Ken Ryan's Shorter Resume

Department of Statistics
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Citizenship: U.S.A.
Fellow of the American Statistical Association: Awarded 2020

Education

Ph.D. Statistics	Iowa State University	2001
M.S. Statistics	Iowa State University	1999
B.S. Mathematics and Chemistry	Millikin University	1996
H.S.D.	Lincoln-Way Central H.S., New Lenox, IL	1992

Academic Experience

Professor	West Virginia University (WVU)	2017-
Associate Professor	WVU	2012-2017
Associate Professor	Bowling Green State University (BGSU)	2010-2012
Assistant Professor	BGSU Dept. of App. Stat. and OR (ASOR)	2006-2010
NSF Postdoctoral Fellow	University of Illinois at Chicago (UIC)	2002-2003
Lecturer	Northwestern University (NU)	2001-2002
Graduate Assistant	Iowa State University (ISU)	1997-2001

Other Professional Experience

Manager	Information Resources Incorporated	2004-2006
Statistician	Allstate Insurance Company	2003-2004
Graduate Research Assistant	Los Alamos National Laboratory (LANL)	2000

Statistics Journal Publications

28. Hamada, M.S. and Ryan, K.J., "On Nominal Data Gauge RR Studies," Quality Engineering, accepted.
27. Botts, C.H. and **Ryan, K.J.** (2025), "A Note on a Useful Yet Overlooked Algorithm for Total System Bayesian Reliability Estimation," *Journal of Quality Technology*, 52, 2, 153-160.
26. **Ryan, K.J.**, Hamada, M.S., and Twist, J.R. (2024), "Sequential Bayesian Assurance Tests for Degradation Data," *Quality Engineering*, 36, 1, 80-90.
25. **Ryan, K.J.**, Brydon, M.S., Leatherman, E.R., and Hamada, M.S. (2024), "Analysis of Overlapping Count Data," *Communications in Statistics–Simulation and Computation*, 53, 9, 4103-4120.
24. Kotsireas, I.S., Koutschan, C., Bulutoglu, D.A., Arquette, D.M., Turner, J.S., and **Ryan, K.J.** (2023), "Legendre Pairs of Lengths $\ell \equiv 0 \pmod 5$," *Special Matrices*, 11, 1, 20230105.
23. Bulutoglu, D.A., Chatterjee, K., Georgiou, S.D., Koukouvinos, C., **Ryan, K.J.**, and Stylianou, S. (2021), "Unbalanced Two-Symbol $E(s^2)$ Optimal Designs," *Statistics and Applications*, 19, 1, 11-28.

22. Culp, M.V., **Ryan, K.J.**, Banerjee, P., and Morehead, M. (2019), "On Data Integration Problems with Manifolds," *Technometrics*, 61, 2, 165-175.

21. Geyer, A.J., Bulutoglu, D.A., and **Ryan, K.J.** (2019), "Finding the Symmetry Group of an LP with Equality Constraints and its Application to Classifying Orthogonal Arrays," *Discrete Optimization*, 32, 93-119.

20. Culp, S.L., **Ryan, K.J.**, Chen, J., and Hamada, M.S. (2018), "Analysis of Repeatability and Reproducibility Studies with Ordinal Measurements," *Technometrics*, 60, 4, 545-556.

19. Bulutoglu, D.A. and **Ryan, K.J.** (2018), "Integer Programming for Classifying Orthogonal Arrays," *Australasian Journal of Combinatorics*, 70, 3, 362-385.

18. Gunel, E. and **Ryan, K.J.** (2017), "Fisher's Exact Test from a Bayes Perspective," *Communications in Statistics–Simulation and Computation*, 46, 9, 7393-7404.

17. **Ryan, K.J.**, Hamada, M.S., and Vardeman, S.B. (2017), "Estimating a Service-Life Distribution Based on Production Counts and a Failure Database," *Journal of Quality Technology*, 49, 2, 172-185.

16. Hamada, M.S. and **Ryan, K.J.** (2016), "Combined Analysis of Overlapping Stratified Random Sample and Simple Random Sample Data," *Quality and Reliability Engineering International*, 32, 309-314.

15. Hamada, M.S. and **Ryan, K.J.** (2016), "The Analysis of Misclassified Ordinal Data from Designed Experiments," *Quality and Reliability Engineering International*, 32, 223-229.

14. Bulutoglu, D.A. and **Ryan, K.J.** (2015), "Algorithms for Finding Generalized Minimum Aberration Designs," *Journal of Complexity*, 31, 577-589.

13. **Ryan, K.J.** and Culp M.V. (2015), "On Semi-Supervised Linear Regression in Covariate Shift Problems," *Journal of Machine Learning Research*, 16, 3183-3217.

12. **Ryan, K.J.** and Hamada, M.S. (2015), "Qualification Testing with Paired Within-Part Samples," *Quality Engineering*, 27, 473-476.

11. Culp, M.V. and **Ryan, K.J.** (2013), "Joint Harmonic Functions and Their Supervised Connections," *Journal of Machine Learning Research*, 14, 3721-3752.

10. **Ryan, K.J.**, Hamada, M.S., and Reese, C.S. (2011), "A Bayesian Hierarchical Power Law Process Model with Application to Supercomputer Reliability," *Journal of Quality Technology*, 43, 3, 209-223.

9. **Ryan, K.J.** and Bulutoglu, D.A. (2010), "Minimum Aberration Fractional Factorial Designs with Large N," *Technometrics*, 52, 2, 250-255.

8. Bulutoglu, D.A. and **Ryan, K.J.** (2009), "D-Optimal and Near D-Optimal 2^k Fractional Factorial Designs of Resolution V," *Journal of Statistical Planning and Inference*, 139, 16-22.

7. **Ryan, K.J.** (2009), "Approximate Confidence Intervals for p when Double Sampling," *The American Statistician*, 63, 132-140.

6. Bulutoglu, D.A. and **Ryan, K.J.** (2008), "E(s^2)-Optimal Supersaturated Designs with Good Minimax Properties when N is Odd," *Journal of Statistical Planning and Inference*, 138, 1754-1762.

5. **Ryan, K.J.** and Bulutoglu, D.A. (2007), "E(s^2)-Optimal Supersaturated Designs with Good Minimax Properties," *Journal of Statistical Planning and Inference*, 137, 2250-2262.

4. Miescke, K.J. and **Ryan, K.J.** (2006), "On Gupta's Subset Selection Rule," *Journal of Statistical Planning and Inference*, 136, 2004-2019.

3. Reese, C.S., Wilson, A.G., Hamada, M., Martz, H.F., and **Ryan, K.J.** (2004), "Integrated Analysis of Computer and Physical Experiments," *Technometrics*, 46, 2, 153-164.

2. **Ryan, K.J.** (2003), "Estimating Expected Information Gains for Experimental Designs with Application to the Random Fatigue-Limit Model," *Journal of Computational and Graphical Statistics*, 12, 3, 585-603.

1. **Ryan, K.J.** (2003), "Some Flexible Families of Intensities for Nonhomogeneous Poisson Process Models and Their Bayes Inference," *Quality and Reliability Engineering International*, 19, 171-181.

Statistics Book Related Publications

3. Culp, **Ryan, K.J.**, and Michailidis (2018), "Semi-Supervised Smoothing for Large Data Problems," In Härdle et al., *Handbook of Big Data Analytics*, Springer, 285-299.

2. Banerjee, Culp, **Ryan, K.J.**, and Michailidis (2017), "Graph-Based Semi-Supervised Learning with BIG Data," In Saha et al., *Handbook of Research on Applied Cybernetics and System Science*, IGI, 154-185.

1. **Ryan, K.J.** (2012), "Data Clustering in C++," *The American Statistician* (Book Review), 66, 4.

Statistical Consulting Related Publications

14. Young, Weber, **Ryan, K.J.**, Rothenberg, Carrott, Mehaffey, and Hayanga, "Impact on Per-Operative ECMO Use on Lung Transplant Outcomes," *The Annals of Thoracic Surgery*, accepted.

13. Divens, **Ryan, K.J.**, Sette, Arlehamn, and Robinson (2025), "IL-27 Signaling Limits the Diversity of Antigen-Specific T Cells and Interferes with Protection Induced by BCG Vaccination," *Tuberculosis*, 153, 102641.

12. Luo, Awori Hayanga, Tham, **Ryan, K.J.**, Rothenberg, Mehaffey, Lamb, Reddy, Badhwar, and Toker (2025), "Salvage Surgery is Safe and Effective for Clinical Stage III Non-Small-Cell Lung Cancer," *Interactive Cardiovascular and Thoracic Surgery*, 40, 4, ivaf084.

11. Yang, Myers, Bergman, Fisher, **Ryan, K.J.**, Vollmer, Portnoff, and Zhuang (2025), "Evaluating Source Control Efficacy Against Exhaled Submicron Particles: Total Outward Leakage of Surgical Masks and Half Facepiece Respirators Across a Spectrum of Particle Sizes," *Aerosol Science and Technology*, 59, 4, 487-498.

10. Yang, Myers, Bergman, Fisher, **Ryan, K.J.**, Vollmer, Portnoff, and Zhuang (2025), "Total Outward Leakage of Face-Worn Products used by the General Public for Source Control," *American Journal of Infection Control*, 53, 239-244.

9. Yang, Myers, and **Ryan, K.J.** (2025), "Evaluating Total Outward Leakage of Face-Worn Products Across Various Particle Sizes for Source Control Against Submicron Aerosols: Implications for Public Health Protection," *Journal of Aerosol Science*, 187, 106586.

8. Bradford, **Ryan, K.J.**, Divens, Povroznik, Bonigala, and Robinson (2024), "IL-27 Alters Inflammatory Cytokine Expression and Limits Protective Immunity Against

Mycobacterium Tuberculosis in a Neonatal BCG Vaccination Model," *Frontiers in Immunology*, DOI: 10.3389/fimmu.2024.1217098.

7. Myers, Yang, **Ryan, K.J.**, Bergman, Fisher, Soo, and Zhuang (2023), "Total Outward Leakage of Half-Mask Respirators and Surgical Masks used for Source Control," *Journal of Occupational and Environmental Hygiene*, 20, 12, 610-620.

6. Glover, Hadfield, Boney, Foltz, Holáskova, **Ryan, K.J.**, and Mortiz (2018), "Effects of Environment, Feed Form, and Caloric Density on Energy Partitioning," *The Journal of Applied Poultry Research*, 27, 507-521

5. Banerjee, Syed, Helmick, Culp, **Ryan, K.J.**, and Cukic (2017), "Automated Triaging of Very Large Bug Repositories," *Information and Software Technology*, 89, 1-13.

4. Konnai, Scherer, Peplinski, and **Ryan, K.J.** (2017), "Whisper and Phonation: Aerodynamic Comparisons Across Adduction and Loudness," *Journal of Voice*, 31, 6, 773.e11-20.

3. Ott, Dacks, **Ryan, K.J.**, and Rio (2016), "A Tale of Transmission: *Aeromonas Veronii* Activity within Leach-Exuded Mucus," *Applied and Environmental Microbiology*, 82, 9, 2644-2655.

2. Amarachintha, **Ryan, K.J.**, Cayer, Boudreau, Johnson, and Heckman (2015), "Effect of Cdc42 Domains on Filopodia Sensing, Cell Orientation, and Haptotaxis," *Cellular Signalling*, 27, 683-693.

1. Sharma, Vanderhalf, **Ryan, K.J.**, and Sclafani (2010), "Refining IV Iron use in Hemodialysis Patients: A Post-DRIVE Analysis," *Nephrology News & Issues*, 4, 22-35.

Grant Funding and Proposals

23. NIH "Understanding the Consequence IL-27 in a Murine Model of GBS Neonatal Sepsis," Co-I (7/25-6/27). Total is $418,000. Not funded.

22. NIH "IL-27 and Preterm Sepsis," Co-I (7/24-6/26). Total is $418,000. Not funded.

21. NIH "IL-27 in Gram-Positive Sepsis," Co-I (7/24-6/26). Total is $152,000. Not funded.

20. NIH "Cardiothoracic Surgical Trials Network Linked Clinical Research Centers for Virginia and West Virginia," Co-I (10/23-2/26). My total is $98,006. Funded.

19. NSF "Semi-Supervised Learning," PI (7/20-6/23). My total is $451,744. Not funded.

18. NSF "Semi-Supervised Learning Extensions," PI (7/19-6/22). My total is $424,406. Not funded.

17. NSF "Practical Semi-Supervised Learning with Theoretical Justification," PI (7/17-6/20). My total is $190,313. Not funded.

16. NSF "A Practical Suite of Semi-Supervised Learners with Theoretical Justification," PI (7/16-6/19). My total is $193,487. Not funded.

15. WVU Eberly College Summer Grants for Course Development "Group-Based Interactive Labs for STAT 211," PI (5/16-8/16). My total is $3,600. Funded.

14. NSF CITeR "Validating the Representativeness of Samples from Sequestered Biometric Data Sets Phase II," Co-PI (7/15-7/16). My total is $14,895. Funded.

13. NSF "Extending Semi-Supervised Linear Regression to the Generalized Linear Model," PI (7/15-6/18). My total is $189,472. Not funded.

12. NSF CITeR "Validating the Representativeness of Samples from Sequestered Biometric Data Sets," Co-PI (7/14-7/15). My total is $17,500. Funded.

11. NIJ "Grant 2010-DDBX-0161 on Big Data Research," Co-PI (5/13-8/13). My total is $14,167. Funded.
10. NIH "WVU CoBRE Cancer Center Grant," Co-I (1/13-12/14). My total is $8,000. Funded.
9. LANL "Statistical Sciences Group CCS-6 Summer Research Visits," statistical consultant, (10 summers since 2008). My total is a $750/week plus expenses. Funded.
8. AFOSR "Exact Algorithms for Finding Efficient Designs and Test Suites for Test and Evaluation," statistical consultant (7/07-6/16). My total is $117,219. Funded.
7. BGSU Faculty Research Council Research Incentive Grant "Algorithms and Exact Bounds for Finding GMA Designs", PI (1/09-12/10). My total is $9,268. Funded.
6. AFOSR "Heuristic Algorithms and Exact Bounds for Finding GMA Designs," Co-PI (7/10-6/12). My total is $97,097. Not funded.
5. BGSU Business College Research Grant, "Guaranteeing the Reliability of a CI for the Difference of Population Proportions," PI (5/09-8/09). My task is $5,000. Funded.
4. Ohio Supercomputer Center "Minimum Aberration Fractional Factorial Designs with Large N," PI (2009). My total is a research account of 30,000 resource units. Funded.
3. BGSU Graduate Dean Competitive Graduate Assistantship Pool "Introduction to Statistical Research," PI (8/08-5/09). My total is $9,926 for a 1/2 time RA. Funded.
2. First Solar Incorporated-BGSU RAs "Internships for Second Year MSAS Students," PI (1/09-12/10). My total is $28,079 for 5 RA-semesters at 1/4 time each. Funded.
1. BGSU Business College Research Grant, "Estimating the Proportion of Defective Insurance Records with Double Sampling," PI (5/07-8/07). My task is $5,000. Funded.

Service
Associate Director in charge of Statistics at WVU, 2021-2024
Associate Editor (AE), *Statistical Analysis and Data Mining*, 2019, 2020
AE, *Technometrics*, 2016-2018 (full 3-year term with residual work beyond 2018)
Refereed 91 papers for journals including *JASA* (27 as AE)
Organized and chaired a session on reliability, SRC 2012, Cambridge, MA
Officer, ASA Northwest Ohio Local Chapter, F08-S12
Helped organize the DAE 2003 conference, Chicago, IL

Teaching
STAT 210 (Introductory Statistics for the Social Sciences), NU: 3 quarters (S02 most recent)
STAT 211 (Elementary Statistical Inference), WVU: 1 semester (F16 most recent)
STAT 212 (Elementary Statistical Methods II), BGSU: 9 (F11)
STAT 215 (Introduction to Probability and Statistics), WVU: 6 (F25)
STAT 227 (Introduction to Business Statistics), ISU: 5 (S01)
STAT 312 (Intermediate Statistical Methods), WVU: 4 (F25)
IENG 314 (Advanced Analysis of Engineering Data), WVU: 2 (F17)
STAT 381 (Applied Statistical Methods), UIC: 3 (F03)
STAT 445 (Data Analysis), WVU: 5 (F21)
STAT 461 (Theory of Probability), WVU: 9 (F22)
STAT 462 (Theory of Statistics), WVU: 8 (S23)
STAT 502 (Regression Analysis), BGSU: 5 (F11)

STAT 512 (Statistical Methods 2), WVU: 5 (F14)
STAT 513 (Design of Experiments), WVU: 7 (S22)
STAT 516 (Time Series Analysis), BGSU: 6 (S12)
STAT 601 (Statistics for Managerial Decisions), BGSU: 2 (S11)
STAT 696 (Graduate Seminar), WVU: 1 (F15)

Advising
Committee chair Juan Chen, Ph.D. in Computational Statistics (completed 2017)
Committee member for six additional completed Ph.D.s
Mentored dozens of undergraduate and M.S. students
    Involved in B.S. capstones and M.S. projects
    Many students went on to successful careers in industry, including Disneyland
    Some earned a Ph.D. in Statistics at competitive programs including CMU and Duke

Personal: Married with two children
Statistic: Seven home runs as a college baseball player
Last Update: July 2025