Computations and Data in Algebraic Statistics*, Banff International Research Station for Mathematical Research and Discovery, Casa Matemática Oaxaca, San Felipe del Agua, Oaxaca, Mexico, May 14–19, 2023.

**Otto, J.** and D. Kahle. “**tldr**: Quick Documentation in the R Console.” *2023 Joint Statistical Meetings*, Metro Toronto Convention Centre, Toronto, Ontario, Canada, August 5–10, 2023.

**Otto, J.**, P. Faya, J. Stamey, and D. Kahle. “A Bayesian approach to Deming regression with pharmaceutical applications.” *Southern Regional Council on Statistics Summer Research Conference*, Villas by the Sea, Jekyll Island, Georgia, USA, October 2–5, 2022.

**Otto, J.** and D. Kahle. “**ggdensity**: Improved Bivariate Density Visualization in R.” *2022 Joint Statistical Meetings*, Walter E. Washington Convention Center, Washington D.C., USA, August 6–11, 2022.

**Otto, J.** and D. Kahle. “**ggdensity**: Improved Bivariate Density Visualization in R.” *2022 useR!*, Online, June 20–23, 2022.

**Otto, J.** and D. Kahle. “**ggdensity**: Improved Bivariate Density Visualization in R.” *2022 Symposium on Data Science & Statistics: Beyond Big Data: Influencing Science, Technology, and Society*, The Westin Pittsburgh, Pittsburgh, Pennsylvania, USA, June 7–10, 2022.

**Ma, Q.** and D. Kahle. “Model Selection in Algebraic Pattern Recognition.” *2021 Joint Mathematics Meetings*, Washington State Convention Center, Seattle, Washington, USA, August 7–12, 2021.

**Ma, Q.** and D. Kahle. “Parameterizing Varieties with Deep Learning.” *The 2nd Annual Meeting of SIAM Texas-Louisiana Section*, Southern Methodist University, Dallas, Texas, USA, November 1–3, 2019.

**Innerst, G.** and D. Kahle. “An Algebraic Approach to Minimum Chi-Square Estimation.” *2019 Joint Mathematics Meetings*, Baltimore Convention Center, Baltimore, Maryland, USA, January 16–19, 2019.

**Hossu, P.**, C. Sun, G. Innerst, R. Hebdon, and D. Kahle. “Algebraic Curve Fitting in R.” *2019 Joint Mathematics Meetings*, Baltimore Convention Center, Baltimore, Mary-

land, USA, January 16–19, 2019. (Poster; Award: Outstanding Poster)

**Innerst, G.** and D. Kahle. “An Algebraic Approach to Minimum Chi-Square Estimation.” *2018 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Henry B. González Convention Center, San Antonio, Texas, USA, October 11–13, 2018. (Poster)

**Hebdon, R.**, P. Hossu, G. Innerst, C. Sun, and D. Kahle. “Algebraic Curve Fitting in R.” *2018 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Henry B. González Convention Center, San Antonio, Texas, USA, October 11–13, 2018. (Poster)

**Hossu, P.**, C. Sun, G. Innerst, R. Hebdon, and D. Kahle. “A Geometrically-Inspired Discrepancy for Categorical Probability Distributions.” *Annual College of Science Poster Day*, Illinois Institute of Technology, Chicago, Illinois, USA, August 17, 2018. (Poster; Award: Best Applied Math Poster)

**Lukens, W. E.**, G. Stinchcomb, L. Nordt, S. Driese, D. Kahle, and J. Tubbs. “A Re-evaluation of Paleosol Elemental Proxies for Climate Through Cross-validation and Machine Learning.” *2018 Goldschmidt Conference*, Hynes Convention Center, Boston, Massachusetts, USA, August 12–21, 2018.

**Innerst, G.**, D. Kim, P. Gao, and D. Kahle. “MCMC Strategies to Enhance Exact Conditional Inference for Discrete Exponential Families.” *2017 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Salt Palace Convention Center, Salt Lake City, Utah, USA, October 19–21, 2017.

**Kim, D.**, P. Gao, G. Innerst, and D. Kahle. “Accelerating Exact Conditional Inference in Discrete Exponential Family Models.” *2017 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Salt Palace Convention Center, Salt Lake City, Utah, USA, October 19–21, 2017.

**Kahle, D.**, J. Stamey, M. Sonksen, and K. Price. “**glmcmp**: Prior Elicitation in R.” *2017 Joint Statistical Meetings. Topic Contributed Session : What do the Experts Believe? Leveraging expert knowledge to develop robust informative priors to aid decision making in drug and medical device development*, Baltimore Convention Center, Baltimore, Maryland, USA, July 29–August 3, 2017.

**Casement, C.** and D. Kahle. “Lineup-Style Methods for Graphical Prior Elicitation.” *2016 Conference of Texas Statisticians*, Trinity University, San Antonio, Texas, USA, April 8–9, 2016. (Award: Best Interdisciplinary Poster)

**Casement, C.** and D. Kahle. “Prior Elicitation via a Rorschach-Style Graphical Procedure.” *2016 Eastern North American Meetings (ENAR) of the International Biometric Society*, JW Marriott, Austin, Texas, USA, March 6–9, 2016. (Poster)

**Blair, S.**, D. Kahle, and J. Seaman. “Sensitivity in Prior Elicitation.” *2016 Eastern North American Meetings (ENAR) of the International Biometric Society*, JW Marriott, Austin, Texas, USA, March 6–9, 2016. (Poster)

**Garcia-Puente, L.** and D. Kahle. “**AlgStat**: An R package for algebraic statistics.” *Algebraic Statistics 2015*, Università degli Studi di Genova, Genoa, Italy, June 8–11, 2015. (Tutorial)

**Young, P.**, D. Kahle, and D. Young. “Confidence Intervals for the Ratio of Two Poisson Rates Under Differential Misclassification Using Double Sampling.” *Southern Regional Council on Statistics Summer Research Conference*, Courtyard Marriott, Carolina Beach, North Carolina, USA, June 7–10, 2015. (Poster)

**Kahle, D.**, R. Yoshida, and L. Garcia-Puente. “Sampling From Discrete Exponential Families Conditional on Their Sufficient Statistics.” *Southern Regional Council on Statistics Summer Research Conference*, Courtyard Marriott, Carolina Beach, North Carolina, USA, June 7–10, 2015. (Poster)

**Garcia-Puente, L.** and D. Kahle. “**AlgStat**: An R package for algebraic statistics.” *Joint Workshop on Limit Theorems and Algebraic Statistics*, Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic, Prague, Czech Republic, August 25–29, 2014.

**Cheng, J.**, D. Kahle, and J. Seaman. “Eliciting Informative Priors for Bayesian Hurdle Models.” *2014 Joint Statistical Meetings : Global Impact - Past, Present, and Future*, Boston Convention and Exhibition Center, Boston, Massachusetts, USA, August 2–7, 2014. (Poster)

**Kahle, D.** and L. Garcia-Puente. “Algebraic Statistics in R: Markov Bases.” *2014 NIMS Thematic Program on Applied Algebraic Geometry: Algebraic Statistics*, National Institute for Mathematical Sciences, Daejeon, Hoseo, South Korea, July 14–17, 2014.

**Garcia-Puente, L.** and D. Kahle. “Markov bases for noncommutative Fourier analysis of partially ranked data.” *as2014: Algebraic Statistics Conference*, Illinois Institute of Technology, Chicago, Illinois, USA, May 19–22, 2014.

**Kahle, D.** “Visualizing Big Data in the Introductory Course.” *The Second Biennial Electronic Conference on Teaching Statistics (eCOTS)*, Online, May 19–23, 2014. (Screencast recording)

**Cheng, J.**, D. Kahle, and J. Seaman. “Eliciting Priors for Hurdle Models with Shared Covariates.” *Women in Statistics Conference*, Embassy Suites, Cary, North Carolina, USA, March 15–17, 2014. (Poster)

**Cheng, J.**, J. Seaman, and D. Kahle. “Priors for Bayesian Hurdle Models.” *2014 Eastern North American Meetings (ENAR) of the International Biometric Society*, Baltimore Marriott Waterfront, Baltimore, Maryland, USA, March 16–19, 2014. (Poster)

**Kahle, D.**, J. Stamey, K. Price, F. Natanegara, and B. Han. “Advances in Facilitated Prior Elicitation.” *2013 Joint Statistical Meetings. Topic Contributed Session : Bayesian Computations: Challenges, Solutions, and Implementations in Medical Product Development*, Palais des Congrès de Montréal, Montréal, Québec, Canada, August 3–8, 2013. [Slides available here.](#)

**Garcia-Puente, L.** and D. Kahle. “Identifiability of Structural Equation Models on 6 Random Variables.” *2013 Society for Industrial and Applied Mathematics (SIAM) Conference on Applied Algebraic Geometry*, Colorado State University, Fort Collins, Colorado, USA, August 1–4, 2013.

**Warnick, R.** and D. Kahle. “Interactive Modules as Tools for Illustrating Statistical Concepts.” *2013 URSA Scholars’ Week*, Baylor University, Waco, Texas, USA, April 8–11, 2013.

**Warnick, R.** and D. Kahle. “Interactive Modules as Tools for Illustrating Statistical Concepts.” *2013 American Statistical Association Conference on Statistical Practice*, Sheraton New Orleans Hotel, New Orleans, Louisiana, USA, February 21–23, 2013. (Poster)

**Kahle, D.** and H. Wickham. “**ggmap**: Interfacing ggplot2 and RgoogleMaps.” *The 8th International R Users Meeting*, Vanderbilt University, Nashville, Tennessee, USA, June 12–15, 2012. [Slides available here.](#)

**Kahle, D.** “**mpoly**: Multivariate polynomials in R.” *Algebraic Statistics in the Alleghenies*, The Pennsylvania State University, University Park, Pennsylvania, USA, May 16–18, 2012. (Poster)

**Kahle, D.** and H. Wickham. “**ggmap**: Spatial visualization with ggplot2.” *Southern Regional Council on Statistics Summer Research Conference*, Jekyll Island, Georgia, USA, June 2–6, 2012. (Poster)

**Kahle, D.** “**mpoly**: Multivariate polynomials in R.” *43<sup>rd</sup> Symposium on the Interface of Computing Science and Statistics: Future of Statistical Computing: Internet Scale Data, Flexible Modeling, and Visualization*, Rice University, Houston, Texas, USA, May 16–18, 2012. [Slides available here.](#)

**Güven, B., L. Dueñas-Osorio, R. M. Stein, D. Subramanian, J. Salazar, and D. Kahle.** “Storm Risk Calculator for the City of Houston.” *Presentation before the City of Houston Office of Emergency Management*, City Hall, Houston, Texas, USA, May 3, 2012.

**Güven, B., L. Dueñas-Osorio, R. M. Stein, D. Subramanian, and D. Kahle.** “Storm Risk Calculator for the City of Houston.” *2012 National Hurricane Conference*, Orlando, Florida, USA, March 26–29, 2012.

**Kahle, D., L. Dueñas-Osorio, D. Subramanian, and R. M. Stein.** “A Comparison of Hurricane Induced Power Outage Models : Component vs. Statistical Models.” *2011 National Hurricane Conference*, Atlanta, Georgia, USA, April 18–22, 2011.

**Kahle, D.** “Minimum Distance Estimation for Contingency Table Models.” *2010 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference*, Anaheim, California, USA, September 29–October 3, 2010. (Poster)

**Kahle, D.** “Advances in Contingency Table Model Estimation.” *2010 Pan-American Advanced Studies Institute : Cutting-edge Topics in Theoretical Statistics and Applications in Genetics and Bioinformatics*, Centro de Investigación en Matemáticas, Guanajuato, Mexico, May 2–8, 2010. (Poster)

**Kahle, D.** “Computational Survival Analysis with R.” *2006 Pan-American Advanced Studies Institute : Mathematical Models in Population Dynamics*, Universidad de El Salvador (UES), San Salvador, El Salvador, February 24–26, 2010.

**Kahle, D.** and D. Homrighausen. “An Investigation into Statistical Tests for Stochastic Dominance with Applications to Economic Decision Theory.” *2006 Joint Mathematics Meetings*, San Antonio, Texas, USA, January 12–15, 2006. (Poster)

**Kahle, D.** and D. Homrighausen. “An Investigation into Statistical Tests for Stochastic Dominance with Applications to Economic Decision Theory.” *2005 Shenandoah Undergraduate Mathematics and Statistics Conference*, James Madison University, Harrisonburg, Virginia, USA, November 12, 2005.

## ACADEMIC EXPERIENCE

### **Baylor University**, Waco, Texas, USA

*Associate Professor of Statistical Science*

**August 2017 – Present**

- Teaching, research/creative activity, University and community service, direction of undergraduate and graduate students, and other related duties pertaining to advancing the mission of Baylor University.

*Assistant Professor of Statistical Science*

**August 2011 – August 2017**

- Teaching, research/creative activity, University and community service, direction of undergraduate and graduate students, and other related duties pertaining to

advancing the mission of Baylor University.

**Rice University**, Houston, Texas, USA

*Graduate Research Assistant* **Fall 2009, August 2010 – May 2011**

- Working with a highly interdisciplinary team modeling hurricane risk and designing evacuation policies for Houston. The team includes faculty members from Political Science, Computer Science, and Civil and Environmental Engineering.

*Graduate Research Assistant* **January 2009 – December 2009**

- Investigated questions of tail behavior and tail categorization of probability laws.

*Graduate Research Assistant* **August 2006 – May 2007**

- Investigated normalization and peak detection of mass spectrometry proteomic data (SELDI-TOF) for child osteosarcoma studies. This was a collaborative effort with [Texas Children's Hospital](#) in the [Texas Medical Center](#).

*Undergraduate Researcher* **Summer 2004, Summer 2005**

- Participated in the [Rice University Summer Institute of Statistics \(RUSIS\)](#), 2004. Investigated imputation methods for missing data in microarray experiments.
- —, 2005. Investigated power in hypothesis tests of stochastic dominance.

DOCTORAL  
STUDENTS  
ADVISED

**Anupama Kannan.** Expected May 2026. TBD. Co-advised with Michael Gallagher, Ph.D.

**Dusty Turner.** Expected May 2025. TBD. Co-advised with Rodney Sturdivant, Ph.D.

**Nathaniel Morgan.** Expected May 2025. TBD. Co-advised with Michael Gallagher, Ph.D.

**Sonish Lamsal.** Expected August 2024. TBD.

**James Otto.** Computational Tools for Data Visualization, Bayesian Deming Regression, and Software Documentation. May 2023. Currently Senior Statistician at [Alcon](#).

**Evan Miyakawa.** Contributions to the Practical Application of Bayesian Methods to Survival Analysis in Clinical Trials. February 2022. Currently Data Scientist at [Zelus Analytics](#). Co-advised with James Stamey, Ph.D.

**Qida Ma.** Contributions to Algebraic Pattern Recognition and Integrated Likelihood Ratio Confidence Intervals. March 2021. Currently Data Scientist II at [Microsoft](#). Co-advised with Dean Young, Ph.D.

**Grant Innerst.** Contributions to Computational Algebraic Statistics. July 2019. Assistant Professor (Tenure-Track) in the [Department of Mathematics](#) at [Shippensburg University](#), Shippensburg, PA.

**Christopher Casement.** “Graphical Methods in Prior Elicitation.” June 2017. Assistant Professor (Tenure-Track) in the [Department of Mathematics](#) at [Fairfield University](#), Fairfield, CT.

**Somer Blair.** “Contributions to the Theory and Practice of Prior Elicitation in Biopharmaceutical Research.” February 2017. Currently Manager, Biostatistics at [JPS Health Network](#), Dallas, TX. Co-advised with John Seaman, Jr., Ph.D.

**Wenqi (Robin) Wu.** “Network Meta-Analysis with Rare Events and Misclassified Response.” April 2016. Currently Senior Data Scientist at [PayPal](#), Philadelphia, PA. Co-advised with James Stamey, Ph.D.

**Joyce Cheng.** “Bayesian Methods for Hurdle Models.” February 2015. Currently Mathematical Statistician in the Office of Biostatistics at the [U.S. Food and Drug Administration](#), Washington D.C. Co-advised with John Seaman, Jr., Ph.D.

**Ryan A. Sides.** “Sample Size Determination for Two Sample Binomial and Poisson Data Models Based on Bayesian Decision Theory.” August 2013. Currently Assistant Professor in the [Department of Mathematics and Computer Science](#) at [Texas Woman’s University](#), Denton, TX. Co-advised with James Stamey, Ph.D.

TEACHING  
EXPERIENCE

**Baylor University**, Waco, Texas, USA

*Assistant/Associate Professor*

**Fall 2011 – Present**

- STA 2381 – Introductory Statistical Methods
- STA 4360 – Bayesian Data Analysis
- STA 4373 – Computational Methods in Statistics
- STA 5V95 – Applied Predictive Modeling
- STA 5V95 – Modern Trends in Computational Data Science
- STA 6352 – Bayesian Theory
- STA 6360 – Bayesian Methods for Data Analysis
- STA 6375 – Computational Statistics I
- STA 6376 – Computational Statistics II

**Rice University**, Houston, Texas, USA

*Instructor*

**Summer 2008, Summer 2009, Summer 2010**

- Designed, authored, and presented 3-hour daily labs and lectures in statistical computing and graphics for the [statistics research experience for undergraduates \(REU\)](#) the [Rice University Summer Institute of Statistics \(RUSIS\)](#). Provided computational and theoretical support for students’ research projects.

*Teaching Assistant*

**August 2007 – December 2008**

- Provided in class and out of class support for undergraduate and first-year graduate mathematical statistics courses.
- Assisted in the development of an undergraduate calculus-based statistics course emphasizing civil and environmental engineering.
- Graded daily assignments.

**University of Richmond**, Richmond, Virginia, USA

*Peer Academic Skills Tutor Supervisor*

**August 2005 – June 2006**

- Tutored students and managed the [Academic Skills Center](#).

*Peer Academic Skills Tutor*

**August 2004 – August 2005**

- Tutored students in general study skills as well as mathematics and French.

PROFESSIONAL  
AFFILIATIONS

[American Statistical Association \(ASA\)](#)  
— [Section on Bayesian Statistical Science](#)  
— [Biopharmaceutical Section](#)  
— [Section on Statistical Graphics](#)  
— [Section on Statistical Computing](#)  
— [Section on Statistical Learning and Data Science](#)  
— [Section on Statistics and Data Science Education \(Past\)](#)  
[Institute of Mathematical Statistics \(IMS\) \(Past\)](#)

Mathematical Association of America (MAA) (Past)  
American Mathematical Society (AMS) (Past)  
Society for Industrial and Applied Mathematics (SIAM)  
— Activity Group on Algebraic Geometry (SIAG<sup>2</sup>)  
Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)  
(Past)

PROFESSIONAL  
SERVICE

**Service at the National Science Foundation (NSF)**

*Grant Proposal Panel Reviewer*

1. Directorate for Mathematical & Physical Sciences (MPS)  
Division of Mathematical Sciences (DMS)  
*Computational and Data-Enabled Science and Engineering (CDS&E)*, Fall 2018.

**Service at Professional Gatherings**

*Sessions at meetings (O = organized, C = chaired, J = poster competition judge)*

1. “Software and Computation in Algebraic Statistics I”, *SIAM 2017 Conference on Applied Algebraic Geometry*, Georgia Institute of Technology, Atlanta, Georgia, July 31–August 4, 2017. (OC; with [Elizabeth Gross](#))
2. “Software and Computation in Algebraic Statistics II”, *SIAM 2017 Conference on Applied Algebraic Geometry*, Georgia Institute of Technology, Atlanta, Georgia, July 31–August 4, 2017. (OC; with [Elizabeth Gross](#))
3. *2017 Joint Mathematical Meetings*, Atlanta, Georgia, January 4–7, 2017. (J)
4. “Markov Bases and their Applications in Statistics I”, *SIAM 2015 Conference on Applied Algebraic Geometry*, National Institute for Mathematical Sciences, Daejeon, Hoseo, South Korea, August 3–7, 2015. (OC; with [Ruriko Yoshida](#))
5. “Markov Bases and their Applications in Statistics II”, *SIAM 2015 Conference on Applied Algebraic Geometry*, National Institute for Mathematical Sciences, Daejeon, Hoseo, South Korea, August 3–7, 2015. (OC; with [Ruriko Yoshida](#))
6. *2015 Southern Regional Council of Statistics (SRCOS) Summer Research Conference*, Carolina Beach, North Carolina, June 7–10, 2015. (J)
7. *2013 Conference of Texas Statisticians*, Rice University, Houston, Texas, March 22–23, 2013. (J)

**Service with Peer-Reviewed Journals**

*Associate Editor of*

**August 2014 – March 2017**

*Biometrics & Biostatistics International Journal*

*Ad hoc reviewer for*

- Journal of Statistical Software
- The R Journal
- Journal of Algebraic Statistics
- Journal of Software for Algebra and Geometry
- Pharmaceutical Statistics
- The American Mathematical Monthly
- The American Statistician
- Journal of Computational and Graphical Statistics
- Computational Statistics & Data Analysis
- SoftwareX

## Service with Publishers

*Wiley Science Advisors for John Wiley & Sons, Inc.*      **May 2010 – January 2017**

- Responsibilities include providing opinions on new devices and technologies, the “Generation Y” scientific community, and literature research preferences.

*Student Advisory Board for John Wiley & Sons, Inc.*      **June 2009 – Dec 2011**

- Responsibilities include providing opinions on publishing decisions, market feedback, and technology usage.

## ACADEMIC SERVICE

### **Baylor University**, Waco, Texas, USA

#### *University Service*

*Libraries/ITS Advisory Committee*

**August 2019 – Present**

*Student Life and Services Committee*

**August 2018 – July 2021**

#### *College Service*

2023 – Summer Research Awards (SRA), 2024 (sabbatical) grant reviewer

2022 – Summer Research Awards (SRA), 2023 (sabbatical) grant reviewer

2021 – Summer Research Awards (SRA), 2022 (sabbatical) grant reviewer

#### *Departmental Service*

2019 – Chair, Tenure line hiring committee, assistant level

2018 – Chair, Chair search committee

2015 – Member, Tenure line hiring committee, associate/full level

2012 – Member, Tenure line hiring committee, open rank

#### *Other Service*

2015, 2016, 2019 – Undergraduate Research and Scholarly Achievement (URSA)  
grant reviewer

## ACADEMIC COMMITTEES

### **Baylor University**, Waco, Texas, USA

#### *Post-doctoral mentorship*

2014–2015 – Philip Young (jointly)

#### *Ph.D. defense committees*

2023 – James Otto, Jasmin Mohn (mathematics)

2022 – Evan Miyakawa, Mads Reynolds (mathematics), Alan Mullenix (mathematics)

2021 – Qida (Jerry) Ma, Jack Rebrovich (mathematics), Ian Grigsby (mathematics), Tavish Dunn (mathematics), Joseph Thangraj (geosciences)

2020 – John Miller (mathematics)

2019 – Stephen Cook (biology)

2018 – Qi (Kate) Zhou, Ben Barnard

2017 – Somer Blair, Tyler Nelson, Chris Casement, Madeline Drevets, Gabriel Odom

2016 – Mark Eschmann, Wenqi (Robin) Wu, Jonathon Vallejo

2015 – Joyce Cheng, Kristen Tecson, Michelle Marcovitz, Yuanyuan Guo

2014 – Forrest Williamson

2013 – Ryan Sides, John Beeson

2012 – Stephanie Doherty, Brandi Falley

#### *Dissertation proposals*

2023 – Sonish Lamsal

2022 – Yashwant Soni (geosciences)  
2021 – James Otto, Benjamin Sadler (geosciences)  
2020 – Evan Miyakawa, Joseph Thangraj (geosciences)  
2019 – Qida (Jerry) Ma, Debajeet Barman (geosciences)  
2018 – Alden Netto (geosciences)  
2017 – Chris Elrod, Grant Innerst  
2016 – Chris Casement, Youjiao (Gary) Yu, Stephen Cook (biology), James Parker (geosciences)  
2015 – Jonathon Vallejo, RJ Waken, Qi (Kate) Zhou, Hannah Mejia (geosciences)  
2014 – Wenqi Wu, Wencong Chen, Somer Blair  
2013 – Kristen Tecson  
2012 – Forest Williamson, Yuanyuan Guo, Ryan Sides, Jack Knorr  
2011 – Ross Bray

*Master's defense committees*

2022 – Christopher Mitchell (geosciences), Brady Spears (geosciences), Aicha Coulibaly (geosciences)  
2020 – Hugo Rodrigues (economics)  
2016 – Ran Duan (economics), Kenton Shaw (geosciences), Gift Ntuli (geosciences)  
2014 – Martin Schwed (geosciences)

*Master's thesis proposals*

2023 – Luis Muñoz Santos (geosciences)  
2021 – Aicha Coulibaly (geosciences), Brady Spears (geosciences)  
2019 – Christopher Mitchell (geosciences)  
2015 – Gift Ntuli (geosciences), Kenton Shaw (geosciences)  
2013 – Martin Schwed (geosciences)

*Master's oral examinations*

2023 – Anupama Kannan  
2022 – Weijiang Hou, Nathaniel Morgan  
2021 – Randy Nguyen  
2019 – Graham Seacat, Prescott Duszynski  
2018 – Evan Miyakawa  
2017 – Divya Lakshminarayanan, Austin Workman  
2016 – Andy Lawler, Courtney Weber, Allan Hill, Grant Innerst  
2015 – Morgan McCreary  
2014 – Matt Seale  
2013 – Soo Park, Justin Sims  
2012 – Yuanyuan Guo, Victoria Romberg, Amy Buros, Joyce Cheng, Caleb Stein, Kristen Tecson  
2011 – Forest Williamson

*Undergraduate thesis/major capstone experience committees*

2022 – Will Stamey (Baylor business fellows)  
2019 – Kyle Binder (mathematics)  
2018 – Brian King, Melody Horn (computer science)  
2013 – Allison Hainline

*Undergraduate research projects*

2018 – Philip Hossu, Ryan Hebdon  
2017 – Peixin Gao, Dohyun Kim  
2012 – Ryan Warnick

TECHNICAL  
COMPETENCIES

*Extensive experience with Monte Carlo simulation, Bayesian statistics, data visualization, and R package development.*

*Programming.* R/RStudio (including Quarto/R Markdown, Sweave, and Shiny app development), Wolfram (Mathematica), various shells (zsh preferred), C++; basic experience with html, css, JavaScript

*Bayesian engines.* Stan, JAGS, various BUGS implementations

*Version Control.* Git, [GitHub](#) user @dkahle

*Applications.* RStudio,  $\text{T}_{\text{E}}\text{X}$  /  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  /  $\text{BIB}\text{T}_{\text{E}}\text{X}$ , Vim, Apple Productivity Apps (Pages, Keynote, Numbers), XCode, Microsoft Office, Camtasia

*Operating Systems.* MacOS, Microsoft Windows, and standard Linux distributions – Debian (Ubuntu, Kali, ...), Red Hat (RHEL, CentOS, Fedora, Amazon Linux, ...)