

## CURRICULUM VITAE

August 2019

Max D. Morris

- **ADDRESS:** Department of Statistics, 1417 Snedecor Hall, Iowa State University, Ames, IA 50011
- **TELEPHONE:** (515) 294-2775, **FAX:** (515) 294-4040, **E-MAIL:** mmorris@iastate.edu
- **EDUCATION:**
  - Ph.D. Statistics, Virginia Polytechnic Institute and State University (1977)
  - M.S. Statistics, Virginia Polytechnic Institute and State University (1975)
  - B.S. Mathematics (with Honors), Oklahoma State University (1973)
- **EMPLOYMENT:**
  - 2014-present: *Professor*, Department of Statistics, Iowa State University
  - 2014-2019: *Department Chair*, Department of Statistics, Iowa State University
  - 2011, January - August: *Interim Department Chair*, Department of Industrial and Manufacturing Systems Engineering, Iowa State University
  - 1998-2014: *Professor*, Department of Statistics, and Department of Industrial and Manufacturing Systems Engineering, Iowa State University
  - 1997-1998: *Statistics Group Leader*, Mathematical Sciences Section, Oak Ridge National Laboratory
  - 1981-1998: *Senior Research Staff Member*, *Research Staff Member*, Mathematical Sciences Section, Oak Ridge National Laboratory
  - 1979-1981: *Assistant Professor*, Department of Statistics, Mississippi State University.
  - 1977-1979, *Assistant Professor*, Department of Pathology, University of Texas Health Science Center, San Antonio
- **CURRENT PROFESSIONAL ACTIVITIES:**
  - Member: American Statistical Association, Institute of Mathematical Statistics, International Statistical Institute
  - Associate Editor: *Journal of Uncertainty Quantification*, 2015-present
  - Los Alamos National Laboratory Faculty Affiliate and Consultant, 1998-present (US Department of Energy Q-level Security Clearance)
  - Member: NIST OSAC Subcommittee on Firearms and Toolmarks, 2014-present
  - Member/Chair: *Technometrics* Prize Committee, 2017/2018-2019
- **PREVIOUS SIGNIFICANT PROFESSIONAL ACTIVITIES AND SERVICE:**
  - Editorial Statistical Consultant: *Radiation Research*, 1992-2010
  - Editor: *Technometrics*, 1996-1998
  - Chair: *Technometrics* Management Committee, 2000-2002
  - Chair: IMS/ASA Spring Research Conference Management Committee, 2000-2003
  - Editorial Board Member: *Journal of Statistical Computation and Simulation*, *Journal of Quality Technology*, *Technometrics*

- Statistical Consultant to Monsanto Corporation, 2003-2004
- Ames Laboratory (US Dept. of Energy) Associate On-Site Leader, 2006-2017
- Statistical Consultant to the Centre of Forensic Sciences (Toronto), 2013, 2014
- Member: National Research Council – Survivability and Lethality Review Panel, 2001-2006
- Member: National Research Council – Committee on Assessment of Agent Monitoring Strategies for the Blue Grass and Pueblo Chemical Agent Destruction Pilot Plants, 2011-2012

• **HONORS AND AWARDS:**

- *Fellow*, American Statistical Association (1994)
- *Elected Member*, International Statistical Institute (1996)
- *Jack Youden Prize*, presented by the American Society for Quality, for the best expository paper appearing in the previous year’s volume of *Technometrics*. [Morris, M.D. (2000), “A Class of Three-Level Experimental Designs for Response Surface Modeling,” *Technometrics* **42**, pp 111-121.]
- *Jerome Sacks Award for Cross-Disciplinary Research*, presented by the National Institute of Statistical Sciences (2002).
- *Iowa STAT-ers Teacher of the Year Award* (2004).
- *Frank Wilcoxon Prize*, presented by the American Society for Quality, for the best practical applications paper appearing in the previous year’s volume of *Technometrics*. [Morris, M.D., B. Dilts, S. Birrell, and P. Dixon (2009), “Composite Response Surface Designs for Factors with Jointly Symmetric Effects,” *Technometrics* **51**, pp 206-214.]
- *Graduate Mentoring Award*, ISU College of Liberal Arts and Sciences (2014).

• **STATISTICAL RESEARCH PROGRAM:**

- *Primary Expertise*: Theory and general methodology related to:
  - Design of experiments
  - Linear statistical models
  - Gaussian process models
- *Area of Primary Focus*: Statistical methods for design and analysis of *computer experiments*, the organized use of complex computer models in scientific and engineering applications, including:
  - *Sensitivity Analysis and Input Screening* - quantification of the impact of perturbations of model inputs on outputs, and determination of which inputs are most critical to understanding the behavior of the model
  - *Surrogate Models* - construction of high-fidelity “fast” approximations to long-running models
  - *Experimental Design* - selection of model runs (input vectors) to maximize information related to experimental goals
- *Additional Interests*:
  - Large-scale factor screening experiments
  - Design of spatial sampling plans
  - Pattern matching methods for forensic applications
  - Change-point detection methods
  - Large-scale predictive regression modeling

- **RECENT FUNDED COLLABORATIVE RESEARCH** (Co-Principal Investigator in each case)
  - Caterpillar Inc., “Intelligent Soil Compaction Program,” FY2008.
  - John Deere & Co., “Slope Insensitive Cleaning Shoe Program,” FY2009.
  - National Institute of Justice, “Significance of Association in Toolmarks,” \$394,000 in FY2011-12.
- **BOOK CHAPTERS:**
  - Zeighami, E.A., M.D. Morris, E.E. Calle, P.S. McSweeny, and B.A. Schuknecht, “Drinking Water Inorganics and Cardiovascular Disease: A Case-Control Study among Wisconsin Farmers,” in *Inorganics in Drinking Water and Cardiovascular Disease*, eds. E.J. Calabrese, R.W. Tuthill and L. Condie, Princeton, NJ, Princeton Scientific Publishing Company, 1985.
  - Morris, M.D., “An Overview of Group Factor Screening,” in *Screening: Methods for Experimentation in Industry, Drug Discovery, and Genetics*, eds. A.M. Dean and S.M. Lewis, New York, Springer-Verlag, 2006, 191-206.
  - Morris, M.D., “Computer Experiments,” in: *Encyclopedia of Statistics in Quality and Reliability*, eds. F. Ruggeri, R.S. Kenett, and F.W. Faltin New York, John Wiley and Company, 2008.
  - Morris, M.D., “Computer Experiments,” in: *Design and Analysis of Experiments, Vol. 3*, ed. K. Hinkelmann, New York, Wiley-Interscience, 2012.
  - Morris, M.D. and L.M. Moore, “Design of Computer Experiments: Introduction and Background,” in *Handbook of Design and Analysis of Experiments*, eds. A. Dean, M. Morris, J. Stufken, and D. Bingham, Boca Raton, FL, Chapman & Hall/CRC, 2015.
- **TEXTBOOK:**
  - *Design of Experiments: An Introduction Based on Linear Models*, ISBN 13-978-1584889236, Chapman & Hall/CRC, 2010.
- **EDITED VOLUME:**
  - *Handbook of Design and Analysis of Experiments*, co-edited with A. Dean, J. Stufken, and D. Bingham, ISBN 13-978-1-4665-0433-2, Chapman & Hall/CRC, 2015.
- **GRADUATE STUDENTS MENTORED AT ISU:**
  - Yanhui Hu, Stat MS, 2001
  - Dean De Cock, Joint Stat/IE PhD, 2003
  - Dorin Drignei, Stat PhD, 2004
  - Patrick Macke, Stat MS, 2005
  - Curtis Miller, Stat PhD, 2005
  - Zhigang Zhou, Stat MS, 2001; Stat PhD, 2006
  - Jessica Chapman, Stat PhD, 2008
  - Monica Reising, Stat PhD, 2009 (co-major professor with S. Vardeman)
  - Patrick Chapin, Stat PhD, 2009
  - Stuart Gardner, Joint Stat/MBio PhD, 2010 (co-major professor with C. Minion)
  - Amy Hoeksema, Stat PhD, 2012
  - Lu Shen, Stat MS, 2014
  - Cory Lanker, Stat PhD, 2015 (co-major professor with S. Vardeman)

- Jostein Reiners, Stat PhD, 2015
- Wilmina Siegfried, Stat PhD, 2015
- Min Ren, Stat MS, 2016
- Jeremy Hadler, Stat PhD, 2017
- Vincent Paris, Stat MS, 2019; Stat PhD, expected 2021

• **TEACHING AT ISU:**

- Engineering Statistics (Statistics 305), Fall '98, '99.
- Probabilistic Methods for Electrical Engineers (Statistics 322), Spring '12.
- Statistical Quality Control (IE/Stat 361), Spring each year except '08, through '14.
- Statistical Design and Analysis of Experiments (Statistics 402), Spring '04, '07.
- Design of Experiments (Statistics 512), Fall each year since 2000.
- Response Surface Methodology (Statistics 513), Spring '02, '06, '13.
- Design and Analysis of Computer Experiments (Statistics 590C), Spring '09.
  - An original course developed from recent and current research materials on this topic
- Advanced Design of Experiments (Statistics 612), Spring '04, '08, '10, '14.

## REFEREED JOURNAL PUBLICATIONS – M.D. Morris

1. Morris, M.D., and C.A. McMahan, “A note on the dominance hierarchy index,” *Bulletin of Mathematical Biology* **42**, 1980, 739-746.
2. Mott, G.H., E.M. Jackson, and M.D. Morris, “Cholesterol absorption in baboons” *Journal of Lipid Research* **21**, 1980, 635-641.
3. Diehl, A.K., M.D. Morris, and S.A. Mannis, “Use of calendar and weather data to predict walk-in attendance,” *Southern Medical Journal* **74**, 1981, 709-712.
4. Maxwell, L.C., A.P. Shepherd, G.L. Riedel, and M.D. Morris, “Effect of microsphere size on apparent intramural distribution of intestinal blood flow,” *American Journal of Physiology* **241**, 1981, H408-H414.
5. Morris, M.D. and T.J. Mitchell, “Two-level multifactor designs for detecting the presence of interactions,” *Technometrics* **25**, 1983, 345-355.
6. Zeighami, E.A., and M.D. Morris, “The measurement and interpretation of the proportional mortality ratio,” *American Journal of Epidemiology* **117**, 1983, 90-97.
7. McMahan, C.A., and M.D. Morris, “Application of maximum likelihood paired comparison ranking to estimation of a linear dominance hierarchy in animal societies,” *Animal Behavior* **32**, 1984, 374-378.
8. Morris, M.D., “Minimum number of runs for two-level factorial search designs,” *Journal of Statistical Planning and Inference* **10**, 1984, 115-117.
9. Morris, M.D., and S.F. Ebey, “An interesting property of the sample mean under a first order autoregressive model,” *The American Statistician* **38**, 1984, 127-129.
10. Griffin, G.D., E.E. Calle, M.D. Morris, K.Y. Long, S.S. Schuffman, and W.M. Mitchell “Inhibition of murine interferon production following in vivo administration of benzo(a)pyrene,” *Journal of Interferon Research* **6**, 1986, 115-121.
11. Zeighami, E.A., and M.D. Morris, “Thyroid cancer risk in the population around the Nevada test site,” *Health Physics Journal* **50**, 1986, 19-32.
12. Morris, M.D., “A sequential experimental design for estimating a scale parameter from quantal life testing data,” *Technometrics* **29**, 1987, 173-181.
13. Morris, M.D., “Two-stage factor screening procedures using multiple grouping assignments,” *Communications in Statistics - Theory and Methods* **16**, 1987, 3051-3068, invited.
14. Morris, M.D., “Small-sample confidence limits for parameters of discrete distributions under inequality constraints with application to quantal bioassay,” *Biometrics* **44**, 1988, 1083-1092.
15. Morris, M.D., and T.D. Jones, “A comparison of dose-response models for death from hematological depression,” *International Journal of Radiation Biology* **53**, 1988, 439-456.
16. Morris, M.D., T.E. Aldrich, and C.E. Easterly, “A statistical approach to combining the results of similar experiments, with application to the hematologic effects of E.L.F. electric field exposures,” *Bioelectromagnetics* **10**, 1989, 23-34.
17. Morris, M.D. and Jones, T.D., “Hematopoietic death of unprotected man from photon irradiations: Statistical modeling from animal experiments,” *International Journal of Radiation Biology* **55**, 1989, 445-461.

18. Morris, M.D., and T.D. Jones, "Some effects of radiation dosimetry errors on an estimated dose-response relationship," *Health Physics Journal* **56**, 1989, 219-222.
19. Frome, E.L., and M.D. Morris, "Evaluating goodness of fit of Poisson regression models in cohort studies," *The American Statistician* **43**, 1989, 144-147.
20. Morris, M.D., Invited discussion of "Comment on: Design and analysis of computer experiments" by Sacks, Welch, Mitchell, and Wynn, *Statistical Science* **4**, 1989, 423-429.
21. Mitchell, T.J., M.D. Morris, and D. Ylvisaker, "Existence of smoothed stationary processes on an interval," *Stochastic Processes and their Application* **35**, 1990, 109-119.
22. Morris, M.D., "Factorial sampling plans for preliminary computational experiments," *Technometrics* **33**, 1991, 161-174.
23. Morris, M.D., "On counting the number of data pairs for semivariogram estimation," *Mathematical Geology* **27**, 1991, 929-943.
24. Currin, C., T. Mitchell, M. Morris, and D. Ylvisaker, "Bayesian prediction of deterministic functions, with applications to the design and analysis of computer experiments," *Journal of the American Statistical Association* **86**, 1991, 953-963.
25. Jones, T.D., M.D. Morris, and R.W. Young, "A mathematical model for radiation-induced myelopoiesis," *Radiation Research* **128**, 1991, 258-266.
26. Morris, M.D., T.D. Jones, and R.W. Young, "Estimation of coefficients in a model of radiation-induced myelopoiesis from mortality data for mice following x-ray exposure," *Radiation Research* **128**, 1991, 267-275.
27. Welch, W.J., R.J. Buck, J.Sacks, H.P. Wynn, T.J. Mitchell, and M.D. Morris, "Screening, predicting, and computer experiments," *Technometrics* **34**, 1992, 15-25.
28. Mitchell, T.J., and M.D. Morris, "Bayesian design and analysis of computer experiments: two examples," *Statistica Sinica* **2**, 1992, 359-379.
29. Morris, M.D., T.J. Mitchell, and D. Ylvisaker, "Bayesian design and analysis of computer experiments: use of derivatives in surface prediction," *Technometrics* **35**, 1993, 243-255.
30. Morris, M.D., T.D. Jones, and R.W. Young, "A cell kinetics model of radiation-induced myelopoiesis: rate coefficient estimates for mouse, rat, sheep, swine, dog, and burro irradiated by photons," *Radiation Research* **135**, 1993, 320-331.
31. Jones, T.D., M.D. Morris, R.W. Young, and R.A. Kehlet, "A cell-kinetics model for radiation-induced myelopoiesis," *Experimental Hematology* **21**, 1993, 816-822.
32. Jones, T.D., M.D. Morris, and R.W. Young, "Mathematical models of marrow cell kinetics: differential effects of protracted irradiations on stromal and stem cells in mice," *International Journal of Radiation Oncology Biol. Phys.* **26**, 1993, 817-830.
33. Morris, M.D., T.D. Jones and R.W. Young, "Bone marrow equivalent prompt dose from two common fallout scenarios," *Health Physics* **67**, 1994, 183-186.
34. Jones, T.D., M.D. Morris, and R.W. Young, "Dose-rate RBE factors for photons: hematopoietic syndrome in humans vs. stromal cell cytopenia," *Health Physics* **67**, 1994, 495-508.

35. Mitchell, T.J., M.D. Morris, and D. Ylvisaker, "Asymptotically optimal experimental designs for prediction of deterministic functions given derivative information," *Journal of Statistical Planning and Inference* **41**, 1994, 377-389.
36. Morris, M.D., and T.J. Mitchell, "Exploratory designs for computational experiments," *Journal of Statistical Planning and Inference* **43**, 1995, 381-402.
37. Docktycz, M.J., M.D. Morris, S.J. Dormady, K.L. Beattie, and K.B. Jacobson, "Optical melting of 128 octamer DNA duplexes," *Journal of Biological Chemistry* **270**, 1995, 8439-8445.
38. Mitchell, T.J., M.D. Morris, and D. Ylvisaker, "Two-Level Fractional Factorials and Bayesian Prediction," *Statistica Sinica* **5**, 1995, 559-573.
39. Morris, M.D., and A.D. Solomon, "Design and analysis for an inverse problem arising from an advection-dispersion process," *Technometrics* **37**, 1995, 293-302.
40. Toran, L., A. Sjoreen, and M. Morris, "Sensitivity analysis of solute transport in fractured porous media," *Geophysical Research Letters* **22**, 1995, 1433-1436.
41. Gwo, J.P., L.E. Toran, M.D. Morris, and G.V. Wilson, "Subsurface stormflow modeling with sensitivity analysis using a Latin-hypercube sampling technique," *Ground Water* **34**, 1996, 811-818.
42. Jones, T.D., M.D. Morris, and J.S. Hasan, "Modeling marrow damage from response data: evolution from radiation biology to benzene toxicity," *Environmental Health Perspectives* **104**, Supplement 6, 1996, 1293-1301.
43. Davis, G.J., and M.D. Morris, "Six factors which affect the condition number of matrices associated with kriging," *Mathematical Geology* **29**, 1997, 669-683.
44. Jones, T.D., M.D. Morris, and S.R. Basavaraju, "Atherosclerotic risks from chemicals: Part II. A RASH analysis of *in vitro* and *in vivo* bioassay data to evaluate 45 potentially hazardous compounds," *Archives of Environmental Contamination and Toxicology*, **35**, 1998, 165-177.
45. Kafadar, K. and M.D. Morris, "Comment on: Consulting: Real Problems, Real Interactions, Real Outcomes" by R. Tweedie, et al., *Statistical Science*, **13**, 1998, 25-29.
46. Downing, D.J., V.V. Fedorov, W.F. Lawkins, M.D. Morris, and G. Ostrouchov, "Large Data Series: Modeling the Usual to Identify the Unusual," *Computational Statistics and Data Analysis*, **32**, 2000, 245-258.
47. Morris, M.D., "A Class of Three-Level Experimental Designs for Response Surface Modeling," *Technometrics* **42**, 2000, 111-121.
48. Kennel, S.J., L.J. Foote, M. Morris, A.A. Vass, and W.H. Griest, "Mutation Analysis of a Series of TNT-related Compounds Using the CHO-hprt Assay," *Journal of Applied Toxicology*, **20**, 2000, 441-448.
49. Kafadar, K. and M.D. Morris, "Nonlinear Smoothers in Two Dimensions for Environmental Data," *Chemometrics and Intelligent Laboratory Systems*, **60**, 2002, 113-125.
50. Morris, M.D., Invited discussion of "Statistically Based Validation of Computer Simulation Models in Traffic Operations and Management," by Sacks, Roupail, Park, and Thakuriah, *Journal of Transportation Statistics*, **5**, 2002, 18-22.
51. Vardeman, S.V. and M.D. Morris, "Statistics and Ethics: Some Advice for Young Statisticians," *The American Statistician*, **57**, 2003, 21-26.

52. Morris, M.D., "Input Screening: Finding the Important Model Inputs on a Budget," *Reliability Engineering and System Safety*, **91**, 2006, 1252-1256.
53. Morris, M.D., L.M. Moore, and M.D. McKay, "Sampling Plans Based on Balanced Incomplete Block Designs for Evaluating the Importance of Computer Model Inputs," *Journal of Statistical Planning and Inference*, **136**, 2006, 3203-3220.
54. Drignei, D., and M.D. Morris, "Empirical Bayesian Analysis for Computer Experiments Involving Finite-Difference Codes," *Journal of the American Statistical Association*, **101**, 2006, 1527-1536.
55. Faden, D., J. Kidd, J. Craft, L.S. Chumbley, M. Morris, and L. Genalo, "Statistical Confirmation of Empirical Observations Concerning Toolmark Striae," *American Federation of Toolmark Examiners Journal* **39**, 2007, 205-214.
56. Morris, M., L.M. Moore, and M.D. McKay, "Using Orthogonal Arrays in the Sensitivity Analysis of Computer Models," *Technometrics*, **50**, 2008, 211-220.
57. Ostrouchov, G., W.E. Doll, L.P. Beard, M.D. Morris, and D.A. Wolf, "Multiscale structure of UXO site characterization: Spatial estimation and uncertainty quantification," *Stochastic Environmental Research and Risk Assessment*, **23**, 2009, 215-225.
58. Morris, M., and D. Higdon, Invited discussion: "Comments on Goldstein and Rougier," *Journal of Statistical Planning and Inference*, **139**, 2009, 1249-1250.
59. Morris, M.D., B. Dilts, S.J. Birrell, and P.M. Dixon, "Composite Response Surface Designs for Factors with Jointly Symmetric Effects," *Technometrics*, **51**, 2009, 206-214.
60. Morris, M.D., Invited discussion: "Comments following Jones and Johnson, 'The Design and Analysis of the Gaussian Process Model'," *Quality and Reliability Engineering International*, **29**, 2009, 525-527.
61. Chumbley, L.S., M.D. Morris, M.J. Kreiser, C. Fisher, J. Craft, L.J. Genalo, S. Davis, D. Faden, and J. Kidd, "Validation of Tool Mark Comparisons Obtained Using a Qualitative, Comparative Statistical Algorithm," *Journal of Forensic Sciences* **55**, 2010, 953-961.
62. Vennapusa, P., D.J. White, M. Morris, "Geostatistical analysis for spatially referenced roller-integrated compaction measurements." *Journal of Geotechnical and Geoenvironmental Engineering*, **136**, 2010, 813-822.
63. Vardeman, S., J. Wendelberger, T. Burr, M. Hamada, L. Moore, M. Morris, J. M. Jobe, and H. Wu, "Elementary Statistical Methods and Measurement Error," *The American Statistician* **64**, 2010, 52-58.
64. Reising, M., M.D. Morris, S.B. Vardeman, and S. Higbee, "Modeling Spectral-Temporal Data from Point Source Events," *Technometrics* **53**, 2011, 183-195.
65. Morris, M.D., "Gaussian Surrogates for Computer Models with Time-Varying Inputs and Outputs," *Technometrics* **54**, 2012, 42-50.
66. Chapman, J., M.D. Morris, and C.M. Anderson-Cook, "Computationally Efficient Comparison of Experimental Designs for System Reliability Studies with Binomial Data," *Technometrics* **54**, 2012, 410-424.
67. Castaings, W., E. Borgonovo, M.D. Morris, S. Tarantola, "Sampling Strategies in Density-Based Sensitivity Analysis," *Environmental Modelling & Software* **38**, 2012, 13-26.



68. Vardeman, S.B., M.D. Morris, "Majority Voting by Independent Classifiers Can Increase Error Rates," *The American Statistician* **67**, 2013, 94-6.
69. Lock, A.B., M.D. Morris, "Significance of Angle in the Statistical Comparison of Forensic Tool Marks," *Technometrics* **55**, 2013, 548-561.
70. Hamada, M., T. Burr, M. Morris, J. Wndelberger, J.M. Jobe, L. Moore, H. Wu, "An Introduction to Statistical Issues and Methods in Metrology for Physical Science and Engineering," *Journal of Quality Technology* **41**, 2014, 33-62.
71. Borgonovo, E., S. Tarantola, E. Plischke, M.D. Morris, "Transformations and Invariance in the Sensitivity Analysis of Computer Experiments," *Journal of the Royal Statistical Society, Series B*, **76**, 2014, 925-947.
72. Morris, M.D., "Maximin Distance Optimal Designs for Computer Experiments with Time-Varying Inputs and Outputs," *Journal of Statistical Planning and Inference*, 2014, 63-68.
73. Morris, M.D., "Physical Experimental Design in Support of Computer Model Development," *Technometrics* **57**, 2015, 45-53.
74. Shen, L., M.D. Morris, "Augmented Plackett-Burman Designs with Replication and Improved Bias Properties," *Journal of Statistical Planning and Inference* **179**, 2016, 15-21.
75. Hadler, J., M.D. Morris, "An Improved Version of a Tool Mark Comparison Algorithm," *Journal of Forensic Sciences* **63**, 2018, 849-855.
76. Morris, M.D., "Decomposing Functional Model Inputs for Variance-Based Sensitivity Analysis," *SIAM/ASA Journal on Uncertainty Quantification* **6**, 2018, 1584-1599.
77. Sun, Y., C. Wang, W.Q. Meeker, M. Morris, M. L. Rotolo, J. Zimmerman, "A Latent Spatial Piecewise Exponential Model for Interval-Censored Disease Surveillance Data with Time-Varying Covariates and Misclassification," *Statistics and Its Interface* **12**, 2019, 11-19.
78. Coleman, K.D., A. Lewis, R.C. Smith, B. Williams, M. Morris, B. Khuwaileh, "Gradient-Free Construction of Active Subspaces for Dimension Reduction in Complex Models with Applications to Neutronics," *SIAM/ASA Journal on Uncertainty Quantification* **7**, 2019, 117-142.
79. Marget, W.M. and M.D. Morris, "Central Composite Experimental Designs for Multiple Responses with Different Models," *Technometrics*, to appear, available online at [doi.org/10.1080/00401706.2018.1549102](https://doi.org/10.1080/00401706.2018.1549102), **61**, 2019.

## INVITED TALKS & LECTURES – M.D. Morris

1. “Comparing Two Methods of Measurement for Accuracy and Precision,” Louisiana State University, Experimental Statistics Department Colloquium, Baton Rouge, LA, March 9, 1981.
2. “Two-Level Multifactor Designs for Detecting the Presence of Interactions,” ASQC Fall Technical Conference, Midland, MI, October 13, 1983.
3. “An Interesting Property of the Sample Mean under a First Order Autoregressive Model,” University of the South, Mathematics Department Colloquium, Sewanee, TN, December 1, 1983.
4. “The Precision of the Average of Correlated Measurements,” National Institute of Environmental Health Sciences, Research Triangle Park, NC, April 13, 1984.
5. “Design of Preliminary Experiments for Factor/Effect Screening,” University of Central Florida, Statistics Department Colloquium, Orlando, FL, January 17, 1986.
6. “Design of Preliminary Experiments for Factor/Effect Screening,” Wright State University, Mathematics Department Colloquium, Dayton, OH, May 9, 1987.
7. “A Sequential Experimental Design for Estimating a Scale Parameter from Quantal Life Testing Data,” University of Tennessee, Statistics Department Colloquium, Spring, 1987.
8. “A Sequential Design for Quantal Life Testing Experiments,” SRCOS-ASA Summer Research Conference, Gatlinburg, TN, June 17, 1987.
9. “A Bayesian Approach to the Design and Analysis of Computational Experiments” (presented jointly with T.J. Mitchell), International Workshop on Experimental Design, Neuchatel, Switzerland, July 27, 1988.
10. “The Role of Assumptions in Statistical Modeling,” Health Physics Society Meeting, Albuquerque, NM, June 26, 1989.
11. “Design and Analysis of Computer Experiments in Chemistry and Chemical Engineering” (presented jointly with T.J. Mitchell), Gordon Conference on Statistics in Chemistry and Chemical Engineering, New Hampton, NH, July 31, 1989.
12. “Factorial Sampling Plans for Preliminary Computational Experiments,” Joint Statistical Meetings, Washington, DC, August 8, 1989.
13. “On Counting the Number of Data Pairs for Semivariogram Estimation,” ASA Winter Meeting, New Orleans, LA, January 3, 1991.
14. “On Counting the Number of Data Pairs for Semivariogram Estimation,” Virginia Polytechnic Institute and State University, Statistics Department Colloquium, Blacksburg, VA, April 11, 1991.
15. “Exploratory Designs for Computational Experiments,” IMS Special Topics Meeting, Philadelphia, PA, June 11, 1991.
16. “Design and Analysis for an Inverse Problem of Advective-Dispersive Fluid Flow,” Mathematical Sciences Research Institute Seminar, Berkeley, CA, May 7, 1992.
17. “An Overview of Some Recent Developments in the Design and Analysis of Computer Experiments,” International Conference on Design of Experiments: Optimality, Construction, and Application, Oberwolfach, Germany, May 5, 1993.

18. "Design and Analysis for an Inverse Problem of Advective-Dispersive Fluid Flow," University of Tennessee, Statistics Department Colloquium, Knoxville, TN, October 28, 1993.
19. "A Stepwise Technique for Computer Experimentation: Experimental Design, Input Screening, and Predictive Modeling," Joint Statistical Meetings, Toronto, Canada, August 17, 1994.
20. "Some Recent Developments in the Design and Analysis of Computer Experiments, and an Input Screening Example," National Institute of Standards and Technology, Gaithersburg, MD, November 16, 1994.
21. "Some Recent Developments in the Design and Analysis of Computer Experiments, and an Input Screening Example," Pacific Northwest Laboratory, Richland, WA, June 6, 1995.
22. "Design and Analysis of Computer Experiments, with Application to an Inverse Problem from Seismic Imaging," Georgia State University, Mathematics and Computer Science Department Colloquium, Atlanta, GA, February 28, 1997.
23. "Trends and Needs in Scientific and Industrial Statistics: Subjective Data Mining from the Pages and Files of Technometrics," Joint Research Conference on Statistics in Industry and Technology, New Brunswick, NJ, June 2-4, 1997.
24. "Computer Experiments and Two-Level Designs," SCROS Conference, Gatlinburg, TN, June 21, 1997.
25. "A Sequential Computer Experiment for Input Screening and Model Approximation," University of Colorado - Denver, Department of Mathematics, Denver, CO, November 1997.
26. "A Sequential Computer Experiment for Input Screening and Model Approximation," University of Minnesota, Department of Operations and Management Science, Minneapolis, MN, May 1998.
27. "A Sequential Computer Experiment for Input Screening and Model Approximation," Rice University, Department of Statistics, Houston, TX, October 1998.
28. "Design and Analysis of Computer Experiments, with Application to an Inverse Problem from Seismic Imaging," International Conference on Computational Engineering Science, Atlanta, GA, October 1998.
29. "Design and Analysis of Computer Experiments, with Application to an Inverse Problem from Seismic Imaging," United States Military Academy, Department of Mathematical Sciences, West Point, NY, November 1998.
30. "Input Screening for Sensitivity Analysis," Workshop on Uncertainty in Computational Modeling, Los Alamos National Laboratory, Los Alamos, NM, December 1999.
31. "Augmented Pairs Designs for Response Surface Modeling," Midwest Conference for New Directions in Experimental Design, Columbus, OH, May, 2000.
32. "Augmented Pairs Designs for Response Surface Modeling," Spring Research Conference, Seattle, WA, June, 2000.
33. "Two Statistical Paradigms for Analysis of Computer Models and a Possible Link Between Them," University of Tennessee, Knoxville, TN, November, 2000.
34. Society for Industrial and Applied Mathematics (SIAM), *Keynote Speaker* at Earth Sciences Conference, Boulder, CO, June 2001.

35. "Augmented Pairs Designs for Response Surface Modeling," University of Memphis, Mathematical Sciences Department Seminar, Memphis, TN, November 2001.
36. "Identifying the Important Inputs of Computer Models," Workshop for the Korean Statistical Society, Seoul, Korea, February 15, 2002.
37. "Random Factorial Designs for Evaluating the Importance of Inputs in Computer Experiments," Joint Statistical Meetings, New York, NY, August 13, 2002.
38. "Computer Experiments and Statistics," Colorado/Wyoming ASA Chapter Annual Meeting, Denver, CO, October 26, 2002.
39. "Computer Experiments and Statistics," IBM T.J. Watson Research Center, Yorktown Heights, NY, November 25, 2002.
40. "Combining Physical Data and Model Outputs: General Principles and Proto-Analyses," Workshop on Uncertainty in Computational Modeling, Los Alamos National Laboratory, Los Alamos, NM, December 17, 2002.
41. "Experiences and Advice in Consulting on the Design of Experiments," Conference on New Directions in Experimental Design, Chicago, May 16, 2003.
42. "Large Incomplete Factorial Designs and Uncertainty Analysis of Computer Models," Joint Statistical Meetings, San Francisco, August 5, 2003.
43. "Spatial Design and Variogram Estimation," Department of Statistics, Kansas State University, Manhattan, KS, October 10, 2003.
44. "Input Screening: Finding the Important Model Inputs on a Budget," Sensitivity Analysis of Model Output (SAMO) '04, Sante Fe, NM, March 8, 2004.
45. "Input Screening Using 'Elementary Effects'," Summer School in Sensitivity Analysis, Venice, Italy, September 13-17, 2004.
46. "Input Sampling Based on Balanced Incomplete Block Designs," Summer School in Sensitivity Analysis, Venice, Italy, September 13-17, 2004.
47. "Input Uncertainty and Potential-to-Validate: Sampling Plans for Monte Carlo Assessment," Validation, Verification, and Authentication (VVA) Workshop, Tempe, AZ, October 13-15, 2004.
48. "Input Uncertainty and Potential-to-Validate: Sampling Plans for Monte Carlo Assessment," Spring Research Conference on Statistics in Industry and Technology, Knoxville, TN, June 7-9, 2006.
49. "Designing Response Surface Experiments for Factors with Symmetric Effects," International Conference on Design of Experiments and Its Applications, Tianjin, China, July 9-13, 2006.
50. "Nonstationary Twists on Stationary Process Models," SAMSI Workshop on Development, Assessment and Utilization of Complex Computer Models," Research Triangle Park, NC, September 10-14, 2006.
51. "Nonstationary Twists on Stationary Process Models," Department of Statistics, Rice University, Houston, TX, April 23, 2007.
52. "Designing Response Surface Experiments for Factors with Symmetric Effects," Department of Statistics, University of Iowa, Iowa City, IA, October 25, 2007.

53. "Designing Response Surface Experiments for Factors with Symmetric Effects," DAE2007 (Design and Analysis of Experiments), Memphis, TN, October 31 - November 3, 2007.
54. "In Search of Various *Oh's*," DIMACS/NISS Workshop on Experimental Analysis of Algorithms: Interfaces between the Statistical and Computational Sciences, National Institute of Statistical Sciences, Research Triangle Park, NC, May 6-7, 2008.
55. "Data-Driven Nonstationary Modeling of Deterministic Computer Models," Spring Research Conference on Statistics in Industry and Technology, Atlanta, GA, May 19-21, 2008.
56. "A Statistical View from the Downhill Side of Hubbert's Peak," Spring Research Conference on Statistics in Industry and Technology, Atlanta, GA, May 19-21, 2008.
57. "Data-Driven Nonstationary Modeling of Deterministic Computer Models," Los Alamos National Laboratory, Statistical Sciences Group Seminar, Los Alamos, NM, June 24, 2008.
58. "Designing Response Surface Experiments for Factors with Symmetric Effects," Department of Statistics, Iowa State University, Ames, IA, October 27, 2008.
59. "Statistical Image Analysis for Toolmark Forensics," Department of Industrial and Manufacturing Systems Engineering, Iowa State University, Ames, IA, January 13, 2010.
60. "Gaussian Surrogates for Computer Models with Time-Varying Inputs and Outputs," Spring Research Conference on Statistics in Industry and Technology, Gaithersburg, MD, May 25-27, 2010.
61. "Gaussian Surrogates for Models with Time-Varying Inputs and Outputs," INFORMS Annual Meeting, Austin, TX, Nov 7-10, 2010.
62. "Designing Computer Experiments with Time-Varying Inputs," workshop on "Design and Analysis of Experiments in Modern-Day Science and Technology," Radcliffe Institute for Advanced Study at Harvard University, Boston, MA, April 8, 2011.
63. "Designing Computer Experiments with Time-Varying Inputs," ICODOE2011 (International Conference on Design and Analysis of Experiments), Memphis, TN, May 10-13, 2011.
64. "Gaussian Surrogates for Models with Time-Varying Inputs and Outputs," Department of Industrial and Systems Engineering, University of Southern California, Los Angeles, CA, September 27, 2011.
65. "Composite Response Surface Designs for Factors with Jointly Symmetric Effects," Department of Statistics, Virginia Tech, Blacksburg, VA, November 3, 2011.
66. "Physical Experimental Design in Support of Computer Model Development," DAE2012 (Design and Analysis of Experiments), Athens, GA, October 17-20, 2012.
67. "Physical Experimental Design in Support of Computer Model Development," Econometrics and Statistics Colloquium, University of Chicago Booth School of Business, October 25, 2012.
68. "Physical Experimental Design in Support of Computer Model Development," Los Alamos National Laboratory, Statistical Sciences Group Seminar, Los Alamos, NM, May 30, 2013.
69. "Physical Experimental Design in Support of Computer Model Development," Georgia Tech Statistics Seminar Series, Atlanta, GA, November 7, 2013.
70. "Sensitivity Analysis with Functional Inputs," MASCOT-NUM Conference, St-Etienne, France, April 9, 2015.

71. "Computer Experiments with Time-Varying Inputs: Gaussian Surrogates and Experimental Designs," MASCOT-NUM Conference, St-Etienne, France, April 10, 2015.
72. "Sensitivity Analysis with Functional Inputs," Spring Research Conference on Statistics in Industry and Technology, Cincinnati, OH, May 20-22, 2015.
73. "Statistical Comparison of Striated Toolmarks," Department of Statistics, University of Georgia, Athens, GA, November 5, 2015.
74. "Augmented Plackett-Burman Designs with Replication and Improved Bias Properties," Spring Research Conference on Statistics in Industry and Technology, Chicago, IL, May 25-27, 2016.
75. "Sensitivity Analysis with Functional Inputs," Lawrence Livermore National Laboratory, Statistics Group Seminar, September 13, 2016.
76. "Decomposing Functional Model Inputs for Variance-Based Sensitivity Analysis," SIAM Uncertainty Quantification Conference, Anaheim, CA, April 18, 2018.
77. "A Brief, Incomplete, and Biased History of Computer Experiments," (plenary), Joint Research Conference (ASA and ASQ), Santa Fe, NM, June 12, 2018.
78. "A Brief History of Statistical Computer Experiments," (Isobel Loutit Lecture), Statistical Society of Canada Meeting, Calgary, Alberta, May 29, 2019.