

Yili Hong

Department of Statistics
 213 Hutcheson Hall, Virginia Tech
 Blacksburg, VA, 24061, United States
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Education

- Ph.D. Iowa State University, Statistics 08/2009
- M.S. Iowa State University, Statistics 12/2005
- B.S. University of Science and Technology of China (USTC), Statistics 07/2004

Current Research Interests

- Statistical Computing for Big Data; Applications in Health Care
- Reliability Analysis; Business and Industrial Analytics
- Survival Analysis, Longitudinal Data Analysis; Biomedical Statistics
- Spatial Data Analysis; Epidemiology

Working History

- Associate Professor, Department of Statistics, Virginia Tech 08/2014-*present*
- Assistant Professor, Department of Statistics, Virginia Tech 08/2009-07/2014
- Statistical Consultant, GE Global Research Center 08/2010-12/2010
- Research Assistant, Department of Statistics, Iowa State University 08/2005-07/2009
- Lab Instructor, Department of Statistics, Iowa State University 08/2007-12/2007
- Summer Intern, Procter & Gamble Pharmaceuticals, Mason, OH 05/2007-08/2007
- Teaching Assistant, Department of Statistics, Iowa State University 08/2004-07/2005

Awards and Honors

- The Stan Ofsthun Award for the best RAMS paper in reliability engineering, Society of Reliability Engineering 01/2015
- Best Reliability Paper in Quality Engineering, ASQ Reliability Division 05/2014
- ISI elected member, International Statistical Institute (ISI) 03/2014
- NISS/ASA Best y-BIS Paper Award, ISBIS 06/2012
- DuPont Young Professor Award, DuPont 06/2011
- The Zaffarano Prize for Graduate Student Research, Iowa State University 04/2010

- George W. Snedecor Award in Statistics, Iowa State University 04/2007
- Holly C. & E. Beth Fryer Award in Statistics, Iowa State University 08/2006
- Graduate Research Excellence Award, Iowa State University 08/2009
- The Laha Travel Award to the Joint Statistical Meetings,
Institute of Mathematical Statistics 08/2009
- Student Travel Award, the 2008 Spring Research Conference
on Statistics in Industry and Technology, Atlanta, GA 05/2008
- Alumni Scholarship, Iowa State University 08/2004
- Excellent Undergraduate Thesis Award, USTC 07/2004
- Excellent Undergraduate Research Program Award, USTC 01/2004

Editorial Activities

- *Journal of Quality Technology*, Co-guest Editor, 2015-2018,
for a special issue on Big Data in reliability.
- *Technometrics*, Associate Editor, 2013-2016, 2016-2019 (second term).

Research Grants

- Co-PI for “Health Consequences of Disaster-Related Disruptions in Home and Community-Based Supports,” DHHS-ASPR, \$172,887, 02/15/2015-02/14/2017, (PI: Laura Sands; other co-PI: Karen Roberto).
- Co-Investigator for “The Effects of Light vs Deep anesthesia on Postoperative Cognitive Outcomes,” NIH-R21, \$37,295, 06/1/15-05/31/17, (PI: Laura Sands; sub-contract from UCSF).
- PI for “Reliability Prediction Based on Dynamic Data Collected with Modern Technology,” NSF-CMMI-MES, \$210,234, 07/01/2011-06/30/2014.
- PI for “Statistical Methods for Modern Reliability Data,” DuPont Young Professor Grant, \$75,000, 08/15/2011-08/14/2014.
- Co-PI for “Environmental Variability and Disease Emergence: Spatial Patterns of Lyme Disease Emergence in Virginia,” NSF-BCS-GSS, \$199,998, 09/15/2011-08/31/2013, (PI: Korine Kolivras; other co-PIs: James Campbell, David Gaines, Stephen Prisley).

Pending Grants

- Co-PI for “CSR: Large: VarSys: Managing Variability in High-performance Computing Systems”, NSF-CNS, \$3,000,000, 06/01/2016-05/31/2021, (PI: Kirk Cameron; other co-PIs: Ali Butt, Layne Watson, Danfeng Yao).
- Co-PI for “Data-driven Modeling and Optimization for Energy-Smart Manufacturing,” NSF-CMMI, \$419,226, 09/01/2016-08/31/2019 (PI: Ran Jin; Co-PIs: Sam D. Tajbakhsh, Xinwei Deng).

Publications

Peer-reviewed Journal Articles

Student co-authors are underlined

1. King, C., **Hong, Y.**, DeHart, S. P., DeFeo, P. A., and Pan, R. (2016), Planning Fatigue Tests for Polymer Composites, *Journal of Quality Technology*, tentatively accepted.
2. Wang, X., Ye, Z., **Hong, Y.**, and Tang, L. C. (2016), Analysis of Field Return Data with Failed-But-Not-Reported Events, *Technometrics*, tentatively accepted.
3. Bedair, K. **Hong, Y.**, Li, J., and Al-Khalidi, H. R. (2016), Multivariate Frailty Models for Multi-type Recurrent Event Data and an Application to Cancer Prevention Trial, *Computational Statistics and Data Analysis*, in press, DOI: 10.1016/j.csda.2016.01.018.
4. Xu, Z., **Hong, Y.**, Meeker, W. Q., Osborn, B. E., and Illouz, K. (2015), A Multi-level Trend-renewal Process for Modeling Systems with Recurrence Data, *Technometrics*, tentatively accepted.
5. Thapa, R., Burkhart, H. E., **Hong, Y.**, and Li, J. (2015), Modeling Loblolly Pine (*Pinus taeda L.*) Clustered Survival Time with Time-dependent Covariates and Shared Frailties, *Journal of Agricultural, Biological, and Environmental Statistics*, in press, DOI: 10.1007/s13253-015-0217-2.
6. Li, J., **Hong, Y.**, Thapa, R., and Burkhart, H. E. (2015), Survival Analysis of Loblolly Pine Trees with Spatially Correlated Random Effects, *Journal of the American Statistical Association*, Vol. 110, pp. 486-502.
7. Rubio, F. J. and **Hong, Y.** (2015), Survival and Lifetime Data Analysis with a Flexible Class of Distributions, *Journal of Applied Statistics*, in press, DOI: 10.1080/02664763.2015.1120710.
8. Liu, X. and **Hong, Y.** (2015), Modeling Correlated Railroad Crude Oil Tank Car Releases Using a Generalized Binomial Model, *Accident Analysis and Prevention*, Vol. 84, pp. 20-26.
9. **Hong, Y.**, Duan, Y., Meeker, W. Q., Stanley, D. L., and Gu, X. (2015), Statistical Methods for Degradation Data with Dynamic Covariates Information and an Application to Outdoor Weathering Data, *Technometrics*, Vol. 57, pp. 180-193.
10. **Hong, Y.**, King, C., Zhang, Y., and Meeker, W. Q. (2015), Bayesian Life Test Planning for Log-Location-Scale Family of Distributions, *Journal of Quality Technology*, Vol. 47, pp. 336-350.
11. Seukep, S. E., Kolivras, K. N., **Hong, Y.**, Li, J., Prisley, S. P., Campbell, J. B., Gaines, D. N., and Dymond, R. L. (2015), An Examination of the Demographic and Environmental Variables Correlated with Lyme Disease Emergence in Virginia, *EcoHealth*, DOI: 10.1007/s10393-015-1034-3.
12. Xu, Z., **Hong, Y.**, and Jin, R. (2015), Nonlinear General Path Models for Degradation Data with Dynamic Covariates, *Applied Stochastic Models in Business and Industry*, in press.

13. **Hong, Y.**, Li, M., and Osborn, B. (2015), System Unavailability and Cost Analysis Based on Window-Observed Recurrent Event Data, *Applied Stochastic Models in Business and Industry*, Vol. 31, pp. 122-136.
14. Xu, Z., **Hong, Y.**, and Meeker, W. Q. (2015), Assessing Risk of a Serious Failure Mode Based on Limited Field Data, *IEEE Transactions on Reliability*, Vol. 64, pp. 51-62.
15. Li, J., Kolivras, K. N., **Hong, Y.**, Duan, Y., Seukep, S. E., Prisley, S. P., Campbell, J. B., and Gaines, D. N. (2014), Spatial and Temporal Emergence Pattern of Lyme Disease in Virginia, *The American Journal of Tropical Medicine and Hygiene*, Vol. 91, pp. 1166-1172.
16. **Hong, Y.** and Meeker, W. Q. (2014), Confidence Interval Procedures for System Reliability and Applications to Competing Risks Models, *Lifetime Data Analysis*, Vol. 20, pp. 161-184.
17. Meeker, W. Q. and **Hong, Y.** (2014), Reliability Meets Big Data: Opportunities and Challenges (with discussion), *Quality Engineering*, Vol. 26, pp. 102-116.
18. Ye, Z., **Hong, Y.**, and Xie, Y. (2013), How do Heterogeneities in Operational Environments Affect Field Failures?, *The Annals of Applied Statistics*, Vol. 7, pp. 2249-2271.
19. **Hong, Y.** and Meeker, W. Q. (2013), Field-Failure Predictions Based on Failure-time Data with Dynamic Covariate Information, *Technometrics*, Vol. 55, pp. 135-149.
20. Yang, Q., Zhang, N., and **Hong, Y.** (2013), Statistical Reliability Analysis of Repairable Systems with Dependent Component Failures under Partially Perfect Repair Assumption, *IEEE Transactions on Reliability*, Vol. 62, pp. 490-498.
21. **Hong, Y.** (2013), On Computing the Distribution Function for the Poisson Binomial Distribution, *Computational Statistics and Data Analysis*, Vol. 59, pp. 41-51.
22. Yang, Q., **Hong, Y.**, Chen, Y., and Shi, J. (2012), Failure Profile Analysis of a Single Repairable System Using Trend-renewal Process, *IEEE Transactions on Reliability*, Vol. 61, pp. 180-191.
23. Al-Khalidi, H. R., **Hong, Y.**, Fleming, T. R., and Therneau, T. (2011), Insights on the Robust Standard Error Under Recurrent Events Model, *Biometrics*, Vol. 67, pp. 1564-1572.
24. **Hong, Y.** and Meeker, W. Q. (2011), The Importance of Identifying Different Components of a Mixture Distribution in the Prediction of Field Returns. *Applied Stochastic Models in Business and Industry*, Vol. 27, pp. 280-289.
25. **Hong, Y.**, Ma, H., and Meeker, W. Q. (2010), A Tool for Evaluating Time-Varying-Stress Accelerated Life Test Plans with Log-Location-Scale Distributions. *IEEE Transactions on Reliability*, Vol. 59, pp. 620-627.
26. **Hong, Y.** and Meeker, W. Q. (2010), Field-Failure and Warranty Prediction Using Auxiliary Use-rate Data. *Technometrics*, Vol. 52, pp. 148-159.
27. **Hong, Y.**, Escobar, L. A., and Meeker, W. Q. (2010), Coverage Probabilities of Simultaneous Confidence Bands and Regions for Log-Location-Scale Distributions, *Statistic & Probability Letters*, Vol. 80, pp. 733-738.

28. Escobar, L. A., **Hong, Y.**, and Meeker, W. Q. (2009), Simultaneous Confidence Bands and Regions for Log-Location-Scale Distributions with Censored Data, *Journal of Statistical Planning and Inference*, Vol. 139, No. 9, pp. 3231-3245.
29. **Hong, Y.**, Meeker, W. Q., and McCalley, J. D. (2009), Prediction Intervals for Remaining Life of Power Transformers Based on Left Truncated and Right Censored Lifetime Data, *The Annals of Applied Statistics*, Vol. 3, No. 2, pp. 857-879.
30. Meeker, W. Q., Escobar, L. A., and **Hong, Y.** (2009), Using Accelerated Life Tests Results to Predict Product Field Reliability, *Technometrics*, Vol. 51, No. 2, pp. 146-161.
31. **Hong, Y.**, Meeker, W. Q., and Escobar, L. A. (2008), The Relationship Between Confidence Intervals for Failure Probabilities and Life Time Quantiles, *IEEE Transactions on Reliability*, Vol. 57, No. 2, pp. 260-266.
32. **Hong, Y.**, Meeker, W. Q., and Escobar, L. A. (2008), Avoiding Problems with Normal Approximation Confidence Intervals for Probabilities, *Technometrics*, Vol. 50, No. 1, pp. 64-68.

Peer-reviewed Conference Proceedings, Book Chapters, Encyclopedia Articles

33. Zhang, Y., Liao, H, and **Hong, Y.** (2015), Planning Accelerated Destructive Degradation Tests with Initiation Time, *Reliability and Maintainability Symposium (RAMS), 2015 Annual*.
34. Meeker, W. Q., **Hong, Y.**, and Escobar, L. A. (2011), Degradation Models and Data Analyses, *Encyclopedia of Statistical Sciences*.
35. Meeker, W. Q., **Hong, Y.**, and Escobar, L. A. (2011), The Failure-based Paradigm, *The Wiley Encyclopedia of Operations Research and Management Science*.
36. Meeker, W. Q., **Hong, Y.**, and Escobar, L. A. (2011), The Condition-based Paradigm, *The Wiley Encyclopedia of Operations Research and Management Science*.
37. **Hong, Y.** and Meeker, W.Q. (2010), Field Failure Prediction Using Dynamic Environmental Data. Chapter 16 in *Mathematical and Statistical Methods in Reliability. Applications to Medicine, Finance and Quality Control* (Eds. N. Balakrishnan, M. Nikulin, V. Rykov), Birkhauser: Boston.
38. McCalley, J. D., Honavar, V., Ryan, S. M., Meeker, W. Q., Qiao, D., Roberts, R. A., Li, Y., Pathak, J., Ye, M., **Hong, Y.** (2007), Integrated Decision Algorithms for Auto-steered Electric Transmission System Asset Management, *International Conference on Computational Science (1)*, pp. 1066-1073.

Other Contributions

39. Meeker, W. Q. and **Hong, Y.** (2014), Rejoinder for “Reliability Meets Big Data: Opportunities and Challenges,” *Quality Engineering*, Vol. 26, pp. 127-129.

40. **Hong, Y.** and King, C. (2014), Invited discussion on “EM-based Likelihood Inference for Some Lifetime Distributions Based on Left Truncated and Right Censored Data and Associated Model Discrimination” by N. Balakrishnan and D. Mitra, *South African Statistical Journal*, Vol. 48, 181-182.
41. **Hong, Y.** and Xu, Z. (2014), Invited discussion on “Methods For Planning Accelerated Repeated Measures Degradation Tests” by B. Weaver and W. Q. Meeker, *Applied Stochastic Models in Business and Industry*, Vol. 30, pp. 672-673.

Papers under Review

42. Duan, Y., **Hong, Y.**, Meeker, W. Q., Stanley, D. L., and Gu, X. (2015), Degradation Prediction of Field-Exposed Units Based on Laboratory Accelerated Test Data, *The Annals of Applied Statistics*, under revision.
43. King, C., **Hong, Y.**, Xie, Y., Van Mullekom, J. H., DeHart, S. P., and DeFeo, P. A. (2015), A Comparison of Traditional and Maximum Likelihood Approaches to Estimating Thermal Index for Polymeric Materials, *Journal of Quality Technology*, revision submitted.
44. King, C., **Hong, Y.**, and Meeker, W. Q. (2015), Product Component Genealogy Modeling and Field-Failure Prediction, *Quality and Reliability Engineering International*, minor revision submitted.
45. Liu, X. and **Hong, Y.** (2015), Estimating the Variance of Risk Estimator and Its Effect on Railroad Hazardous Materials Routing Decision, submitted to *Accident Analysis and Prevention*.
46. Yang, Q., **Hong, Y.**, Zhang, N., and Li, J. (2015), Trend Partial-Renewal Process Model for Analysis of Repairable Systems with Multi-type Events, submitted to *IEEE Transactions on Reliability*.
47. Xie, Y., **Hong, Y.**, Escobar, L. A., and Meeker, W. Q. (2015), Simultaneous Prediction Interval for (Log-)Location-Scale Family of Distributions, submitted to *Journal of Statistical Computation and Simulation*.
48. Yuan, M., Tang, C., **Hong, Y.**, and Yang, J. (2015), Disentangling and Assessing the Uncertainties in Default Prediction, submitted to *Journal of the American Statistical Association*.
49. Xie, Y., King, C., **Hong, Y.**, and Yang, Q. (2015), Semiparametric Models for Accelerated Destructive Degradation Test Data Analysis, under revision for *Technometrics*.
50. Yuan, M., **Hong, Y.**, Escobar, L. A., and Meeker, W. Q. (2015), Tolerance Interval for (Log) Location-Scale Family of Distributions, submitted to *Quality Technology and Quantitative Management*.
51. Khosrowpour, A., Xie, Y., Taylor, J. E., and **Hong, Y.** (2015), One Size Does Not Fit All: Establishing the Need for Targeted Eco-Feedback, submitted to *Journal of Applied Energy*.

Papers in Progress

52. Xie, Y., Li, J., Deng, X., **Hong, Y.**, and Kolivras, K. N. (2016), Spatial Variable Selection via Elastic Net and An Application to Virginia Lyme Disease Case Data, in progress.
53. Bedair, K. **Hong, Y.**, Li, J., and Al-Khalidi, H. R. (2016), Copula-Based Semiparametric Multivariate Frailty Models for the Multi-type recurrent Event Data: Application on Cancer Data, in progress.
54. Lee, I. and **Hong, Y.** (2016), Sequential Test Planning for Polymer Composites, in progress.
55. Duan, Y., Li, J., **Hong, Y.**, and Kolivras, K. N. (2016), A Divide-Recombine Approach for Statistical Prediction of Virginia Lyme Disease Emergence Based on Spatial-temporal Counts Data, in progress.
56. Yuan, M., **Hong, Y.**, and Yang, Q. (2016), Prediction of Medical Expenses based on Large-scale Health Care Data, in progress.
57. **Hong, Y.** and Yang, Q. (2016), Clustering with Variable Selection Based on Multivariate Functional Data, in progress.
58. Xie, Y. and **Hong, Y.** (2016), Statistical Methods for Thermal Index Estimation Based on Accelerated Destructive Degradation Test Data, A book chapter for “Statistical Modelling for Degradation Data” by Springer, in progress.
59. Xie, Y. and **Hong, Y.** (2016), ADDT: An R Package for Analysis of Accelerated Destructive Degradation Test Data, A book chapter for “Statistical Modelling for Degradation Data” by Springer, in progress.

Book In Progress

60. **Hong, Y.**, Meeker, W. Q., Escobar, L. A., and Pascual, F. G. (2018), *Advanced Statistical Methods for Reliability Analysis*, Wiley.

Software Development

1. **Hong, Y.**, Xie, Y., and Xu, Z. (2014). SPREDA: Statistical Package for Reliability Data Analysis. R package version 1.0.
2. **Hong, Y.**, Xie, Y., and King, C. B. (2014). ADDT: A package for analysis of accelerated destructive degradation test data. R package version 1.0.
3. **Hong, Y.** (2013). poibin: The Poisson Binomial Distribution. R package version 1.2.

Presentations

Those with an “” are invited talks.*

- 1.* “Disentangling and Assessing the Uncertainties in Default Prediction,”
IASC-ARS, Singapore 12/2015
- 2.* “Statistical Methods for Degradation Data with Dynamic Covariates and an
Application to Outdoor Weathering Prediction,” IASC-ARS, Singapore 12/2015

- 3.* *“Semiparametric Models for Accelerated Destructive Degradation Test Data Analysis,”* ISE, NUS, Singapore 12/2015
- 4.* *“Semiparametric Models for Accelerated Destructive Degradation Test Data Analysis,”* ISI2015, Rio, Brazil 07/2015
- 5.* *“Multivariate Frailty Models for Multi-type Recurrent Event Data and an Application to Cancer Prevention Trial,”* ISI2015, Rio, Brazil 07/2015
- 6.* Discussion on *“The Role of Statistics in Modern Reliability,”* ISI2015, Rio, Brazil 07/2015
- 7.* *“Reliability Meets Big Data: Opportunities and Challenges,”* Tsinghua University, Beijing, China 06/2015
- 8.* *“Survival Analysis of Loblolly Pine Trees with Spatially Correlated Random Effects,”* Peking University, Beijing, China 06/2015
- 9.* *“Spatio-Temporal Modeling of Degradation Data Collected Over a Spatial Region,”* MMR 2015, Tokyo, Japan 06/2015
- 10.* *“Using Degradation Data with Dynamic Covariates to Do Online Monitoring,”* MMR 2015, Tokyo, Japan 06/2015
- 11.* *“Invited Panel Discussion on Fostering Successful Collaboration among Academia, Government, and Industry,”* SRC 2015, Cincinnati, OH 05/2015
- 12.* *“Reliability Meets Big Data: Opportunities and Challenges,”* Pacific Rim Statistics Conference on Production Engineering, Shanghai, China 12/2014
- 13.* *“Statistical Modeling and Analysis of Wavelength Effect On Damage Based EVA Data,”* NIST, Gaithersburg, MD 12/2014
- 14.* *“Service Life Prediction of Field-Exposed Units Based on Laboratory Accelerated Degradation Test Data,”* NIST, Gaithersburg, MD 12/2014
- 15.* *“Statistical Methods for Degradation Data with Dynamic Covariates and an Application to Outdoor Weathering Prediction,”* Technometrics invited session at INFORMS, San Francisco, CA 11/2014
- 16.* *“Reliability Meets Big Data: Opportunities and Challenges,”* ISE Department, Virginia Tech, Blacksburg, VA 10/2014
- 17.* *“Planning Fatigue Tests for Polymer Composites,”* Plenary talk at International Conference for Quality and Applied Statistics, Lima, Peru 08/2014
- 18.* *“Statistical Methods for Degradation Data with Dynamic Covariates and an Application to Outdoor Weathering Prediction,”* AMSS, China Academia of Sciences, Beijing, China 07/2014
- 19.* *“Planning Fatigue Tests for Polymer Composites,”* NCTS Workshop on Recent Advances on Big Data and Industrial Statistics, National Tsing Hua University, Hsin-Chu, Taiwan 06/2014

- 20.* *“Planning Fatigue Tests for Polymer Composites,”* DuPont, Wilmington, DE 06/2014
- 21.* *“Service Life Prediction Based on Accelerated Degradation Test Data from Laboratory and Field ,”* NIST, Gaithersburg, MD 04/2014
- 22.* *“Degradation Data Analysis Using Nonlinear Mixed-effects Model with Shape-restricted Regression Splines,”* INFORMS, Minneapolis, MN 11/2013
- 23.* *“Field Failure Prediction Based on Multi-Level Repair and System Usage Information,”* INFORMS, Minneapolis, MN 11/2013
- 24.* *“Accelerated Destructive Degradation Test: Data Analysis and Test Planning,”* INFORMS, Minneapolis, MN 11/2013
- 25.* *“Accelerated Destructive Degradation Test: Data Analysis and Test Planning,”* ENBIS, Ankara, Turkey 09/2013
- 26.* *“Field Failure Prediction Based on Multi-Level Repair and System Usage Information,”*
International Statistical Institute Satellite Meeting on Statistics
in Business, Industry and Risk Management, Hong Kong 08/2013
27. *“Using Spatial Poisson Regression to Investigate Virginia Lyme Disease Emergence,”*
The 2013 WNAR Conference, Los Angeles, CA 06/2013
- 28.* *“Accelerated Destructive Degradation Test: Data Analysis and Test Planning,”*
DuPont, Richmond, VA 05/2013
- 29.* *“System Unavailability Analysis Based on Window-Observed Recurrent Event,”*
NCTS Industrial Statistics Research Group Seminar,
National Tsing Hua University, Hsin-Chu, Taiwan 12/2012
- 30.* *“Statistical Methods for Degradation Data with Dynamic Covariates and an Application to Outdoor Weathering Prediction,”* INFORMS, Phoenix, AZ 11/2012
- 31.* *“Statistical Methods for Degradation Data with Dynamic Covariates and an Application to Outdoor Weathering Prediction,”* NIST, Gaithersburg, MD 10/2012
32. *“Photodegradation Path Modeling and Analysis with Nonlinear Mixed Models,”*
JSM, San Diego, CA 08/2012
- 33.* *“Photodegradation Path Modeling and Analysis with Nonlinear Mixed Models,”*
NCTS Workshop on Industrial Statistics and Its Applications,
National Tsing Hua University, Hsin-Chu, Taiwan 06/2012
- 34.* *“Field-Failure Predictions Based on Failure-time Data with Dynamic Covariate Information,”* the 2nd ICISE, Tainan, Taiwan 06/2012
- 35.* *“A Special Non-homogeneous Poisson Process Estimation for Window-Observation Repairable Systems,”* ISBIS, Bangkok, Thailand 06/2012
- 36.* *“Photodegradation Path Modeling and Analysis with Nonlinear Mixed Models,”* QPRC, Long Beach, CA 06/2012
- 37.* *“A Tool for Evaluating Time-Varying-Stress Accelerated Life Test Plans With Log-Location-Scale Distributions,”* INFORMS, Charlotte, NC 11/2011

- 38.* “*Statistical Methods for Modern Reliability Data*,” DuPont, Wilmington, DE 10/2011
39. “*Service Life Prediction Using Accelerated Degradation Data from Laboratory Testing and Outdoor Weathering Data*,” JSM, Miami Beach, FL 08/2011
- 40.* “*A class of models for degradation data with dynamic covariates*,”
The Seventh International Conference on MMR, Beijing, China 06/2011
- 41.* “*Degradation Models, Data Analyses and an Application in Service Life Prediction*,” QPRC, Roanoke, VA 06/2011
- 42.* “*Insights on the Robust Variance Estimator under Recurrent-events Model*,”
Biostatistics Department, University of Pennsylvania, Philadelphia, PA 09/2010
43. “*Field-Failure and Warranty Prediction Using Auxiliary Use-rate Data*,”
the Joint Statistical Meetings (JSM), Vancouver, Canada 08/2010
44. “*Field failure prediction using dynamics environmental data*,”
New Researcher Conference, UBC, Vancouver, Canada 07/2010
- 45.* “*Semiparametric Modeling for Photodegradation Paths with Dynamic Environmental Information*,” International Conference on Statistical
Analysis of Complex Data, Kunming, China 07/2010
- 46.* “*Prediction Intervals for Remaining Life of Power Transformers Based on Left Truncated and Right Censored Lifetime Data*,”
National University of Singapore, Singapore 06/2010
- 47.* “*Field-Failure and Warranty Prediction Using Auxiliary Use-rate Data*,”
Nanyang Technological University, Singapore 06/2010
- 48.* “*Field-Failure and Warranty Prediction Using Auxiliary Use-rate Data*,”
the Joint Research Conference, NIST, Gaithersburg, MD 05/2010
- 49.* “*Prediction Intervals for Remaining Life of Power Transformers Based on Left Truncated and Right Censored Lifetime Data*,” ISE Department,
Virginia Tech, Blacksburg, VA 03/2010
50. “*Prediction Intervals for Remaining Life of Power Transformers Based on Left Truncated and Right Censored Lifetime Data*,” the Joint Statistical
Meetings (JSM), Washington, DC 08/2009
51. “*The Importance of Identifying Different Components of Mixture Distribution in Reliability Predictions*,” the Joint Statistical Meetings (JSM), Denver, CO 08/2008
52. “*Prediction Intervals for Remaining Life of Power Transformers Based on Left Truncated and Right Censored Lifetime Data*,” 2008 Spring Research
Conference on Statistics in Industry and Technology, Atlanta, GA 05/2008
53. “*Normal Approximations for Computing Confidence Intervals for Log-Location-Scale Distribution Probabilities*,” the Joint Statistical
Meetings (JSM), Seattle, WA 08/2006

Teaching

- **Associate Professor**, Department of Statistics, Virginia Tech 08/2014-*present*
 - Linear Models Theory (Stat 5124, Spring 2015)
 - Longitudinal Data Analysis (Stat 5694, Spring 2015)
 - Biometry II (Stat 5606, Spring 2015)
 - Survival Analysis (Stat 5684, Fall 2014)
- **Assistant Professor**, Department of Statistics, Virginia Tech 08/2009-07/2014
 - Theoretical Statistics II (Stat 4106, Spring 2014)
 - Linear Models Theory (Stat 5124, Spring 2014)
 - Longitudinal Data Analysis (Stat 5694, Fall 2013)
 - Linear Models Theory (Stat 5124, Spring 2013)
 - Reliability and Survival Analysis (Stat 5454, Fall 2012)
 - Linear Models Theory (Stat 5124, Spring 2012)
 - Longitudinal Data Analysis (Stat 5594, Fall 2011)
 - Linear Models Theory (Stat 5124, Spring 2011)
 - Survival Analysis (Stat 5454, Fall 2010)
 - Longitudinal Data Analysis (Stat 5594, Spring 2010)
 - Survival Analysis (Stat 5454, Fall 2009)
- **Lab Instructor**, Department of Statistics, Iowa State University 08/2007-12/2007
 - Introduction to Business Statistics II (Stat 326, Fall 2007)
- **Teaching Assistant**, Department of Statistics, Iowa State University 08/2004-07/2005
 - Theory of Probability and Statistics (Stat 447, Summer 2005)
 - Introduction to Business Statistics I (Stat 226, Fall 2004, Spring 2005, Summer 2005)
 - Introduction to Statistics for Engineers (Stat 105, Fall 2004, Spring 2005)

Student Advising

- Current PhD advisor for
 - Yimeng Xie (expected Spring 2016), dissertation research on variable selection for spatial data and semiparametric models for degradation data
 - Miao Yuan (expected Spring 2016), dissertation research on default prediction and uncertainty quantification
- Former PhD advisor for
 - Yuanyuan Duan, Spring 2014, co-advising with Jie Li, dissertation on “Statistical Predictions Based on Accelerated Degradation Data and Spatial Counts Data”, Senior Research Statistician at AbbVie.

- Khaled Bedair, Fall 2014, dissertation on “Statistical Methods for Multi-type Recurrent Event Data Based on Monte Carlo EM Algorithms and Copula Frailties”, Statistician/Epidemiologist at The University of Dundee, UK.
- Zhibing Xu, Fall 2014, dissertation on “Statistical Modeling and Predictions Based on Field Data and Dynamic Covariates”, Econ & Fin Modeling Sr, Freddie Mac.
- Caleb King, Spring 2015, dissertation on “Bridging the Gap: Some Problems in Model Specification, Estimation, and Optimal Design from Reliability and Lifetime Data”, Research Statistician at Sandia National Laboratories.
- Served on 15 PhD and 27 MS committees for graduate students.

Professional Service

- Referee for
 - *Technometrics*
 - *IIE Transactions*
 - *IEEE Transactions on Reliability*
 - *Naval Research Logistics*
 - *Journal of Statistical Planning and Inference*
 - *Journal of Statistical Computation and Simulation*
 - *Journal of Biopharmaceutical Statistics*
 - *Lifetime Data Analysis*
 - *Computational Statistics and Data Analysis*
 - *Journal of the American Statistical Association*
 - *The Annals of Applied Statistics*
 - *Journal of Multivariate Analysis*
 - *European Journal of Operation Research*
 - *Reliability Engineering and System Safety*
 - *Journal of Manufacturing Systems*
 - *IEEE Transactions on Power Delivery*
 - *IEEE Transactions on Pattern Analysis and Machine Intelligence*
 - *Journal of Risk and Reliability*
 - *Applied Stochastic Models in Business and Industry*
 - *Annals of the Institute of Statistical Mathematics*
 - *Reliability Engineering & System Safety*
 - *Entropy*
 - *Pharmaceutical Statistics*
- Others
 - DOE proposal reviewer and panelist

- Tenure and Promotion review, University of Electro-Communications, Japan
- External Examiner for Ph.D. Thesis in McMaster University
- Associate Editor for ISBIS Newsletter
- ASA SPES award committee member
- INFORMS QSR paper competition reviewer
- Student Award Committee for the 2016 ICSA International Conference
- Organized numerous invited sessions for several national/international conferences

Committee Service at VT

- Department Personnel Committee, member, Fall 2014, Spring 2015, Fall 2015, Spring 2016.
- Qualifying Exam Committee, member, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015
- Seminar Committee, member, Fall 2009, Spring 2010; chair, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013.
- College Cluster Strategy Committee, member, Fall 2012, Spring 2013
- Corporate Partners' Conference Seminar Committee (member, 2011; chair, 2012)

Skills

- Computer Skills
Statistical software: R, SAS, JMP;
Programming Language: C/C++, Python, SQL.
- Languages
Chinese (Native); English (Fluency).

Professional Memberships

- Elected Member, The International Statistical Institute (ISI)
- Member, The American Statistical Association (ASA)
- Member, Institute of Mathematical Statistics (IMS)
- Member, The International Society for Business and Industrial Statistics (ISBIS)
- Member, The Institute for Operations Research and the Management Sciences (INFORMS)
- Member, Mu Sigma Rho
- Full member, Sigma Xi