TEXAS STATE VITA

ACADEMIC/PROFESSIONAL BACKGROUND

Name: Qiang Zhao Title: Associate Professor

Educational Background

Degree	Year	University	Major	Thesis/Dissertation
Ph.D.	2004	University of Missouri-Columbia	Statistics	"Nonparametric treatment comparisons for interval-censored failure time data"
M.S.	1999	University of North Florida	Mathematics	"Supplementary p-value rules for Shewhart k-sigma control charts"
B.S.	1984	Southwest Agricultural University, China	Horticulture	

University Experience

Position	**University**	**Dates**
Associate Professor, Department of Mathematics	Texas State University-San Marcos (TXST)	2012-Present
Assistant Professor, Department of Mathematics	Texas State University-San Marcos	2006-2012
Assistant Professor, Department of Mathematics	University of Texas-Pan American (UTPA)	2004-2006

Relevant Professional Experience

Position	**Entity**	**Dates**
Research Associate	Institute of Horticulture, Sichuan Academy of Agricultural Sciences, China	1988-1997
Assistant Agronomist	Extension Station of Horticultural Technology, Chengdu, China	1984-1988

AWARDS AND HONORS

- Certificate of Recognition from Siemens Foundation for mentoring research teams, which won the title of regional finalist (one of six nationwide) in 2102-13 Siemens Competition, Jan. 28, 2013.
- Mathworks Research Mentor Recognition by Texas Mathworks, March 23, 2010.
- 2009 Dean Nominee for the Presidential Award for Excellence in Scholarly/Creative Activities, TXST.
- Research Excellence Award (2008), Department of Mathematics, TXST.

- 2008 Dean Nominee for the Presidential Award for Excellence in Scholarly/Creative Activities, Texas State University.
- Research Excellence Award (2007), Department of Mathematics, TXST.
- Advancement of Science and Technology Award (1990), Third prize, the Government of Sichuan Province, China.

COURSES TAUGHT (2006-present, at TXST)

- MATH 7335 Statistics II (graduate)
- MATH 7325 Statistics I (graduate)
- MATH 5399B Thesis (graduate)
- MATH 5399A Thesis (graduate)
- MATH 5390 Statistics (graduate)
- MATH 5376B Analysis of Variance (graduate)
- MATH 5376A Design and Analysis of Experiments (graduate)
- MATH 5345 Regression Analysis (graduate)
- MATH 5335 Survival Analysis (graduate)
- MATH 5336 Studies in Applied Mathematics
- MTE 5321 Probability and Statistics (graduate)
- MATH 5336 Studies in Applied Mathematics (graduate)
- MATH 5315 Mathematical Statistics (graduate)
- MATH 5305 Advanced Probability and Statistics: Categorical Data Analysis
- MATH 4336 Studies in Applied Mathematics
- MATH 4305 Probability and Statistics
- MATH 3305 Introduction to Probability and Statistics
- MATH 2472 Calculus II
- MATH 2417 Precalculus
- MATH 2328 Elementary Statistics
- MATH 1329 Math for Business and Economics II
- MATH 1319 Math for Business & Economics I

Curriculum Development

- MATH 5376C Survival Analysis (Proposed and taught)
- MATH 5335 Survival Analysis (Converted from Math 5376C)
- MATH 5315 Mathematical Statistics (Proposed and taught)
- MATH 5305 - Categorical Data Analysis (Developed and taught)
- MATH 3306 Introduction to Statistical Methods (Proposed)
- MATH 2428 Elementary Statistics (Proposed, not approved)

GRADUATE THESIS/DISSERTATION COMMITTEES

- Yi Wang, M.S. in Math – Statistics concentration, July 12, 2021- May, 2022. (Committee chair) "Analyzing Cohort Studies with Left-truncated and Interval-censored Data: A New Model-based Linear Rank-type Test".
- Zeliha Bicak, M.S. in Math – Statistics concentration, - July 2020. (Committee member) "Modeling a Causal Relationship between Poisson Processes".
- Ashraf Demian, M.S. in Math, - May 2019. (Committee member) "Assess Three-level-cross-classified Model in LME4 Package".
- Ryan Zamora, M.S. in Math – Statistics concentration, - May 2019. (Committee member) "A New 5-step Perturbation-based Multicollinearity Diagnostics Package.
- Martin Schmidt, M.S. in Applied Mathematics, June 5, 2017 - May 15, 2018. (Committee chair) "Kernel Estimation of Survival Function for Interval-Censored STD Data".
- Jamtsho Jamtsho, M.S. in Applied Mathematics, Jan. 2015-May 2016. (Committee chair) "Estimation of Survival Function for Interval-censored Sexually Transmitted Disease Data".
- William Lake, M.S. in Applied Mathematics, 2015-present (Committee member). "System Using Simple Statistical Tools to Analyze Big Data Sets".
- Jackson Pickett, Ph.D. in Geography, graduated in 2015 (Committee member). "Does Gender Discrimination in Hiring and Promotion Persist in Departments of Geography?".
- Randolf Reiss, M.S. in Mathematics, Aug. 2012-Aug. 2013. (Committee chair) "Eigenvalues and Eigenvectors in Data Dimension Reduction for Regression".
- Rini Oktavia, Ph.D. in Math Education, graduated in 2013. (Committee member) "Identifying Developmental Levels and Learning Trajectories in Statistics for Grade 6-12 Students".
- Research mentor of three teams in Texas Mathworks Honors Summer Math Camp (2008-2010, 2012).

OTHER MENTORING ACTIVITIES

- Research mentor of REU team of three students, June 2020 - July 2020.

"Extending the Log-rank Test for Left-Truncated and Interval-censored Data"

- Research mentor of three teams in Texas Mathworks Honors Summer Math Camp (2008-2010, 2012).

SOFTWARE

- R package *glrt 2.0* (2015), Comprehensive R Archive Network (CRAN).
- R package *glrt 1.0* (2010), Comprehensive R Archive Network (CRAN).

PUBLICAITONS

- Xingqiu Zhao, Ran Duan, Qiang Zhao, and Jianguo Sun (2013), "A New Class of Generalized Log Rank Tests for Interval-censored Failure Time Data", *Computational Statistics and Data Analysis,* 60: 123-131.
- Qiang Zhao (2012), "gLRT - A New R Package for Analyzing Interval-censored Survival Data", *Interval-Censored Time-to-Event Data: Methods and Applications*, CRC Press, 377-396, ISBN: 978-1-4665-0425-7.
- Qiang Zhao (2012), "Disease Survival Rate", *Encyclopedia of Mathematics and Society*, Salem Press, Vol. 1: 311-312, ISBN: 978-1-58765-845-7.
- Byron J. Gao, Obi L. Griffith, Martin Ester, Hui Xiong, Qiang Zhao, and Steven J. M. Jones (2012), "On the Deep Order-preserving Submatrix Problem: A Best-effort Approach", *IEEE Transactions on Knowledge and Data Engineering*, 24 (2): 309-325.
- Liuquan Sun and Qiang Zhao (2010), "A Class of Mean Residual Life Regression Models with Censored Survival Data", *Journal of Statistical Planning and Inference*, 140 (11): 3425-3441.
- Xingqiu Zhao, Qiang Zhao, Jianguo Sun, and Jong S. Kim (2008), "Generalized Logrank Tests for Partly Interval-censored Failure Time Data", *Biometrical Journal*, 50 (3): 375-385.
- "A fresh look at shifting cultivation: Fallow length an uncertain indicator of productivity" (with Ole Mertz et al., 2008), *Agricultural System*, 96: 75-84.
- Qiang Zhao and Jianguo Sun (2007), "Cox Survival Analysis of Microarray Gene Expression Data Using Correlation Principal Component Regression", *Statistical Applications in Genetics and Molecular Biology*: Vol. 6: Iss. 1, Article 16.
- Qiang Zhao and Jianguo Sun (2006), "Semiparametric and Nonparametric Analysis of Recurrent Events with Observation Gaps", *Computational Statistics and Data Analysis,* 51: 1924-1933.
- Jianguo Sun, Qiang Zhao, and Xingqiu Zhao (2005), "Generalized Log-rank Test for Interval-Censored Data", *Scandinavian Journal of Statistics*, 32: 45-57.
- Qiang Zhao and Jianguo Sun (2004), "Generalized Log-rank Test for Mixed-Censored Failure Time Data", *Statistics in Medicine*, 23: 1621-1629.

- Sun, J., Zhao, Q. and Rai, S. N. (2002), "A Nonparametric Comparison of Tumor Incidences with Intermediate Lethality and Different Death Rates", *In Recent Advances in Statistical Methods*, ed. Y. P. Chaubey, World Scientific Publishing Inc., London, 296-303, ISBN: 1-86094-333-0.
- Shibi Hu and Qiang Zhao (1998), "Studies on the absorption, distribution, storage and redistribution of ^{86}Rb in 'Kyoho' grapevine", *Acta Horticulturae Sinica*, 25 (1): 6-10.
- Shibi Hu and Qiang Zhao (1998), "Study on the Relationship Between the Translocation of ^{14}C-assimilates and the Shedding of Flowers and Fruitlets in 'Kyoho' Grape from Prebloom till Fruitlet Shedding Stage", *Journal of Agricultural University of Hebei*, 10: 55-60.
- Shibi Hu and Qiang Zhao (1998), "The cultural techniques for 'Kyoho' grapevine in Sichuan Basin", *Journal of Sichuan Agricultural Science and Technology*, 3: 38-39.
- Qiang Zhao and Shibi Hu (1997), "Effect of several kinds of plant growth regulators on improving the fruit setting in 'Kyoho' grapevine", *Southwest China Journal of Agricultural Sciences*, 10 (3): 116-120.

PRESENTATIONS

- R/RStudio Workshop to Texas State REU Students, NSF, June 25, 2020.
- "Estimation of the Survival Function of Censored STD Data", Graduate Program Expo, Department of Mathematics, Nov. 2, 2018.
- “Estimation of Survival Function for Interval-censored STD Data with Auxiliary Diaries”, 2017 Lifetime Data Science Conference, University of Connecticut, Storrs, May 25-27, 2017. Invited.
- "Mean Residual Life Regression Models with Censored Survival Data”, Discrete Math Seminar, Texas State University, San Marcos, Oct. 28, 2011.
- "A Class of Mean Residual Life Regression Models with Censored Survival Data”, Winemiller Conference on Survival Analysis and Its Applications, Columbia, Missouri, Oct. 17, 2008. Invited.
- "Survival Analysis of Microarray Gene Expression Data Using Correlation Principal Component Regression", The third Erich L. Lehmann Symposium, Houston, Texas, May 16-19, 2007.
- "Cox Survival Analysis of Microarray Gene Expression Data", The 5th International Conference on Differential Equations and Dynamical Systems: Statistical Analysis and Computations for Modern Dynamic Data, Edinburg, Texas, Dec. 16-18, 2006. Invited.
- “Nonparametric Comparisons of Survival Functions for Interval-censored Failure Time Data”, invited, California State University-Pomona, Feb. 21, 2006.
- “The Comparison of Tumor Incidences with Intermediate Lethality and Different Death Rates”, Applied Mathematics Seminar, UTPA, Nov. 3, 2004.
- “Nonparametric treatment comparisons for Interval-censored Failure Time Data”, University of South Florida, Mar. 25, 2004.

- "Nonparametric Comparisons of Survival Functions for Mixed Interval-censored Failure Time Data", UTPA, Jan. 2004.
- "Survival analysis for Interval-censored Failure Time Data", State University of West Georgia, Mar. 10, 2004.
- "Generalized Log- rank Test for Interval-censored Failure Time Data ", 2003 American Statistical Association Joint Meeting, San Francisco, CA, Aug. 4, 2003.
- "Supplementary p-value Rules for Shewhart k-sigma Control Charts", 1999 Florida Chapter Meeting of American Statistical Association, Gainsville, Florida, Feb. 12-13, 1999.

GRANTS

- REU Site: Algebra, Combinatorics, and Statistics, NSF, $305,417, 2022 – 2025. (Research mentor)
- REU Site: Algebra, Combinatorics, and Statistics, NSF, $269,696, 2018 – 2021. (Research mentor)
- Library Research Grant (2009-2010), TXST, PI. "Comparing Treatments and Improving Survival Based on Censored Data". Amount: $1870.
- Travel support for attending ENAR 2008 Workshop for Junior Researchers, sponsored by the National Cancer Institute. Amount: $600.
- Research Enhancement Program (REP) Grant Award (FY2007), TXST, PI. "The Cox Regression of Microarray Gene Expression Data Using Correlated Principal Component Analysis". Amount: $8,000.
- NIH SCORE, 2006, PI, "Nonparametric Treatment Comparisons for Interval-censored Survival Data", UTPA. Amount: $100,000.
- Faculty Research Council Grant Award (2005-2006), UTPA, PI, "Survival Analysis of Microarray Gene Expression Data Using Correlation Principle Component Regression". Amount: $2,540.
- Undergraduate Research Initiative Grand Award (2005-2006), UTPA, supervisor, "Evaluation of Methods for Estimating Survival Function for Doubly Interval-censored Data". Amount: $1,500.
- Faculty Development Council Grant Award (2005-2006), UTPA. Amount: $2,000.
- Faculty Development Council Grant Award (2004-2005), UTPA. Amount: $1,500.

PROFESSIONAL SERVICE

- Member of Editorial Board for *Pacific Journal of Applied Mathematics*, 2006-2020.
- Member of Editorial Board for *International Journal of Mathematics and Statistics*, 2015-2018.
- Member of Editorial Board for *Studies in Mathematical Studies*, 2011-2014.
- Reviewer for the following journals or publishers:

- *Analytical Chemistry Insights*
- *Biometrical Journal*
- *Biometrics*
- *BMC-Bioinformatics*
- *Communications in Statistics – Simulation and Computation*
- *Communications in Statistics – Theory and Methods*
- *Computational Statistics and Data Analysis*
- *Human Heredity*
- *Journal of Applied Statistics*
- *Lifetime Data Analysis*
- *Nonparametric Statistics*
- *SIAM Undergraduate Research Online*
- *Statistical Applications in Genetics and Molecular Biology*
- *Statistics and Probability Letters*
- *Statistics in Medicine*
- *John Wiley and Sons, Inc.*