# CURRICULUM VITAE

12 August 2021

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Name: A. John Bailer

Education:
1986 - Ph.D. (Biostatistics) University of North Carolina, Chapel Hill, North Carolina.
1984 - M.A. University of North Carolina, Chapel Hill, NC.
1982 - B.S., A.B. Miami University, Oxford, Ohio.

Miami University Appointments (Miami University, Oxford Ohio USA):

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|---|---|
| 2009-now | University Distinguished Professor and Chair, Department of Statistics |
| 2005-2009 | University Distinguished Professor, Dept. of Mathematics & Statistics |
| 2005-now | Distinguished Scholar of the Graduate Faculty |
| 1995-now | Affiliate Member, Department of Biology [Dept. of Zoology renamed 2013] |
| 2007-now | Affiliate Member, Department of Sociology & Gerontology |
| 2009-now | Affiliate Member, Institute for the Environment and Sustainability |
| 2019-now | Affiliate Member, Department of Media, Journalism & Film |
| 1999-now | Scripps Research Fellow, Scripps Gerontology Center |
| 1996-2006 | Co-Director, Center for Environmental Toxicology and Stat. |
| 1996-2005 | Professor, Dept. of Mathematics & Statistics |
| 1993-1996 | Associate Professor, Dept. of Mathematics & Statistics |
| 1988-1993 | Assistant Professor, Dept. of Mathematics & Statistics |

Non-Miami Appointments:

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| 2002 - 2006 | Adjunct Professor, Dept. of Biostatistics, Univ. of North Carolina, Chapel Hill, NC. |
| 2002 (Jan.-June) | Visiting Scholar, Dept. of Biostatistics, Univ. of North Carolina, Chapel Hill, NC. |
| 1987 - 1988 | Staff Fellow, Division of Biometry and Risk Assessment, National Institute of Environmental Health Sciences (NIEHS), RTP, NC. |

Accreditation:

Accredited Professional Statistician (PStat®), American Statistical Association, initially appointed - 19 February 2013; expires 31 October 2024.

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Academic Honors and Awards:

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| 2020 | Joint Program Board in Mathematics (JPBM) communications award (jointly award to R. Campbell and R. Pennington in recognition of the Stats+Stories podcast) |
| 2020 | Founders Award, American Statistical Association (ASA) - recognizes ASA members who have rendered distinguished service to the association. |
| 2018 | Elected Fellow, American Association for the Advancement of Science (AAAS) |
| 2018 | E. Phillips Knox Distinguished Teaching Award (for Miami faculty member in recognition of creative, innovative and engaging teaching methods at the undergraduate level) |
| 2018 | Excellence in Career Development Award. Miami Center for Career Exploration & Success |
| 2014 | CDC Charles C. Shepard Science Award (with Matt Wheeler) for manuscript *"An empirical comparison of low-dose extrapolation from points of departure (PoD) compared to extrapolations based upon methods that account for model uncertainty"* |
| 2011 | Benjamin Harrison Medallion (awarded to Miami faculty or staff who have made outstanding national contributions to education) |
| 2011 | Book *Statistical Programming in SAS* –Recipient of 2010-2011 Society for Technical Communication, Carolina Chapter: Technical Publications Competition: Excellence Award – Information Materials |
| 2009 | Miami University Distinguished Teaching Award for Excellence in Graduate Instruction and Mentoring |
| 2007 | Best Paper Award 2007 *Risk Analysis* Health Sciences |
| 2005 | Distinguished Professor of Mathematics & Statistics, Miami University |
| 2005 | Distinguished Scholar of the Graduate Faculty, Miami University |
| 2004 | Fellow, Society for Risk Analysis |

2004 ASA Risk Analysis Section Award for Best Contributed Paper at Joint Stat. Mtgs.
2001 Miami University Distinguished Scholar Award
2000 ASA Statistics & the Environment Section Distinguished Achievement Award Medal
1999 Fellow, American Statistical Association (ASA)
1999 Miami University Chapter of Sigma Xi Researcher of the Year Award
1999 Miami University College of Arts and Science Distinguished Educator Award
1996 James E. Grizzle Distinguished Alumnus Award from the UNC Dept. of Biostatistics
1995 Alice Hamilton Science Award for Occupational Safety and Health Finalist
1991 Fellow, Institute of Environmental Sciences at Miami University
1990 Sigma Xi - Scientific Research Society

Honoraries:

Delta Omega (Public Health) 1987; Pi Mu Epsilon (Mathematics), Psi Chi (Psychology) 1981

Professional Affiliations (Member):

- American Association for the Advancement of Science
- American Statistical Association
- International Biometric Society
- International Statistical Institute (elected 2004) and associations
    - International Association of Statistical Education
    - International Association for Official Statistics
    - International Association for Statistical Computing
    - International Society for Business and Industrial Statistics
- Mathematical Association of America
- Royal Statistical Society
- Society for Risk Analysis
- Society of Environmental Toxicology and Chemistry
- Sigma Xi

Grants & External Funding (since 1990):

American Statistical Association (2020) Additional support for "ASA-Miami U Sponsorship Agreement For Stats+Stories, A Podcast/Webcast That Addresses The Story Behind The Statistics And The Statistics Behind The Stories." ($29,000).

National Institute for Occupational Safety and Health (NIOSH) **IPA** (2020-2021) “Occupational Risk Assessment Research, Analysis and Review” ($31,625). **IPA = Intergovernmental Personnel Act.**

American Statistical Association (ASA) (2020) Contract to support Stats+Stories podcast production ($25,000).

National Institute for Occupational Safety and Health (NIOSH) **IPA** (2019-2020) “Occupational Risk Assessment Research, Analysis and Review” ($30,247).

American Statistical Association (ASA) (2019) Contract to support Stats+Stories podcast production ($12,500).

National Institute for Occupational Safety and Health (NIOSH) **IPA** (2018-2019) “Occupational Risk Assessment Research, Analysis and Review” ($29,399).

ASA/NCTM Joint Committee on Curriculum in Statistics and Probability (2018) - ThinkStat! workshop. This workshop will equip middle and high school teachers to better teach statistical thinking in their classes. Miami and Wright Patterson AFB Educational Outreach group partnership. ” [PIs: Maurer, Hudiburgh, Werwinski, Bailer] ($11,742).

National Institute for Occupational Safety and Health (NIOSH) Contract (Fall 2018) “NIOSH Data Analyses Conducted by STA 660 Class” ($2800).

National Institute for Occupational Safety and Health (NIOSH) Contract (2017-2018) "Risk assessment methods for occupational health" ($30,432).

National Institute for Occupational Safety and Health (NIOSH) **IPA** (2016-2017) "Risk assessment methods for occupational health" ($27,071).

American Statistical Association (ASA) (2016) Contract to support Stats+Stories program production ($28,500).

National Institute for Occupational Safety and Health (NIOSH) **IPA** (2015-2016) "Risk assessment methods for occupational health" ($25,721).

Statistical Consultant on IES project "Mapping Barriers to Community College Completion Among Older Learners: Identifying Malleable Factors to Improve Student Outcomes" (PI: Phyllis Cummins) - Funded: 2016 ($1.4M).

NIOSH (2014) "Statistical intern / graduate assistant in occupational risk assessment at NIOSH" ($18,095).

NIOSH **IPA** (2014) "Statistical methods research for occupational safety and health" ($19,916).

NIOSH (2013) "Graduate assistant in quantitative risk assessment at NIOSH" ($17,654).

NIOSH **IPA** (2013) "Statistical methods research for occupational safety and health" ($19,111).

NIOSH (2012) "Quantitative risk assessment internship/graduate assistantship at NIOSH" ($17,140).

Procter & Gamble Company (2012) "Graduate research assistantship for the statistical analysis of fabric and home care technology projects." Supported academic year graduate student research assistant at P&G. ($24,480).

Procter & Gamble Company (2012) "Statistical services for baby care research connected with the development of SAS macros/programming for sleep research." Supported summer graduate student research assistant at P&G. ($12,000).

NIOSH (2012) "Government sponsored GA in Statistics" ($24,000).

Procter & Gamble Company (2011) "Industry-sponsored GA in Statistics" ($24,000).

Great Oaks Institute of Technology and Career Development (2010). Contract for a project entitled "In-Service Statistics Training/Professional Development for Teachers at Great Oaks." ($5,799).

Scripps Gerontology Center award (2008). This center provided summer research support. I serve as the statistical collaborator on a variety of gerontological research projects.

Wilson Environmental Laboratories (2007) – Subcontract for USEPA. "Critical Review Of Extra-Binomial And Extra-Poisson Variation In Regards To Statistical Analysis Of Data From Toxicity Tests With Aquatic Organisms." ($51,041).

President's Academic Enrichment Award. (2006) "The Ecology of Human-Dominated Ecosystems: Integrating Miami University into a National Network for Research and Education." [Principal authors: Crist, Bailer, Gorchov, Oris, Renwick, Rypstra, Wright]. ($209,499).

Scripps Gerontology Center award (2000-2007). This center provided support for a one course teaching reduction/semester since academic year 2000-2001. I serve as the statistical collaborator on a variety of gerontological research projects. ($12,500 per semester).

National Institute for Occupational Safety and Health (NIOSH), Cincinnati, Ohio. (1994-2012). NIOSH provides me summer salary and conference travel support on a continuing basis. This funding supports both methodological and applied research into occupational health risk assessment.

Ohio Long Term Care Research Project (2004). "Worker Injuries in Nursing Homes and Residential Care Facilities: Administering and Analyzing a Worker Safety Module used with the Annual Survey Reports." ($12,144).

National Institute of Environmental Health Sciences (2002). Contract with the Environmental Toxicology Program to collaborate in research with staff scientists (active Jan-June).

Ohio Department of Aging grant "Evaluating the long-term care delivery system in Ohio" [PIs: Kunkel, Mehdizadeh and Straker] (2001). I am the principal investigator for the portion of the grant addressing "High Risk Case Management" ($14,567 of the total budget $262,000).

Contract with International Lead Zinc Research Organization Inc. for "A weight of evidence analysis of sediment toxicology" (2001). ($7,000 for Statistical Consulting Center plus $1,200 travel expenses).

The Philip and Elaina Hampton Fund for Faculty International Initiatives Grant for "Risk assessment research in Scotland: Collaborations with Scientists of Biomathematics and Statistics Scotland and the Institute for Occupational Medicine" (2001). This funding supported my travel, lodging and expenses during my Faculty Improvement Leave in Edinburgh, Scotland ($9,000) – *not used because of changes in leave plans*.

Royal Society of Edinburgh (2001). This funding provides partial support for my travel, lodging and expenses for my leave in Edinburgh, Scotland (£900) – *not used because of changes in leave plans*.

Contract with Ohio Department of Human Services and the Ohio Board of Regents Medicaid Technical Assistance and Policy Program for "Reliability and prediction of case mix changes in Ohio nursing homes" (1999). Co-principal investigator with J. Straker ($95,770).

Lead statistical scientist on U.S. EPA grant for "Multi-level indicators of ecosystem integrity in Alpine Lakes of the Sierra Nevada" (1999). J.T. Oris is the principal investigator on this grant. I was involved in the experimental design and analysis of habitat, water quality and bioassessment metrics ($894,672).

Subcontract on U.S. EPA contract with SAIC for "Potency estimation for freshwater and marine aquatic toxicology experiments" (1999). This subcontract provided support to expand an analysis comparing competing potency estimation procedures in the context of toxicology experiments conducted by the EPA. ($25,000).

Scripps Gerontology Center award (1998 and 1999). This center provided support for a one course teaching reduction in academic years 1998-99 and 1999-2000. I use this release to work as a biostatistical collaborator on gerontology research questions ($10,000 each year).

Subcontract on U.S. EPA contract with SAIC for "Constructing Effective Concentration Estimates for Aquatic Hazards: an analysis of a large database of aquatic toxicology experiments [complete analysis and finalize report]" (1998). This subcontract provided support to continue the analysis comparing competing potency estimation procedures in the context of reference toxicology experiments conducted by the EPA. ($21,000).

The Philip and Elaina Hampton Fund for Faculty International Initiatives Grant for "Exploring International Opportunities for Collaboration in Environmental and Occupational Health Research with Korean scientists" (1997). This funding supported my travel and stay in South Korea to discuss research collaboration with scientists in Korean universities and in government ($1,500).

Travel to Society for Environmental Toxicology and Chemistry meeting supported by the Bay Area Dischargers Association ($1,250).

Subcontract on U.S. EPA contract with SAIC for "Constructing Effective Concentration Estimates for Aquatic Hazards: an analysis of a large database of aquatic toxicology experiments" (1997). This subcontract provided support to apply statistical methods that I developed to a large database of reference toxicology experiments conducted by the EPA. ($31,000).

The Procter and Gamble Company Grant for "A general framework for endpoint estimation in ecological toxicity testing" (1995). This grant provided support to investigate and to derive statistical procedures for estimating the potency of hazards to ecological systems. Co-principal investigator with J. Oris ($30,000).

The Philip and Elaina Hampton Fund for Faculty International Initiatives Grant for "Exploring international opportunities for collaboration in environmental and occupational health research" (1995). This funding supported my travel and stay in New Zealand to discuss research collaboration with investigators in the Department of Public Health in the Wellington School of Medicine ($2,500).

Committee on Faculty Research Grant to Promote Research and Scholarship for "Potency estimation for non-cancer endpoints" (1994). This grant provided funds to upgrade my UNIX workstation in order to facilitate a simulation study of toxicity experiments in which statistical estimation procedures will be explored. ($3,100).

College of Arts and Science Small Research Grant for "Supporting collaborative research in the environmental sciences" (1994). This grant provided funds for me to attend a short course in Spatial Statistics at the 1995 ENAR meetings. ($370).

College of Arts and Science Small Instructional Grant for "Displaying high dimensional data structures" (1994). This grant provided funds to purchase an upgrade of S-Plus for both my own workstation and a computer in the department computer lab. ($500).

Applied Technologies Grant for "Software for data visualization" (1994). This grant provided funds to outfit a computer laboratory with 5 copies of modern statistical computing software. ($2,500).

USEPA Cooperative Grant for "Development of a sediment toxicity test for *Hyallela azteca*: genetic and statistical evaluation of test data" (1993). This agreement provided partial summer support for 2 summers and equipment expenses. Co-principal investigator with J. Oris and S. Guttman. (Total budget: $46,000)

NIOSH Fellow. (1991-1994). NIOSH provided summer salary and other research support (e.g., access to computing resources, conference travel support, etc.). This program was intended promote collaboration on research projects between scientists at NIOSH and scientists at universities.

Procter & Gamble Co. (1993). Taught a course in regression modeling to scientists and to statistical support staff.

Procter & Gamble Co. (1992). Taught an introduction to probability and statistics course to scientists and to statistical support staff.

Committee on Faculty Research Grant to Promote Research and Scholarship for "A simulation study of aquatic potency estimators" (1991). This grant provided the funds to purchase a memory and processor upgrade for my computer workstation. ($4,000).

Ohio Board of Regents Research Challenge Grant New Investigator Award for "A statistical study of the estimation and testing of bioequivalence parameters" (1990). This grant provided the funds to purchase an advanced computer workstation. ($11,141).

Committee on Faculty Research Summer Research Appointment for "A statistical study of the estimation and testing of bioequivalence parameters" (1990). ($3,750).

Research Articles (**BOLD**=student or former student co-author):

1. Portier C.J. and Bailer A.J. (1987) Simulating failure times when the event of interest is unobservable with emphasis on animal carcinogenicity studies. *Computers and Biomedical Research* **20**: 458-466.

2. Bailer A.J. and Portier C.J. (1988) An illustration of the dangers of ignoring survival differences when analyzing carcinogenesis data. *Journal of Applied Toxicology* **8**: 185-189.

3. Bailer A.J. and Portier C.J. (1988) Effects of treatment-induced mortality and tumor-induced mortality on tests for carcinogenicity in small samples. *Biometrics* **44**: 417-431.

4. Bailer A.J. (1988) Testing for the equality of area under the curves when using destructive measurement techniques. *Journal of Pharmacokinetics and Biopharmaceutics* **16**: 303-309.

5. Bailer A.J. (1989) Testing variance equality with randomization tests. *Journal of Statistical Computation and Simulation* **31**: 1-8.

6. Portier C.J. and Bailer A.J. (1989) Testing for increased carcinogenicity using a survival-adjusted quantal response test. *Fundamental and Applied Toxicology* **12**: 731-737.

7. Portier C.J. and Bailer A.J. (1989) Two-stage models of carcinogenesis for historical control animals from the National Toxicology Program. *Journal of Toxicology and Environmental Health* **27**: 21-45.

8. Bailer A.J. and Hoel D.G. (1989) Metabolite-based internal doses used in a risk assessment of benzene. *Environmental Health Perspectives* **82**: 177-184.

9. Bailer A.J. and Hoel D.G. (1989) Benzene risk assessments: Review and update. *Cell Biology and Toxicology* **5**: 287-295.

10. Piegorsch W.W. and Bailer A.J. (1989) Optimal allocation for estimating area under curves for studies employing destructive sampling. *Journal of Pharmacokinetics and Biopharmaceutics* **17**: 493-507.

11. Bailer A.J. and Piegorsch W.W. (1990) Estimating integrals using quadrature methods with an application in pharmacokinetics. *Biometrics* **46**: 1201-1211.

12. Ghanayem B.I., Sanders J.M., Clark A., Bailer A.J. and Matthews H.B. (1990) Effects of Age and Dose on the Metabolism and Elimination of 2-Butoxyethanol. *Journal of Pharmacology and Experimental Therapeutics* **253**: 136-143.

13. Bailer A.J. and Portier C.J. (1990) A note on fitting one-compartment models: nonlinear least squares versus linear least squares using transformed data. *Journal of Applied Toxicology* **10**: 303-306.

14. Bailer A.J. and Portier C.J. (1993) An index of tumorigenic potency. *Biometrics* **49**: 357-365.

15. Oris J. and Bailer A.J. (1993) Statistical analysis of the *Ceriodaphnia* toxicity test: sample size determination for reproductive effects. *Environmental Toxicology and Chemistry* **12**: 85-90.

16. Bailer A.J. and Oris J. (1993) Modeling reproductive toxicity in *Ceriodaphnia* tests. *Environmental Toxicology and Chemistry* **12**: 787-791.

17. Piegorsch W.W. and Bailer A.J. (1993) Minimum mean-square error quadrature. *Journal of Statistical Computation and Simulation* **46**: 217-234.

18. Meier K., Bailer A.J. and Portier C. (1993) A measure of tumorigenic potency incorporating dose-response shape. *Biometrics* **49**: 917-926.

19. Stayner L. and Bailer A.J. (1993) Comparing toxicologic and epidemiologic studies: methylene chloride as a case study. *Risk Analysis* **13**: 671-677.

20. Bailer A.J. and Oris J.T. (1994) Assessing the toxicity of pollutants for aquatic systems. *Case Studies in Biometry*, N. Lange, L. Ryan, L. Billard, D. Brillinger, L. Conquest, J. Greenhouse (Eds.), John Wiley & Sons, Inc., New York, 25-40.

21. Dankovic D. and Bailer A.J. (1994) The impact of exercise and intersubject variability on dose estimates for dichloromethane derived from a physiologically-based pharmacokinetic model. *Fundamental and Applied Toxicology* **22**: 20-25.

22. Piegorsch W.W. and Bailer A.J. (1994) Statistical approaches for analyzing mutational spectra: some recommendations for categorical data *Genetics* **136**: 403-416.

23. Bailer A.J. and Smith R. (1994) A model for time extrapolation in carcinogenicity studies. *Biometrics* **50**: 220-225.

24. Bailer A.J. and Stayner L.T. (1994) Contrasting the utility of toxicologic and epidemiologic information for quantitative risk assessment. *Informatik, Biometrie und Epidemiologie* **25**: 219-224.

25. Bailer A.J. and Smith R. (1994) Estimating upper confidence limits for extra risk in quantal multistage models. *Risk Analysis* **14**: 1001-1010.

26. **Foreʹ S**., Guttman S., Bailer A.J., Altfater D.J. and Counts D.V. (1995) An exploratory analysis of the use of genetic diversity as a indicator of water quality: Part I. *Pimephales notatus* as a model. *Ecotoxicology and Environmental Safety* **30**: 24-35.

27. **Foreʹ S.,** Guttman S., Bailer A.J., Altfater D.J. and Counts D.V. (1995) An exploratory analysis of the use of genetic diversity as a indicator of water quality: Part II. *Campostoma anomalum* as a model. *Ecotoxicology and Environmental Safety* **30**: 36-46.

28. Stayner L.T., Smith R.J., Bailer A.J., Luebeck E.G. and Moolgavkar S.H. (1995) Modeling epidemiologic studies of occupational cohorts for the quantitative assessment of carcinogenic hazards. *American Journal of Industrial Medicine* **27**: 155-170.

29. **Schlueter M.A.**, Guttman S.I., Oris J.T. and Bailer A.J. (1995) Differential effects of allozyme genotypes on survival of juvenile fathead minnows, *Pimephales promelas*, exposed to copper. *Environmental Toxicology and Chemistry* **14**: 1727-1734.

30. Bailer A.J. and Oris J.T. (1996) Implications of defining test acceptability in terms of control-group survival in two-group survival studies. *Environmental Toxicology and Chemistry* **15**: 1242-1244.

31. Bailer A.J. and Ruberg S. (1996) Randomization tests for AUC equality. *Journal of Applied Toxicology* **16**: 391-395.

32. **Barghusen L.E.**, Claussen D.L., Anderson M.S. and Bailer A.J. (1997) The effects of temperature on the web-building behavior of the common house spider, *Achaearanea tepidariorum*. *Functional Ecology***11**: 4-10.

33. Bailer A.J., Reed L.D., and Stayner L.T. (1997) Modeling fatal injury rates using Poisson regression: a case study of workers in agriculture, forestry and fishing. *Journal of Safety Research* **28**: 177-186.

34. Bailer A.J., and Oris J.T. (1997) Estimating inhibition concentrations for different response scales using generalized linear models. *Environmental Toxicology and Chemistry* **16**: 1554-1559.

35. **Schlueter M.A.**, Guttman S.I., Oris J.T. and Bailer A.J. (1997) Differential survival of fathead minnows, *Pimephales promelas*, as affected by copper exposure, prior population stress, and allozyme genotypes. *Environmental Toxicology and Chemistry* **16**: 939-947.

36. Oris J.T. and Bailer A.J. (1997) Equivalence of concentration-response distributions in aquatic toxicology: testing and implications for potency estimation. *Environmental Toxicology and Chemistry***16**: 2204-2209.

37. Stayner L.T., Smith R.J., Bailer A.J., **Gilbert S.J.**, Steenland K., Dement J., Brown D. and Lemen R. (1997) An exposure-response analysis of respiratory disease risk associated with occupational exposure to chrysotile asbestos. *Occupational and Environmental Medicine***54**: 646-652.

38. Bailer A.J., Stayner L.T., Smith R.J., Kuempel E.D. and Prince M.M. (1997) Estimating benchmark concentrations and other non-cancer endpoints in epidemiology studies. *Risk Analysis* **17**: 771-780.

39. Bailer A.J. and Dankovic D.A. (1997) An introduction to the use of physiologically-based pharmacokinetc models in risk assessment. *Statistical Methods in Medical Research***6**: 341-358.

40. Bailer A.J. and See K. (1998) Individual-based risk estimation for count responses. *Environmental Toxicology and Chemistry* **17**: 530-533.

41. See K. and Bailer A.J. (1998) Added risk and inverse estimation for count responses in reproductive aquatic toxicology studies. *Biometrics* **54**: 263-269.

42. Davis R.B., Bailer A.J. and Oris J.T. (1998) Impact of non-random allocation on lethal concentration estimation. *Environmental Toxicology and Chemistry* **17**: 928-931.

43. Bailer A.J., Stayner L.T., Stout N.A., Reed L.D. and **Gilbert S.J.** (1998) Trends in occupational fatal injury rates in the U.S. (1983-1992). *Occupational and Environmental Medicine*.**55**: 485-498.

44. See K. and Bailer A.J. (1998) Estimates of lifetime risk of occupational fatal injury from age-specific rates. *Human and Ecological Risk Assessment* **4**: 1309-1319.

45. **Gilbert S.J.**, Bailer A.J. and Stayner L.T. (1998) Years of potential life lost due to occupational fatal injury in the United States. *Human and Ecological Risk Assessment* **4**: 1321-1335.

46. Bailer A.J., Stayner L.T., Halperin W., Reed L.D. and Seymour T. (1998) Comparing injury and illness risk assessments for occupational hazards. *Human and Ecological Risk Assessment* **4**: 1265-1274.

47. Stayner L., Smith R.J., **Gilbert S.** and Bailer A.J. (1999) Epidemiologic approaches to risk assessment. *Toxicology* **11**: 593-601.

48. Bailer A.J. and Oris J.T. (2000) Defining the baseline for inhibition concentration calculations for hormetic hazards. *Journal of Applied Toxicology* **20**: 121-125.

49. Bailer A.J., Hughes M.R., Denton D. and Oris J.T. (2000) An empirical comparison of effective concentration estimators for evaluating aquatic toxicity test responses. *Environmental Toxicology and Chemistry* **19**: 141-150.

50. **Duan Y.**, Guttman S.I., Oris J.T. and Bailer A.J. (2000) Genotype and toxicity relationship among laboratory *Hyallela azteca* : I. acute exposure to metals or low pH. *Environmental Toxicology and Chemistry* **19**: 1414-1421.

51. **Duan Y**., Guttman S.I., Oris J.T. and Bailer A.J. (2000) Genetic structure and relationships among populations of *Hyalella azteca* and *H. montezuma* (*Crustacea: Amphipoda*). *Journal of the North American Benthological Society* **19**: 308-320.

52. Bailer A.J., **Walker S.** and **Venis K.J.** (2000) Statistical methods for estimating and comparing bioconcentration factors. *Environmental Toxicology and Chemistry***19**: 2338-2340.

53. See K., Stufken J., Song S.Y. and Bailer A.J. (2000) Relative efficiencies of sampling plans for selecting a small number of units from a rectangular region. *Journal of Statistical Computation and Simulation***66**: 273-294.

54. Stayner L.T., Dankovic D., Smith R.J. and Bailer A.J. (2000) Human cancer risk and exposure to 1,3-butadiene - A tale of mice and men. *Scandanavian Journal of Work and Environment* **26**(4):322-330.

55. Bailer A.J. and Piegorsch W.W. (2000) From quantal response to mechanisms and systems: The past, present, and future of biometrics in environmental toxicology. *Biometrics***56**: 327-336.

56. Bailer A.J., **Liu S.**, **Smith M.L.** and Isaacson L. (2000) The statistical analysis of axon-scaled neurotransmitter activity. *Biometrics* **56**: 936-939.

57. Bailer A.J., **Elmore R.T**., **Shumate B.J.** and Oris J.T. (2000) A simulation study of characteristics of statistical estimators of inhibition concentrations. *Environmental Toxicology and Chemistry***19**: 3068-3073.

58. Kuempel E.D., Tran C-L, O'Flaherty E.J., Stayner L.T., Smith R.J., Dankovic D., and Bailer A.J. (2000) Evaluation of particle clearance and retention in the lungs of U.S. coal miners. *Inhalation Toxicology* **12**(suppl. 3): 397-402.

59. Hughes M.R., Bailer A.J. and Denton D. (2001) Toxicant and response specific comparisons of statistical methods for estimating effective concentrations. *Environmental Toxicology and Chemistry* **20**: 1374-1380.

60. Bailar J.C. and Bailer A.J. (2001) The Science of Risk Assessment. *Canadian Journal of Medicine* 164: 503-506.

61. **Duan Y.**, Guttman S.I., Oris J.T. and Bailer A.J. (2001) Differential survivorship among allozyme genotypes of *Hyalella azteca* exposed to cadmium, zinc or low pH. *Aquatic Toxicology* **54**: 15-28.

62. Haseman J.K, Bailer A.J., Kodell R.L., Morris R. and Portier K. (2001) Statistical issues in the analysis of low dose endocrine disruptor data. *Toxicological Sciences* **61**: 201-210.

63. Kuempel E.D., Tran C-L, Smith R.J. and Bailer A.J. (2001) A biomathematical model of particle clearance and retention in the lungs of coal miners: Part II. Evaluation of variability and uncertainty. *Regulatory Toxicology and Pharmacology* **34**: 88-101.

64. **Bena J.**, Bailer A.J., Park R.M. and Halperin W. (2001) A graphical analysis of fatal occupational injuries. *Human and Ecological Risk Assessment* 7: 1843-1857.

65. Kuempel E.D., Tran C.L. Bailer A.J., Porter D., Hubbs A., and Castranova V. (2001) Biological and statistical approaches to predicting human lung cancer risk from silica. *Journal of Environmental Pathology, Toxicology and Oncology* **20**(Suppl 1): 15-32.

66. Kuempel E.D., Tran C.L., Bailer A.J., Smith R.J., Dankovic D.A. and Stayner, L.T. (2001). Methodological issues of using observational human data in lung dosimetry models for particulates. *The Science of the Total Environment* **274**: 67-77.

67. Zeise L., Hattis D., Andersen M., Bailer A.J., Bayard S., Chen C., Clewell H., Conolly R., Crump K., Dunson D., Finkel A., Haber L., Jarabek A., Kodell R., Krewski D., Thomas D., Thorslund T. and Wassell J.T. (2002) Research opportunities in dose response modeling to improve risk assessment. *Human and Ecological Risk Assessment* **8**: 1421-1444.

68. Park R.M., Bailer A.J., **Gilbert S.J.**, Halperin W.E. and Stayner L.T. (2002) An alternate characterization of risk in occupational epidemiology: years of life lost per years worked. *American Journal of Industrial Medicine* **42**: 1-10.

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Blog Posts:

1. Contributions to ISI *Statisticians React to the News* blog
    a. Statistician reacting to Statisticians (and others) reacting to the news: A meta-post with reading recommendations (29 Dec 2020) - https://blog.isi-web.org/react/2020/12/statistician-reacting-meta-post/ (29 Dec 2020)
    b. My COVID-19 test is positive … do I really have it? https://blog.isi-web.org/react/2020/08/my-test-is-positive/ (25 Aug 2020)
2. ISI *President's Column* Blog Posts (2019-2021) https://blog.isi-web.org/category/presidents-column/

Book chapters, Technical reports, Proceedings, Letters:

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20. Bailer A.J. and Oris J.T. (1999) What is a NOEC? Nonmonotonic concentration-response patterns want to know. *SETAC News*, March: 22-24.

21. Bailer A.J. and Piegorsch W.W. (2000) Quantitative potency estimation to measure risk with bio-environmental hazards. In *Handbook of Statistics: Bio-Environmental and Public Health Statistics* C.R. Rao and P.K. Sen (Eds.), **18**: 441-463.

22. Bailer A.J. (2001) Experiments, analyses and decisions: hormesis in ecotoxicology. *BELLE Newsletter* **10**, 9-11.

23. Bailer A.J. (2001) Statistical issues encountered in the risk assessment of pesticides and herbicides. *Bull. Int. Statist. Inst.*, Vol.LIX Book 1, pp.305-308. Proceedings of the 53th Session, August 22-29, 2001, Seoul, Korea.

24. Bailer A.J. and Oris J.T. (2002) Toxicology, Environmental. In *Encyclopedia of Environmetrics.* Vol 4, A.H. El-Sharawi and W.W. Piegorsch (Eds.), 2212-2218.

25. Bailer A.J. and Oris J.T. (2002) Aquatic Toxicology. In *Encyclopedia of Environmetrics.* Vol. 1, A.H. El-Sharawi and W.W. Piegorsch (Eds.), 77-80.

26. Oris J.T., and Bailer A.J. (2003) Quantitative models in ecological toxicology: Application in ecological risk assessment. Chapter 19. IN: *The Role of Models in Ecosystem Science*, Cary Conference IX, J. Cole and C. Canham (eds.), Princeton Univ. Press, NJ. pp. 346-364.

27. Bailer A.J. (2003) The use of probabilistic and simulation methods in the assessment of occupational hazards. *Bull. Int. Statist. Inst.*, Vol.LX Book 2, pp.142-144. Proceedings of the 54th Session, August 13-20, 2003, Berlin, Germany.

28. Vineis P., Schulte P.A., Carreon T., Bailer A.J., and Medvedovic M. (2004) Issues of design and analysis in studies of gene-environment interactions. In P. Buffler, J. Rice, M. Bird, P. Boffeta (Eds): *Mechanisms of carcinogenesis*. IARC Sci. Publ. 157, International Agency For Research on Cancer, Lyon, pp 417-436.

29. Bailer A.J. and Bailar J.C. (2006) Risk Assessment. In J.C. Bailar and D.C. Hoaglin (Eds): *Medical Uses of Statistics*, 3rd Edition.

30. Bailer A.J. and Oris J.T. (2008) Statistics for environmental toxicology, in *Encyclopedia of Quantitative Risk Assessment*, E. Melnick and B. Everitt (eds.) John Wiley & Sons, Ltd,, Chichester, UK, pp 1692-1697.

31. Bailer A.J. and Piegorsch W.W. (2008) Potency estimation, in *Encyclopedia of Quantitative Risk Assessment*, E. Melnick and B. Everitt (eds.) John Wiley & Sons, Ltd,, Chichester, UK, pp 1285-1290.

32. Piegorsch W.W. and Bailer A.J. (2008) Combining information, in *Encyclopedia of Quantitative Risk Assessment*, E. Melnick and B. Everitt (eds.) John Wiley & Sons, Ltd,, Chichester, UK, pp 259-264.

33. Bailer A.J. (2008) Review of "Useless Arithmetic: Why Environmental Scientists Can't Predict the Future." *Biometrics* **64**: 651-652.

34. **Stanev S.S.**, Bailer A.J. and **Li H.** (2008) Worker Injuries and Safety Equipment in Ohio Nursing Homes. Scripps Gerontology Center Research Brief. Oxford, OH. http://www.units.muohio.edu/scripps/research/publications/Worker_Injuries.html

35. Ginsberg G., Levy J., Bailer A.J., and Zeise L. (2010) The NRC Silver Book: The Case for Improving Non-Cancer Risk Assessment. *Risk Policy Report* (www.insideEPA.com). September 14, 2010: 11-14.

36. **Steinwald, M.**, **Kawarasaki Y.**, Constible J., Lee R.E. and Bailer A.J. (2010) Picture polar science: Using Gigapan to connect classrooms to Antarctic cryobiologists. Fine International Conference on Gigapixel Imaging for Science. Pittsburgh, PA. Nov 2010. (http://gigapixelscience.gigapan.org/papers-2/picturepolarscienceusinggigapantoconnectclassroomstoantarcticcryobiologists-mollysteinwaldyutakawarasakijuanitaconstiblerichardeleeajohnbailer)

37. Bailer A.J. and Oris J.T. (2012) Aquatic toxicology in *Encyclopedia of Environmetrics* Second Edition, A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp. 97-100. DOI: 10.1002/9780470057339.vaa018.pub2.

38. Bailer A.J. and Oris J.T. (2012) Toxicology, environmental in *Encyclopedia of Environmetrics* Second Edition, A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp. 2753-2759. DOI: 10.1002/9780470057339.vat013.pub2.

39. Mulrow J., Gardner S. and Bailer A.J. (2013) PStat and You? AMSTAT News, December 2013, Issue #438, 7-8.

40. Bailer J., Braddy L., Carpenter J., Jaco W., Turner P., and Zorn P. (2014) INGenIOuS Project: Report on July 2013 Workshop (http://www.ingeniousmathstat.org/pdfs/INGenIOuS-report.pdf).

41. Zhang J., Bailer A.J. and Oris J.T. (2015) Toxicology, Environmental. Entry revised for updated of *Encyclopedia of Environmetrics*.

42. Bailer A.J. and Campbell R. (2015) Statistics Meets Journalism in Stats+Stories Webcast. World of Statistics Blog entry. October 28, 2015. http://www.worldofstatistics.org/2015/10/28/statistics-meets-journalism-in-statsstories-webcast/

43. Bailer A.J. and Campbell R. (2015) Stats + Stories = statistical literacy. Newsletter of the International Statistical Literacy Project. 2*8) November 2015. http://iase-web.org/islp/documents/Newsletters/ISLP%20Newsletter%20Vol%208.2%20November%202015.pdf .

44. Bailer A.J. (2021) Review of Statistical Models in Toxicology by Mehdi Razzaghi *Journal of Agricultural, Biological, and Environmental Statistics* https://doi.org/10.1007/s13253-021-00448-0.

Submissions / In Preparation/ Work in progress:

Bailer A.J. and Pennington, R.: Statistics behind the Headlines. ASA-CRC Series on Statistical Reasoning in Science and Society (book under contract / revising based on reviews).

**Mathews H.**, **Yamashita T**., Kunkel S. and Bailer A.J.: Visualizing data from gerontology research: current practice, guiding principles and suggested alternatives.

**Lim S.,** Bailer A.J., Simmons, S.J. and Piegorsch W.W.: A comparison of quantal Bayesian model-averaged benchmark dose software.

Long D.M., Wheeler M.W., Park R. and Bailer A.J.: Cox Proportional Hazard Regression and Splines: A Cautionary Tale.

Zhang J., Bailer A.J. and Oris J.T.: Bayesian analysis of mixed type of hierarchical responses in aquatic toxicology."

Zhang J., Bailer A.J. and Oris J.T.: Using historical experiments in Bayesian analysis of reproductive toxicological studies.

**Wang S.**, Zhang J., Bailer A.J. and Oris J.T.: Bayesian analysis of mixed type of hierarchical responses in aquatic toxicology."

Zhang J., Bailer A.J. and Oris J.T.: Bayesian model averaging and its applications in aquatic toxicology.

Noe D.A., Bailer A.J. and Noble R.B.: A Bayesian Approach for Defining Classical Extremes: Ordering a Trinomial Sample Space.

**Slutz, G., Fadel W.**, **Wheeler M.W.** and Bailer A.J.: BMD estimation for continuous responses when the standard deviation is linearly related to dose.

**Nelson I.M.**, Noe D.A., Mehdizadeh S. and Bailer A.J.: Disenrollment prediction in community-dwelling individuals participating in a home care services program.

Claytor R.P., **Fenchell M**., Bailer A.J. and Daniels S.: How many observations are required for characterizing activity in pre-school children?

Claytor R.P., **Fenchell M.**, Bailer A.J. and Daniels S.: Age-related trends in activity levels in pre-school children.

Claytor R.P., **Spencer K.**, Bailer A.J. and Daniels S.: Predictors of pre-school activity levels in children.

Presentations (since 1990) + Short Courses:

1. "Estimating tumorigenic potency", Cincinnati Chapter of the ASA, January 1990.
2. "Collaborative learning in the classroom", Lilly West Conference, Lake Arrowhead, CA, March 1990.
3. "Enhancing teaching in the university context: lessons learned from the Lilly Teaching Fellows Program", American Association for Higher Education 1990 National Conference on Higher Education, San Francisco, April 1990.
4. "Incorporating modern statistical computing tools in teaching and research", Ohio Statistics Conference, Cincinnati, November 1990.
5. "A comparison of tumorigenic potency estimators", Eastern North American Region of the Biometric Society Spring Meeting, Houston, March 1991.
6. "Statistical issues in aquatic toxicology", seminar talk at the National Institute of Environmental Health Sciences, Research Triangle Park, NC, April 1991.

7 a. "Predictive value of short-term tests and biochemical assays for carcinogenicity."
b. "Modeling the rate of formation of metabolic products."
c. "Dose-response and extrapolation."
The Scientific Basis of Carcinogenicity Testing - an international course, Moscow, Russia, June 1991. I was invited to give three one-hour lectures at this meeting. The International Agency for Research in Cancer and the National Institute of Environmental Health Sciences provided all of my funding for travel and expenses to attend this meeting.

8. "Modeling reproductive outcome in aquatic toxicology studies", Ninth Annual Mathematics and Statistics Conference, Miami University, September 1991.
9. "Research proposals as models for projects in introductory statistics classes", American Statistical Association (ASA) Winter Meetings, Louisville, Kentucky, January 1992.
10. "Adjusting for differences in study length and exposure when comparing carcinogenicity studies", seminar talk at the National Institute of Environmental Health Sciences, January 1993.

11 a. "Dose-response modeling"
b. "Uncertainty in risk assessment"
Lectures in Short Course in Risk Assessment. I was invited to give two two-hour lectures at this course. Fernald Uranium Processing Facility, Ross, Ohio, June 1993.

12. "Issues to consider when comparing toxicologic and epidemiologic studies", Symposium on Quantitative Risk Assessment, Heidelberg, Germany, December 1993.
13. "Estimating confidence limits on excess risk in multistage models", Eastern North American Region of the Biometric Society Spring Meeting, Cleveland, April 1994.
14. "Current research in risk assessment at NIOSH", seminar talk at the National Institute of Environmental Health Sciences, June 1994.
15. "Potency estimation in aquatic toxicology studies", Eastern North American Region of the Biometric Society Spring Meeting, Birmingham, March 1995.
16. "Methods for evaluating risks of non-cancer endpoints in epidemiology studies", 11th International Symposium on Epidemiology in Occupational Health, Noordwijkerhout, The Netherlands, September 1995.
17. "Comparing potency estimators in aquatic toxicology studies", 2nd Society of Environmental Toxicology and Chemistry World Congress, Vancouver, British Columbia, Canada, November 1995. (I was also a co-author of 3 posters presented at this meeting.)
18. "A general framework for effective concentration estimation in aquatic toxicology studies", 1996 James E. Grizzle Distinguished Alumnus Lecture, 24th Annual UNC School of Public Health Alumni Conference, Chapel Hill, NC, March 1996.
19. "Statistical endpoint estimation in ecotoxicology studies", Sydney International Statistical Congress, Sydney, Australia, July 1999.

20a. "Risk assessment concepts and controversies"
b. "Non-cancer risk assessment principles and strategies"
c. "Risk research at NIOSH -- past, present, and future"
I was invited to give three one-hour lectures in the Department of Public Health at the Wellington School of Medicine, Wellington, New Zealand, July 1996.

21. "Risk estimation for non-cancer responses based on epidemiology studies", Joint Statistical Meetings, Chicago, August 1996.
22. "Individual-based risk estimation for count responses", Eastern North American Region of the Biometric Society Spring Meeting, Memphis, March 1997.
23. "Trends in occupational fatal injury rates in the United States (1983-1992)", National Occupational Injury Research Symposium, Morgantown, West Virginia, October 1997.
24. "Population and individual-based risk estimation for count responses", 18th Annual Meeting of the Society for Environmental Toxicology and Chemistry, San Francisco, November 1997.
25. "Statistical considerations in low-dose study design" at the Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) Low Dose Workshop in Washington, D.C., February 1998.
26. "Statistical Inference in Molecular Epidemiology", Lecture in Molecular Epidemiology class, University of Cincinnati, Cincinnati, April 1998.
27. "Introduction to quantitative issues in physiologically-based pharmacokinetic models", National Institute of Environmental Research, Seoul, Republic of Korea, May 1998.
28. "Potency estimation in the context of generalized linear models", Biometric Society Group Korea and the Department of Applied Statistics and the Institute of Environmental and Atmospheric Pollution, Yonsei University, Seoul, Republic of Korea, May 1998.
29. "Risk assessment in occupational health", Korean Industrial Safety Corporation, Inchon, Republic of Korea, May 1998.
30. "Uncertainty in risk assessment: past, present, and future", Workshop on Uncertainty in the risk assessment of environmental and occupational hazards, Bologna, Italy, September 1998.
31. "Incorporating hormesis in the routine testing of hazards", Societal Implications of Hormesis Conference, Research Triangle Park, NC, October 1998.

32a. "Identifying and quantifying hormetic hazards" and

b. "Estimating and Testing Bioconcentration Factors"

19th Annual Meeting of the Society for Environmental Toxicology and Chemistry, Charlotte, NC, November 1998.

33. "The definition of potency endpoints as a function of different concentration-response patterns", Joint Statistical Meetings, Baltimore, August 1999.
34. "How much is too much? (some thoughts on the assessment of the risks posed by environmental and occupational hazards), Sigma Xi Researcher of the Year Lecture, Oxford, OH, November 1999.

35a. "A longitudinal data analysis of the perceived hassles associated with caregiving to a spouse with dementia"

b. "Comparing different models for predicting health and long-term care expenditures"

c. "Evaluating leisure activity and functional health status changes over time"

Gerontological Society of America Meetings, San Francisco, CA, November 1999.

36. "Mentors, models, coaches or talking heads: is it what we say or what we do?" College of Arts and Science Distinguished Lecture, Oxford, OH, February 2000.
37. "Statistical comparison of axon-scaled neurochemical production" Eastern North American Region of the Biometric Society Spring Meeting, Chicago, March 2000.
38. "Predicting outcomes among older adults: some tools from statistics", ONECA Annual Conference, Cincinnati, April 2000.
39. "Preliminary analysis of years of potential life lost in the National Traumatic Fatality database along with other event code specific summaries", National Occupational Injury Research Symposium, Pittsburgh, PA, October 2000.

40a. "Are case-mix scores changing over time?"

b. "Defining disability: implication of measurement for trends in disability rates"

Gerontological Society of America Meetings, Washington, D.C. November 2000.

41. "Estimating and testing bioconcentration factors". ENAR Spring Meeting. Charlotte, NC. March 2001.
42. "How much is too much? … how many are there? … do you really believe that? … answering questions with biostatistics." Seminar at Berea College. Berea, KY. March 2001.

43. "Applied statistical research at Miami University." Seminar at Biomathematics and Statistics Scotland. Edinburgh, Scotland. May 2001.
44. "A pooled response strategy for analyzing multiple responses to develop relative site rankings in a weight of evidence evaluation of sediment contamination." Weight of Evidence Workshop. Madrid, Spain. May 2001.
45. "Statistical issues in environmental toxicology: water quality assessment, bio-concentration and site rankings." Cincinnati Chapter of the ASA Meeting. June 2001.
46. "Statistical issues encountered in the risk assessment of pesticides." 53rd Session of the International Statistical Institute. Seoul, Republic of Korea. August 2001.
47. "Defining and evaluating impact in environmental toxicology." International Conference on Statistical Challenges in Environmental Health Problems. Fukuoka, Japan. August 2001.
48. "Reliability and prediction of case mix changes in Ohio Nursing Home." Seminar at the Ohio Department of Work and Family Services. Co-presenter with J.K. Straker. Columbus, Ohio. October 2001.
49. "Defining and evaluating impact in environmental toxicology." Seminar at the University of Cincinnati. Cincinnati, OH. November 2001.
50. "Statistical issues associated with ecotoxicology endpoints." Symposium on Biostatistical and Biomathematical Problems in Environmental Health. Research Triangle Park, NC. June 2002.
51. "Sample size determination for sampling residents from nursing homes." Gerontological Society of America Meetings, Boston, MA, November 2002.
52. "A Parametric Model for Studying Organism Fitness Using Step-Stress Experiments," Eastern North American Region of the Biometric Society Spring Meeting, Tampa, March 2003.
53. "The Use of Probabilistic and Simulation Methods in the Assessment of Occupational Hazards," 54th Session of the International Statistical Institute. Berlin, Germany. August 2003.
54. "Statistical estimation, testing and design questions in ecotoxicology." Wright State University. Dayton, OH, October 2003.
55. "Telling stories with pictures: effective graphic display of data." Scripps Gerontology Center. Oxford, OH, November 2003.
56. "Designing nonlinear experiments using nonenumerative strategies." Eastern North American Region of the Biometric Society Spring Meeting, Pittsburgh, March 2004.
57. "When and how often should you sample? Strategies for determining optimal allocation of sampling times & replications in nonlinear models." Seminar at the National Institute of Environmental Health Sciences. Research Triangle Park, NC. April 2004.
58. "Reflecting exposure variability and model uncertainty in risk estimates." Presentation to National Academies Subcommittee on Spacecraft Exposure Guidelines. Woods Hole, MA. May 2004.
59. "Evaluating and incorporating uncertainty in risk assessment." Korea Food and Drug Administration, Seoul, South Korea. June 2004.
60. "External cause specific summaries of occupational fatal injuries in the United States." Korea Occupational Safety and Health Agency, Incheon, Korea. June 2004.
61. "Model uncertainty and risk estimation for quantal responses." Joint Statistical Meetings. Toronto, Canada. August 2004.
62. "Comparative Study of Occupational Fatal Injury Rates in South Korea and the United States." Webinar jointly presented with Y-S. Ahn and J. Bena. September 30, 2004. http://www.circl.pitt.edu/home/past_seminars.htm
63. "When, if and how should we average risk estimates from different models?" Presentation to National Academies Subcommittee on Spacecraft Exposure Guidelines. Houston, TX. November 2004.
64. "What do you do when more than one risk estimation model is adequate? A discussion of model averaging in risk assessment." Seminar at the Risk Evaluation Branch, NIOSH, Cincinnati, OH February 2005.
65. "Occupational fatal injuries in the United States: cause-specific rates and years of potential life lost." Seminar at the Center for Injury Research and Policy, Columbus Children's Research Institute, Columbus, OH June 2005.

66. “Best of both worlds? Statistical concepts in a programming class.“ [Also served as discussant for invited session on Isotonic Methods in Toxicology and Risk.] Joint Statistical Meetings. Minneapolis, MN. August 2005.
67. “How much is too much? … how many are there? … do you really believe that? … answering questions with biostatistics.” Seminar at Wabash College. IN. Oct. 2005.
68. “Predicting and defining quality in Ohio nursing homes.” Scripps Brown Bag Seminar. Nov. 2005 (co-presented with J. Straker).
69. “Answering questions with biostatistics – lying, dying and sizing.” Seminar at Franklin College. Franklin, IN. February 2006.
70. “Sample size requirements for studying small populations in gerontology.” Eastern North American Region of the Biometric Society Spring Meeting, Tampa, March 2006.
71. "The mixing zone between ecotoxicology testing and statistical methods." Society for Environmental Toxicology and Chemistry, Montreal, November 2006.
72. "Closing down the bars: Options for Displaying and Comparing Data Distributions." ECOLUNCH seminar at Miami University, January 2007.
73. "Evaluating evidence of rater disagreement.” Eastern North American Region of the Biometric Society Spring Meeting, Atlanta, March 2007.
74. Briefing for the Collaborative on Health and the Environment March 8th CHE Partnership Call -- Special Policy Education Call on the OMB Risk Assessment Bulletin, March 2007.
75. "Model averaging and risk estimation." NRC Workshop on Quantitative Approaches to Characterizing Uncertainty in Human Cancer Risk Assessment based on bioassay results (BEST Standing Committee on Risk Analysis Issues and Reviews) Washington DC. June 2007.
76. “Risk estimation and national security: introduction and overview.“ Joint Statistical Meetings. Salt Lake City, UT. August 2007.
77. “Risk estimation and national security: introduction and overview.“ Seminar at Taylor University. Upland, IN. February 2008. (50 minute version of Talk #76.)
78. “Modeling infectivity rates and attack windows for two viruses.” Eastern North American Region of the Biometric Society Spring Meeting, Crystal City, Virginia, March 2008. (co-author of second presentation at this meeting).
79. “Do raters agree when assessing nursing home resident impairment?” Seminar at The Ohio State University, Columbus, Ohio, June 2008.
80. “Low-dose extrapolation from BMD points-of-departure or from model-averaged estimates.” Seminar at the Risk Evaluation Branch, NIOSH, Cincinnati, OH June 2008.
81. “Biostatistical contributions to gerontological research.” Seminar at the Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI) at Miami University, Oxford, Ohio, July 2008.
82. “Low-dose extrapolation from points of departure or model-averaged estimates” and Lunch Roundtable: “How do we promote quantitative literacy across the undergraduate curriculum and how will we know if we were successful?” Joint Statistical Meetings. Denver, CO. August 2008.
83. “Political Economy of US States and Rates of Fatal Occupational Injury.” 2nd Annual Seoul-Miami Joint Conference. Oxford, OH. October 2008.
84. “Worker injuries and safety equipment in Ohio Nursing Homes.” Presentation to the Long-term Care Advisory Board. Columbus, OH. October 2008.
85. “Quantitative literacy at Miami University: Lessons learned (and being learned).” (with J. Kiper) Seminar at the University of Kentucky. Lexington, KY. February 2009.
86. “News and numbers: telling the story to learn the statistics.” Joint Statistical Meetings. Washington DC. August 2009.
87. “News and numbers: QL in a JRN/STA class” (with R. Campbell). Miami University Bicentennial Symposium Poster Session. Oxford, OH. September 2009.
88. “Telling the story to learn the statistics.” (with R. Campbell) Miami University Dept. of Mathematics conference on “The Teaching of Undergraduate Mathematics.” Oxford, OH. September 2009.

89. "How much, how long, when and where: providing biostatistical answers to ecotoxicological questions." UNC-CH Biostatistics 60th Anniversary. Chapel Hill, NC. October 2009.
90. "Research careers: starting now and ending when?" Keynote address at Miami University Graduate Research Forum. Oxford, OH November 2009. http://www.units.muohio.edu/grf/node/152
91. "Reflecting model uncertainty in risk estimates." Seminar for the Division of Epidemiology and Biostatistics School of Public Health University of Illinois at Chicago. Chicago, IL March 2010.
92. "Moving towards a quantitative literacy core competency requirement." Joint Statistical Meetings. Vancouver, BC. August 2010.
93. "That's Not What I Meant: Adventures in Defining New Variables." SAS Webinar. November 2010 (archived: http://www.sas.com/reg/web/corp/1212732).
94. "Risk estimation, model uncertainty and risk assessment practice." 4th International Conference on Risk Analysis. Limassol, Cyprus. May 2011 (Invited plenary address)
95. "From Canned Labs to Counseling Concerned Clients: The Evolution of a Statistics Capstone Experience." Joint Statistical Meetings. Miami, FL July 2011.
96. "Statistics and the humanities: news and numbers in journalism as proof of concept." ISI World Statistical Congress. Dublin, Ireland August 2011.
97. "Extracting Information from Data: Visualizing Gerontological Results." (with Takashi Yamashita and Suzanne R. Kunkel). Scripps Gerontology Center. Oxford, OH, April 2012.
98. "The value of numeracy." Address at Phi Beta Kappa induction ceremony. Oxford, OH, April 2012.
99. "Using statistics to improve ecotoxicology testing." 6th Annual Probability and Statistics Day at UMBC. University of Maryland – Baltimore County. MD April 2012.
100. Member on INGenIOuS Panel on Technology and MOOCs. Google Hangout. May 2013. [https://plus.google.com/events/ce9oo478gurk8fuiojeo2449bi0]
101. "Decisions, data and risk." ASA Stats for Staffers series. Washington, DC July 2013. [http://www.amstat.org/policy/pdfs/BailerRisk-12july18.pdf]
102. "Recommendations/Learning Outcomes for Master's Degree Programs in Statistics: Report of ASA Workgroup." Joint Statistical Meetings. Montreal, Canada. August 2013. (Poster)
103. "Recommendations for master's degree programs in statistics and biostatistics." ISI World Statistics Congress. Hong Kong, China. August 2013. (Poster)
104. "Investing in the Next Generation through Innovative and Outstanding Strategies (INGenIOuS)." **C**onsortium for the **A**dvancement of **U**ndergraduate **S**tatistics **E**ducation (CAUSE) Teaching and Learning Webinar [https://www.causeweb.org/webinar/teaching/2014-01/]. January 2014.
105. "Model uncertainty for dichotomous dose-response risk assessment." Workshop presentation with Matt Wheeler at Toxicology and Risk Assessment Conference. Cincinnati, Ohio April 2014.
106. "Implementing a quantitative literacy core competency requirement in the College of Arts and Science at Miami University." Invited presentation at International Conference on Teaching Statistics (ICOTS9). Flagstaff, AZ July 2014.
107. "Implementing a Quantitative Literacy Core Competency Requirement in the College of Arts & Science at Miami University." Invited seminar presenter to QL committee at Xavier University. Cincinnati, OH September 2014."
108. "Statistics and Statistical Modeling in The First Two Years of College Math." Invited presentation at Conference Board on Mathematical Sciences (CBMS) Forum on *The First Two Years of College Math: Building Student Success*. Reston VA, October 2014.
109. "Practical Experience for modeling work as statistical collaborators and consultants." Invited presentation at International Statistical Institute Regional Statistics Conference 2014. Kuala Lumpur, Malaysia, Nov. 2014.
110. "Providing better workforce preparation through experiential learning classes that promote collaboration and consulting" Invited talk at School for Statistics. IBGE (Brazilian Institute of Geography and Statistics). Rio de Janeiro, Brazil, March 2015.
111. "Communicating Statistics: Telling the stories about data" Plenary Address at International Association of Statistical Education Satellite Meeting in Rio de Janeiro, Brazil, July 2015.

112. “Practical experiences for modeling work as statistical collaborators and consultants” ISI World Statistics Congress. Rio de Janeiro, Brazil. July 2015.
113. “Preparing students for the workforce: constructing and implementing meaningful data practicum capstone experiences for students” Lunch Roundtable discussion leader. ISI World Statistics Congress. Rio de Janeiro, Brazil. July 2015.
114. “Common themes in the Recently Adopted Undergraduate and Master's Curriculum Recommendations” Joint Statistical Meetings, Seattle WA. August 2015.
115. “Why do water fleas care about jet skis? Statistical answers to ecotoxicological questions” Colloquium at Eastern Kentucky University. November 2015.
116. "Data Journalism" Organized and moderated World Data Forum virtual panel. January 2017.
117. "Becoming Business and Industrial Statisticians" presented in session "Preparing students for future work as professional statisticians" that I organized for the Regional Statistics Conference. Bali, Indonesia. March 2017.
118. "From Data to Visual Insights: An Introduction to Statistical Graphics using R." Four hour short course. Regional Statistics Conference. Bali, Indonesia. March 2017.
119. “How to prepare successful oral and poster presentations” Tutorial with Jessica Utts to Young Statisticians. World Statistics Congress, Marrakesh, Morocco, July 2017.
120. “Essential Skills for Communicating Statistics.” Invited Panelist in session organized by the Royal Statistical Society. Joint Statistical Meetings, Baltimore, MD. August 2017.
121. “Content audits of Introductory Statistics classes in response to the ASA P-value statement.” ASA Symposium on Statistical Inference. Bethesda, MD. October 2017.
122. Invited Panelist discussing “Stats+Stories” in session: The Power of Podcast: Promoting Statistics and Data Science in the Age of Social Media. Joint Statistical Meetings, Vancouver. August 2018.
123. Chaired Panel Discussion “Statistics for the next decade” – Academia Sinica. Statistics Week 2018. Taipei, Taiwan. November 2018.
124. “Going from the classroom to the studio: the birth and infancy of Stats+Stories.” National Central University, Taoyuan, Taiwan. November 2018.
125. “Talking about Teaching” Knox winner presentation / conversation with director of Center for Teaching Excellence. February 2019.
126. “Connecting with the Community - What is the Story that we want to tell with Statistics?” Webinar - Seminários em Estatística e Ciência de Dados da UFBA. Universidade Federal Da Bahia, Brazil. June 2019.
126. “To the Point: Critical Skills and Knowledge To be Successful in Academia, Industry and Government (invited panelist). Joint Statistical Meetings, Denver. July 2019.
127. “Working with journalists to discuss and report statistical work” – part of Special Topic Session Effective communication: What every young statistician should know. World Statistics Congress, Kuala Lumpur, Malaysia. August 2019.
128. Discussant: Invited Session “Ways to improve critical statistical literacy”. World Statistics Congress, Kuala Lumpur, Malaysia. August 2019.
129. Seminar: "Statistics behind the Headlines." Winton Centre for Risk and Evidence Communication. University of Cambridge. February 2020.
130. "Telling the statistics behind the stories and the stories behind the statistics." ISI Side Event at the 51st Session of the UN Statistical Commission: UN Side Event. March 2020.
131. Webinar: Speaker - ISI - Young Statisticians Talk. Interview and conversation with ISI YS chair, Mara Sherlin Talento (based in Philippines). May 2020.
132. Webinar: Speaker "A not-quite-random walk to a career in statistics (and podcasting?)" Quantitative Sciences Undergraduate Research Experience (QSURE) summer internship program at Memorial Sloan Kettering Cancer Center (NYC). June 2020.
132. Webinar Discussant for World Statistics Day Event. Sponsors: ASA, Caucus for Women in Statistics, The Harvard Data Science Review, ISI, IAOS, October 2020. https://youtu.be/3rAZS3I3Vh8.
133. Webinar Presenter and Panelist: "How to Present Your Research" National Institute of Statistical Sciences (NISS) Academic Affiliate Meet-up. November 2020.

134. Webinar: Presenter: VVSOR Statistics Communication Virtual Event: Podcasts. Statistics Communication Section of the Dutch Society for Statistics and Operations Research (VVSOR). November 2020.
134. Webinar: Keynote Speaker – Interview by Scholars & Students at "Data for Dudes" event. University of Kwazulu-Natal School of Mathematics, Statistics and Computer Science. South Africa. December 2020.
135. Short Course: Reshaping Challenging Data To Produce Insightful Graphs – A Quick Start To Using R Tidyverse Tools (with T. Fisher). [3 h virtual course] June 2021.
136. Invited Session Panelist - SciComm and Stats: Communicating Statistics to the Public in the New Decade Joint Statistical Meetings. [Virtual] August 2021.

Professional Activities:

Professional Activities -- American Statistical Association (ASA):

Group Leader, Accreditation Committee (2017 – 2019).
Member, Accreditation Committee (June 2014 – 2016).
Member, Media and Statistical Ambassadors Workgroup (August 2015- 2016).
Organizer, Midwest Big Data Industry Leaders Forum in Cincinnati. ASA president and executive director met with local business leaders to discuss their perception of the role of statistics in their organizations (Fall 2013 planning – Feb. 2014 meeting).

Elected member, Board of Directors of the ASA (January 2011-Dec. 2013).
Member, Council of Sections Governing Board (January 2011-Dec. 2013).
Member, Current Index to Statistics Management Committee (2011-2013).
Steering Committee Member, Investing in the Next Generation through Innovative and Outstanding Strategies (INGenIOuS) – Strategies for advancing the mathematics and Statistics workforce [ingeniousmathstat.org] (2013).

Chair, Education Workgroup examining learning outcomes for master's degree programs in statistics (2011-2012).
Past-Chair, ASA Section on Risk Analysis (January 2010-Dec. 2010).
Chair, ASA Section on Risk Analysis (January 2009-Dec. 2009).
Chair-elect, ASA Section on Risk Analysis (January 2008-Dec. 2008).

Member of ASA Group providing feedback on National Academies Data Science Education report - Envisioning the Data Science Discipline: The Undergraduate Perspective (October 2017)
Member, ASA Committee for Graduate Education in Vietnam (Sept. 2005-July 2006).

Publications Chair, ASA Statistics and the Environment Section (2001-2002).
Publications Chair-Elect, ASA Statistics and the Environment Section (1999-2000).
ASA Statistics and the Environment Section representative on the Program committee for the Biometric ENAR Spring Meetings in Memphis (Summer 1996-Spring 1997).
Organizer/Chair of ASA Statistics and the Environment Session, "What's going to get you next: statistics and risk regulation", at the Joint Statistical Meetings in Chicago (1996).

Cincinnati Chapter of the American Statistical Association: President (1996-1997); Vice-President (1995-1996); Secretary/Treasurer (1994-1995).

International Data Science in Schools Program (IDSSP)

{ http://www.idssp.org - international collaborative project is to transform the way data science education is carried out in the last two years of secondary school }
Curriculum team (2017 – 2019).

Professional Activities – International Statistical Institute (ISI):

President and ISI Executive Committee member (2019-2021).
President-Elect and ISI Executive Committee member (2017-2019).
Vice-Chair, National Organizing Committee, ISI WSC 2021
Vice-President and ISI Executive Committee member (2013-2017).
Chair, Web page redesign oversight committee (2014-2015).
Co-chair, Statistical Capacity Building committee (2016-2017).
Member, WSC Sponsorship workgroup (2016-)
Chair, ISI World Statistics Congress 2015 Lunch Roundtable committee (2014-2015).
Liaison, International Biometric Society (2014-2015).
ISI Council member (2009-2013, 2021-2023).
Chair, ISI Elections Committee (from May 2009-2013).
Council liaison, Committee on Statistics in the Life Sciences (from November 2009-2013).
Member of International Statistical Institute risk assessment committee (from Nov. 2000).
Organizer, Invited Paper Session "Risk Communication" at ISI 2011 Meetings in Dublin.
Organizer, Invited Paper Session "G-O-O-O-A-L … How does statistics contribute to making decisions and predicting success in sports?" at ISI 2015 Meetings in Rio de Janeiro.
Discussant and session chair at ISI 2015 Meetings in Rio de Janeiro.
Co-Organizer of ISI WSC 2021 Sessions:

- "Official Statistics in the Changing World of Data Science" [+session chair]
- "Strategies for Effectively Communicating Public Policy Statistics"
- "Comics, Games, and Comedy: Making Statistics Engaging to the Public" [+session chair]

Chair of ISI WSC 2021 Sessions:

- International Prize in Statistics Session with speaker Nan Laird
- ISI President's Invited Session with speaker Kerrie Mengersen

Professional Activities – International Biometric Society (IBS)/Eastern North American Region (ENAR):

ENAR Regional Advisory Committee (RECOM) (from January 2006-December 2008).
Member, ENAR 2007 Continuing Education Advisory Committee (from March 2006-2007).
ENAR 2005 Program Chair. Austin, Texas (Dec. 2003-2005).
Program committee for the Biometric ENAR Spring Meetings in Chicago (Summer 1999-Spring 2000).
Local Arrangements committee for the Biometric ENAR Spring Meetings in Cincinnati (Fall 1991-Spring 1992).

Professional Activities -- Sigma Xi:

Miami University Chapter of Sigma Xi: President (1996-1997); Vice-President (1995-1996); Secretary (1994-1995).

Professional Activities -- Scientific workshops, review panels:

*The National Academies/National Research Council (NRC)/Institute of Medicine (IOM)*

Member of NRC Committee on Assessing Toxicologic Risks to Human Subjects Used in Controlled Exposure Studies of Environmental Pollutants (from March 2015-Spring 2017).
Participant in IOM-organized GAO Workshop on the World Trade Center Health Program 2012 Cancer Determinations (October 21, 2013).
Member of the NRC Committee to Review the Draft IRIS Assessment of Formaldehyde (from May 2010- March 2011).
Member of the NRC Committee on Improving Risk Analysis Approaches used by the US EPA (from September 2006-August 2008).
Member of the NRC Committee to Review the OMB Risk Assessment Bulletin (from May 2006). Part of the NRC team that briefed OMB, Federal Agencies and House/Senate/ press (Jan. 2007).
Member of the NRC Committee on Spacecraft Exposure Guidelines (from Sept. 2003-June 2008).
Member of NRC Committee on Toxicologic Assessment of Low-Level Exposures to Chemical Warfare Agents (Nov. 2001-Sept. 2004).

Consultant to NRC/IOM Committee on Implications of Dioxin in the Food Supply (Nov. 2001-Mar. 2003).

Presenter at NRC Workshop on Quantitative Approaches to Characterizing Uncertainty in Human Cancer Risk Assessment based on bioassay results (BEST Standing Committee on Risk Analysis Issues and Reviews) (June 2007).

Discussant at NRC planning meeting for workshop on estimating dietary reference intakes (DRIs) (IOM sponsored) (June 2007).

*National Institute of Environmental Health Sciences/National Toxicology Program*

Program review of NIEHS Statistics and Computational Biology Branch (Fall 2016)

Workshop participant for NIEHS Workshop on "Advancing research on mixtures: new perspectives and approaches for predicting adverse human health effects." (Sept. 2011). Chapel Hill, NC.

Peer review panel for National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM), in collaboration with the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) (Apr. 2011). Assess the validation status of an in vitro stably-transfected estrogen receptor (ER) transcriptional activation (TA) assay (LUMI–CELL® ER assay) and an in vitro cell proliferation assay (CertiChem MCF–7 Cell Proliferation assay).

Review cmt. for the NIEHS/NTP sponsored Carcinogenic Potency Data Base (Apr. 2004).

Statistics subcommittee member at NIEHS/NTP Low Dose Peer Review for Endocrine Disruptors. Research Triangle Park, NC. (October 2000).

Member of two subcommittees of the Board of Scientific Counselors (BSC) of the National Toxicology Program (NTP) (January 1997 to June 2000). The two subcommittees are the Report on Carcinogens (RC) subcommittee and the Technical Report (TR) subcommittee. The RC subcommittee is a multidisciplinary board of scientists who vote on listing compounds/ chemicals/ mixtures as "reasonably anticipated to be human carcinogens" or as "known human carcinogens." The TR subcommittee reviews the results of the long-term multi-year carcinogenicity studies conducted by the NTP.

*Workshops and other professional society service*

Science Advisory Committee of the Asphalt Institute (from December 2008).

Invited participant in Society of Toxicology (SOT) Workshop on Probabilistic Risk Assessment (PRA): Bridging Components Along the Exposure-Dose-Response Continuum Contemporary Concepts in Toxicology (July 2005).

Peer review panelist evaluating the health effects of methylene chloride (May 2005).

Invited participant to workshop on Developing a Research Strategy for improving health risk assessment of bromate in drinking water (Feb. 2005).

Invited participant in Workshop to evaluate research priorities for endocrine active compound risk assessment methods (August 1999).

Collaborated with Staff with OSHA's regulatory affairs division considering the effectiveness of lockout/tagout standards (Summer 1997).

Invited participant in technical Workshop on Whole-Effluent Toxicity sponsored by the Society of Environmental Toxicology and Chemistry (September 1995).

Participant and reviewer for the Ohio Environmental Protection Agency Comparative Risk Project (Spring 1995).

Invited participant in Dose Response Workgroup at the National Toxicology Program Workshop on Mechanism-based Toxicology in Cancer Risk Assessment: Implications for Research, Regulation, and Legislation (January 1995).

Expert Panel member on Quality Assurance for Whole Effluent Testing (WET) using *Ceriodaphnia dubia*. California State Water Resources Control Board (State Water Board), Southern California Coastal Water research Project (SCCWRP) and stakeholders (January 2021-)

*Academic Program Reviews*

External Reviewer for the Department of Mathematics at Central Michigan University (October 2014).

<u>Professional Activities -- Arrangement committees, program committees, etc.:</u>

Leadership Team, Common Vision for Undergraduate Mathematical Sciences Programs in 2025. NSF-funded initiative to examine the future of the undergraduate curriculum in the mathematical sciences. (Fall 2013-Fall 2015).

Steering Committee for INGenIOuS – Strategies for advancing the mathematics and statistics workforce. INGenIOuS =Investing in the Next Generation through Innovative and Outstanding Strategies). NSF-funded initiative supported by math and stat professional societies (NSF, MAA, ASA, SIAM, AMS, IMS). (Spring 2013).

Program Committee for 2nd annual CACR symposium on State-of-the-Art Statistical Computing and Methods for Social Science, Behavioral Science, and Business. Miami University. Oxford, OH (March 2007).

Organizing committee for "International workshop on uncertainty and variability in physiologically based pharmacokinetic (PBPK) models." RTP, NC (October 2006).

Conference co-director for "Understanding Biological and Medical Systems with Statistics." 34th Annual Conference of the Department of Mathematics & Statistics at Miami University. Oxford, OH (September 2006).

Program committee for Symposium on Biostatistical and Biomathematical Problems in Environmental Health in Research Triangle Park, NC (February 2002 - June 2002).

Program committee for the National Occupational Research Agenda Risk Assessment Workshop in Aspen (January 2000 – August 2000).

Planning committee for Ramazzini Institute symposium, "Measuring, expressing, and reducing uncertainty in cancer risk assessment" (Bologna, Italy -- September 1998).

Organized Special risk assessment session for the National Occupational Injury Research Symposium in Morgantown, West Virginia (October 1997).

Co-chair of program committee for the Ohio Statistics Conference (1994).

Professional Activities – advisory board, editorial service, manuscript reviews, grant reviews:

Advisory Board – Harvard Data Science Review (HDSR) (from Fall 2018 - )

Associate Editor for *Journal of the American Statistical Association* (from June 2006-Dec. 2007)

Associate Editor for *Biometrics* (Feb. 1997 – June 2005)

Co-editor for special issue of *Human and Ecological Risk Assessment* devoted to Occupational Injury Risk Assessment (Fall 2000 - Summer 2001)

Co-editor for special issue of *Human and Ecological Risk Assessment* devoted to Injury Risk Assessment (Fall 1997 - Spring 1998)

Editorial Advisory Board for *The Open Public Health Journal* (from March 2008-2012) http://www.bentham.org/open/tophj/EBM.htm

Referee/reviewer for *The American Statistician, Statistics Education Research Journal, Science, Biometrics, Risk Analysis, J. of Stat. Ed., Environmental Toxicology and Chemistry, American Journal of Industrial Medicine, American Journal of Public Health, Injury Prevention, Occupational and Environmental Medicine, Environmental and Ecological Statistics, Environmetrics, Environmental and Molecular Mutagenesis, Environmental Health Perspectives, Fundamental and Applied Toxicology, Informatik, Biometrie und Epidemiologie, Journal of Agricultural, Biological and Environmental Statistics, Journal of the American Statistical Association, Journal of Pharmacokinetics and Biopharmaceutics, Cancer Research, Ohio Journal of Science, Psychotherapy Research, Public Health Reports* and US EPA Cooperative Agreements.

Beta tester of ToxTools, benchmark dose/risk estimation software (2000)

Science Foundation Ireland grant review (2001)

Professional Activities – program and academic promotion review:

NIH/NIEHS Biostatistics and Computational Biology Branch (Nov. 2016)

Central Michigan University Dept. of Mathematics (Fall 2014)

Academic promotion reviewer:

Habilitation Thesis Review -Vienna University of Technology

Full Professor Reviewer – Cleveland State University

Associate Professor / Tenure Reviewer – Florida International University
Staff Scientist/Government Researcher Promotion review – NIEHS (4x)

Computing Experience:

| | |
|---|---|
| UNIX systems: | SunOS (Solaris), HP-UX, S-Plus, FORTRAN |
| VAX/Alpha: | VMS (OpenVMS), FORTRAN, SAS |
| MAC & Windows PCs: | R, S-Plus, SAS, MINITAB, word processing & spreadsheets |

Teaching Experience:

Classes taught*:

| | |
|---|---|
| STA 261: | Algebra-based intro. to statistics for undergraduate life science students. |
| STA 261.S: | Algebra-based intro. to statistics for undergraduate social science students. |
| STA 301: | Applied statistics – intro. to prob. and statistics for majors and non-majors. |
| STA 361,362: | Calculus-based intro. to probability and statistics for students in systems analysis. |
| STA 363: | Introduction to statistical modeling. |
| STA 402/502#: | Statistical Programming. Student audience: majors and non-majors. |
| STA 404/504#: | Advanced Data Visualization. (co-listed with Interactive Media Studies and Journalism). |
| STA 461/561: | Intro. to probability for advanced undergraduate/grad. math. and statistics majors. |
| STA 462/562: | Introduction to statistical inference for advanced undergraduate mathematics and statistics majors and graduate students. |
| STA 463/563: | Regression for advanced undergraduate mathematics and statistics majors and graduate students. |
| STA 466: | Experimental design for advanced undergraduate math. and statistics majors. |
| STA 475: | Data Practicum – capstone course in which undergraduate students conducted analyses and then presented the results of their analyses for clients. |
| STA 573: | Introduction to regression for graduate students from a variety of departments including zoology, botany, and paper science. |
| STA 576: | Introduction to experimental design for graduate students from a variety of departments including zoology, botany, and paper science. |
| STA 600: | Independent studies for statistics graduate students. I have supervised independent studies in risk assessment, advanced methods in biometry and regression techniques. |
| STA 600: | Advanced Statistical Computing using S-Plus. Introduction to the quantitative programming environment, S-Plus. |
| STA 600.E: | Advanced methods in Environmental Statistics. Introduction to the advanced statistical techniques encountered in environmental biology and toxicology. Topics included generalized linear models (e.g. binary regression, Poisson regression), tests of trend for both continuous and discrete data, and quantitative risk assessment models. Additional material selected from compartmental models, Monte Carlo simulation, bootstrap methods, potency estimators. Audience: advanced graduate students in both statistics and the environmental/life sciences. |
| STA/ISA 635: | Introduction to predictive analytics. 635 and 637 are part of a graduate certificate in analytics for professionals that I designed with colleagues. |
| STA 637#: | Statistical Programming and Data Visualization. [Online] |
| STA 660: | Practicum in Data Analysis. Supervised practice in consulting and statistical data analysis including direct collaboration with clients. |
| STA 671: | Introduction to statistics for graduate students in the environmental sciences. |
| STA 672: | Statistical Modeling and Study Design. (for non-statistics graduate students) |
| STA 684: | Categorical Data Analysis (Master's students in statistics). |
| STA 685: | Introduction to failure time models for master's students in statistics. |
| JRN/STA 380#: | News and Numbers: Lies, Statistics, and the Stories Media Tell – an honors course that explores the quality of how quantitative ideas and material are represented in daily journalism. |
| IES 612: | A topics course in regression, experimental design, sampling and mathematical models (Monte Carlo simulation basics, linear programming, compartmental models) taught for the Institute of Environment and Sustainability. Now STA 672. |

*A typical teaching load is 7-9 hours (at least two course preparations) each semester.

# Developed this course and taught first offerings of this class

Graduate Student committee service (see appendix A for complete listing).

Curriculum Development:

- Developed Canvas course site including ~100 videos for STA 637: Statistical Programming and Data Visualization. Also, developed and contributed videos for ~1/2 of the modules in STA 635: Introduction to predictive analytics (Spring 2016).
- Developed graduate certificate in analytics for professionals (with the Information and Systems Analytics [ISA] department of the Farmer School of Business). Included the development of 4 new courses – STA/ISA 635, ISA 636, STA/ISA 637 and STA/ISA 638. (2014-2015)
- Initiated review of undergraduate and graduate course offerings (Fall 2012). Led to consolidation of calculus-based introductions to statistics, STA 301 and 368, and to the implementation of a hybrid model for the algebra-based introduction to statistics, STA 261 (Spring 2013).
- Jointly proposed co-major in analytics with ISA (Fall 2012).
- Coordinated development of new data visualization course (IMS/JRN/STA 404/504 - Fall 2011).
- Led development of new graduate certificate in applied statistics (certificate proposed – Summer 2011).
- Chaired subcommittee that developed and promoted quantitative literacy core competency requirement for the College of Arts and Science (competency proposed and accepted – Spring 2010).
- Created JRN/STA 380 (News and Numbers), an honors course, team taught with the director of the journalism program (course created - Fall 2008).
- Modified STA 660 (data practicum) to serve external clients exclusively (Fall 2007).
- Modified STA 671 to be more interactive and R-based with more simulation-based instruction of concepts (Fall 2006).
- Designed and taught the Statistical Programming class STA 402/502 (Fall 2003).
- Expanded STA 660 to address consulting questions from faculty clients from different Departments (Fall 2001-Fall 2002).
- Designed and introduced a course Advanced Statistical Computing using S-Plus (Spring 1995).
- Designed and introduced STA 600.E (see course description above) in the Fall of 1994. This course was unique in that advanced graduate from different disciplines worked in interdisciplinary teams on a variety of projects.
- Reworked STA 671 to include more discussion of non-traditional first course topics (e.g. nonparametric methods) and a term project. Each student conducted a research project that was roughly modeled on the research proposal process. Students submitted proposals that were reviewed by other classmates (and by me), submitted revisions to that proposal based on reviewer comments, and finally, submitted a research report.
- Modified STA 671 to focus on data and examples. By exploring real data in the class, statistical concepts are introduced and applied.
- Updated the structure of STA 473/573. Met with Economics faculty to modify the structure of a Mathematics & Statistics regression sprint course that provides the foundation for their Econometrics class.

Faculty Development Activities:

- Participant in a year-long faculty development program, the Alumni Teaching Scholars Program. Issues surrounding the learning process were studied. Entry into this program was competitive with participants receiving funding for travel and study as part of the program.
- Organized and led a Faculty Learning Community for Department Chairs at Miami University (Fall 2016-Spring 2017).

Other Information:

- Organized and arranged for internships for graduate statistics students at the National Institute for Occupational Safety and Health (started: 1993).
- Started pairing statistics graduate students with graduate students in other disciplines (e.g. zoology) to provide practical consulting experience for the statistics students and data analysis support for the zoology students (started: 1993).
- Nominated for Associated Student Government Outstanding Teaching Award (1990).

Workshops attended:

Applied Machine Learning. Max Kuhn. RStudio::conf (Austin 2019).
Workshop for those more familiar with R. J. Bryan. RStudio::conf (San Diego 2018).
Media Training. Sense about Science USA and ASA. T. Butterworth ASA Symposium on Statistical Inference (Bethesda MD, 2017).
Mastering the Tidyverse. G. Groeland. Rstudio::conf. (Orlando, 2017)
Agile Introduction Workshop. D. Troy, A. Hulshult. Miami University (Oxford OH, 2016). Science Communication Workshop for the American Statistical Association. Alan Alda Center for Communicating Science staff. JSM (Chicago, 2016).
Statistical Analysis of Network Data. Eric Kolaczyk. JSM (Chicago, 2016).
Advanced ODS Graphics Examples in SAS. Warren Kuhfeld. JSM (Chicago, 2016).
The Art and Science of Data Visualization Using R. Abel Rodriguez. JSM (Seattle, 2015).
Practical Data Mining. R. De Veaux. Conference on Statistical Practice (New Orleans, 2015).
A Case Study in Big Data Analytics. P. Hall. Conf. on Statistical Practice (New Orleans, 2015).
Modern Regression for Big Data Problems. S. Sheather. Conference on Statistical Practice (Tampa, 2014).
Text Analytics. E. Jones. Conference on Statistical Practice (Tampa, 2014).
Tree Modeling. C. Peterson. Conference on Statistical Practice (New Orleans, 2013).
Survey Sampling: Design, Weighting, and Analysis. D. Morganstein. Conference on Statistical Practice (New Orleans, 2013).
Big Data – How to Find a Diamond in the Rough: A Step-by-Step Guide of Data Mining. J. Lin and Q. Wei. Conference on Statistical Practice (New Orleans, 2013).
An introduction to statistical learning. G. James and Y. Liu. JSM (San Diego, 2012).
SAS Procedures for Analyzing Survey data. P. Mukhopadhyay. JSM (San Diego, 2012).
Introduction to Data Visualization. H. Hofmann. Miami University (Oxford, OH, 2012).
Data Simulation for Evaluating Statistical Methods in SAS. R. Wicklin. JSM (Miami, 2011).
Creating Statistical Graphics with ODS in SAS Software. W. Kuhfeld. JSM (Miami, 2011).
Integrating Computing into the Statistics Curriculum (2d workshop). D. Nolan & D. Temple Lang. JSM (Vancouver, 2010).
Comparative Effectiveness Research. C. Gatsonis. ENAR Spring Meeting (New Orleans, 2010).
Analysis of Complex Sample Designs. M. Elliott. ENAR Spring Meeting (New Orleans, 2010).
Regression Modeling Strategies. F. Harrell. ENAR Spring Meeting (San Antonio, 2009).
Fundamental Statistics Concepts in Presenting Data: Principles for Constructing Better Graphics. R. Donohoe. JSM (Denver, 2008).
Principles of Statistical Design. G. Casella. JSM (Denver, 2008).
Introduction to Bayesian analysis using the SAS software. F. Chen. ENAR Spring Meeting (Crystal City, 2008).
Ecological Modeling in R. B. Bolker. Miami University Workshop (Oxford, Feb. 2008).
Bayesian Analysis in Practice. D. Spiegelhalter. JSM (Salt Lake City, 2007).
Classification and Regression Trees. W-Y Loh. JSM (Salt Lake City, 2007).
Generalized Linear Mixed Effects Models. G. Fitzmaurice. ENAR Spring Meeting (Atlanta, 2007).
Introduction to Bayesian Approaches for Data Analysis. A. Carriquiry. ENAR Spring Meeting (Tampa, 2006).
Intermediate R Use and Programming. D. Bates. ENAR Spring Meeting (Tampa, 2006).
Computational Statistics: Methods for Optimization and Monte Carlo Integration. G. Given/J. Hoeting. JSM 2005 (Minneapolis, MN, August 2005).
Introduction to Random Forests. A. Cutler. ENAR Spring Meeting (Austin, TX, March 2005).
Generalized and nonlinear mixed models in the SAS System: tools and applications. O. Schabenberger. ENAR Spring meeting. (Pittsburgh, March 2004).
An introduction to the R environment. P. Dalgaard. ENAR Spring meeting. (Pittsburgh, March 2004).
Cluster Computing workshop (Oxford, October 2003).
Linear Mixed Model workshop. G. Verbeke and G. Molenberghs (Cincinnati, August 2003).
Displaying quantitative information workshop. E. Tufte (Cincinnati, July 2003).

Audited courses while on leave at UNC: GliM (B. Qaqish); Mixed models (L. Edwards), Survival methods (D. Lin) (Chapel Hill, NC, 2002).
Applied Bayesian Analysis. Siva Sivaganesan. (Cincinnati, Fall 2001).
Generalized linear and nonlinear models for clustered data and repeated measurements. E. Vonesh. ENAR Spring meeting. (Charlotte, March 2001).
Applications of GEE Methodology using the SAS System. M. Stokes. ENAR Spring meeting. (Charlotte, March 2001).
Using SAS and WinBUGS to fit hierarchical models. L. Waller. ENAR Spring meeting. (Charlotte, March 2001).
Molecular Techniques in Ecological Toxicology. Workshop accompanying OVC-SETAC meeting. (Oxford, May 2001).
Measurement error in nonlinear models. R. Carroll and D. Ruppert (Chicago, March 2000).
Survival analysis in S-Plus. T. Thernau (Princeton, February 1999).
How and why we age. L. Hayflick. NSF Workshop (Philadelphia, April 1999).
Advanced programming in S-Plus W. Venables. Workshop (Madison, June 1999).

MOOCs completed:

- Programming for Everybody (Getting Started with Python). C. Severance. (completed 2020).
- Internet History, Technology, and Security. C. Severance. (completed 2020).
- Introduction to R for Data Science. M. Ward. (completed 2017).
- Computing for Data Analysis. R. Peng. Coursera MOOC. (completed 2014).

**Administrative Experience and Contributions**

University and College administrative contributions

- Served on the Academic Excellence Subcommittee of the Strategic Planning Committee (Fall 2018-Spring '19).
- Served Athletic Policy Committee of University Senate (Fall 2016-Spring 2017)
- Facilitated Faculty Learning Community for Department Chairs (Fall 2016-Spring 2017)
- Served on committee to review Academic Integrity Process at Miami (Fall 2015-Fall 2016)
- Chaired Committee to review Miami University data provided to the US News & World Report (Fall 2014-Spring 2015)
- Miami 2020 strategic planning - Member of Coordinating team and Chair of target goal team addressing "Innovative Learning and Discovery" (Fall 2012-Spring 2013)
- Served on Budget Task Force Technical Committee for investigating a new budget model (Responsibility Centered Management) for the university (Fall 2011-Spring 2012)
- Served on Steering committee for the Strategic Analysis of Support Services (SASS) study to help inform, frame and interpret the external consulting evaluation of Miami's administrative units (Spring 2011)
- Chaired the Pathways to Graduation committee to study impact of changing student profiles (e.g. transfer/AP credit) on student experience at Miami (2009-2010)
    - http://miamioh.edu/_files/documents/about-miami/provost/reports/Pathways_10.pdf Included presentations of recommendations to COAD, University Senate, Academic Affairs subcommittee of the Board of Trustees, Faculty Assembly, CELTUA seminar
    - Preceded by presentations related to idea of Miami 4+ programs (opportunities beyond single degree in 4 years) to the Provost breakfast and the university committee of advisers
    - Met with representatives from Honors, Student Financial Aid, and admissions to discuss using ideas from this work for recruiting high-ability high school students to Miami
- Served on Provost's search committee (2010)
- Served on Dean's advisory committee (2009-2010)
- Co-facilitated a Faculty Learning Community on Quantitative Literacy (2008-2010)
- Chaired the subcommittee drafting the quantitative literacy core competency requirement as part of the revision of the CAS requirements (2009-2010)
- Served as a member of the CAS requirements revision committee (2009-2011)

(Note: most of these items below reflect the success of the department with the chair working as an advocate, sponsor, collaborator, or partner.)

Activities in the Dept. of Statistics (from July 1, 2019 – June 30, 2020)

- 10th Anniversary Conference of Department of Statistics successfully held in Nov. 2019
- Recruited one new tenure-track assistant professor
- Participated in efforts to add new concentrations to BA Data Analytics
- Process coordinator for separation of Kinesiology and Health (KNH) into a KNH and Sports Leadership and Marketing (SLAM) departments

Activities in the Dept. of Statistics (from July 1, 2018 – June 30, 2019)

- Hired one new tenure-track assistant professor
- Hired TCPL faculty member
- Hired part-time producer for Stats+Stories
- Participated in the development of three proposals for the Boldly Creative Initiative Program
- Changed name of major to BS Data Science and Statistics.
- Developed new BA Data Analytics
- Participated in Boldly Creative Proposal development for expanding analytics efforts at Miami (Fall 2018-Spring '19).
- Launched STA-AAMP, Statistics Alumni Advisory Mentoring Panel. Participating alumni visit campus, treat 3-5 students to lunch or dinner to discuss career issues and meet with chair / faculty

to discuss department programs and relationship to workforce needs. Seven alumni visited in the Fall 2018.
- Completed renovation of scale-up teaching space on 3rd floor Upham completed in Summer 2018. Multiple moves required.
- Started Planning for 10th Anniversary Conference – to be held at Miami in November 2019.
- Prepared proposal for professional education at P&G in Fall 2018 (not funded). This was in response to a request from the President and Provost.

Activities in the Dept. of Statistics (from July 1, 2017 – June 30, 2018)
- Hired two new tenure-track assistant professors
- Hired one new instructor
- Hosted Career Services events for our majors each term
- Distributed 2 department newsletters (December and May)
- Co-hosted 3rd DataFest competition in Spring 2017.
- Hosted and sponsored fourth (Careers Involving Quantitative Skills) Day in January 2018 (description below).
- Coordinated bi-weekly release of Stats+Stories episodes.

Activities in the Dept. of Statistics (from July 1, 2016 – June 30, 2017)
- Completed program review
- Hired two instructors and two visiting assistant professors
- Hired one new tenure-track assistant professors
- Hosted Career Services events for our majors each term
- Co-hosted 2nd DataFest competition in Spring 2017.
- Hosted and sponsored third (Careers Involving Quantitative Skills) Day in January 2017 (description below).
- Recorded and released 17 additional Stats+Stories episodes.

Activities in the Dept. of Statistics (from July 1, 2015 – June 30, 2016)
- Launched new Graduate Certificate in Analytics for Professionals
- Recruited second cohort of University Scholars in Mathematics and Statistics
- Helped coordinate activities in the new Center for Analytics and Data Science (CADS) with ISA, CSE, ACC, MKG.
- Planned and hosted new DataFest for team competition in April 2016.
- Coordinated second CIQS (Careers Involving Quantitative Skills) Day in January 2016 (description below).
- Hosted two career services nights for students majoring in statistics, mathematics & statistics and co-majoring in analytics.
- Hired visiting assistant professor and instructor.
- Hosted events (breakfast meetings, dinner with visiting speakers) for University Scholars in Mathematics and Statistics (UASP) and recruited second class of UASP participants.
- Conducted January retreat to identity goals for program review.
- Recorded and released four additional Stats+Stories episodes (10/15-4/16).

Activities in the Dept. of Statistics (from July 1, 2014 – June 30, 2015)
- Developed (jointly with MTH) University Scholars in Mathematics and Statistics (UASP). Selected first set of applicants for this scholarship.
- Led department retreat to review our strategic plan and priorities for upcoming year (Aug. ’14).
- Involved in three pre-proposals for provost’s Innovation and Interdisciplinary Fund (IIF) – two invited to submit full proposals.
- Coordinated and organized first CIQS (Careers Involving Quantitative Skills) Day in January 2015 - day for high school women to come to the Oxford campus of Miami University, participate in activities with faculty and current students, listen to student presentations, and

converse with women who are working in STEM fields and in fields where good quantitative skills are needed
- Coordinated and hosted co-sponsored workshop "Visualizing Data: A Truthful Art" (Spring 2015).

Activities in the Dept. of Statistics (from July 1, 2013 – June 30, 2014)
- Coordinated dept. plan to address metrics from Miami University 2020 Strategic Plan
- Initiated strategic planning exercise and department retreat
- Provided two successful courses for the new Winter Term 2014 schedule
- Hosted campus Global Health lecture with guest speaker from National Center for Health Statistics.
- Developed (jointly with ISA) Graduate Certificate in Analytics with Professionals (GCAP). Proposed three of the four courses (two jointly proposed with ISA).
- Participated in summer online course development activities hosted by Miami eLearning staff. Five STA faculty members associated with the GCAP course development and the movement of STA 261 to a hybrid model participated.
- Participated in Make it Miami recruiting events (Spring 2014)
- Hired two temporary instructors

Activities in the Dept. of Statistics (from July 1, 2012 – June 30, 2013)
- Hosted conference on "Statistics and Sports" in Fall 2012.
- Hired new program associate (Summer 2012), two assistant professors of statistics (Spring 2013), and converted an instructor to a lecturer (Summer 2013).
- Proposed new analytics co-major with the Department of Information Systems and Analytics. Received divisional approval by the College of Arts & Science and the Farmer School of Business (Spring 2013).
- Hosted "Big Data mini-symposium" with guest speaker from Google and dunnhumby USA (Spring 2013).
- Conducted comprehensive review of curriculum at undergraduate and graduate level (Fall 2012-Spring 2013).
- Launched webcast/radio program 'Stats+Stories' (Spring 2013) –. Collaborative effort with journalism to explore the statistics behind the stories and the stories behind the statistics.
- Distributed two department newsletters using a new, streamlined electronic format (Spring 2013).

Activities in the Dept. of Statistics (from July 1, 2011 – June 30, 2012)
- Developed course proposal on IMS/JRN/STA 404/504 – Advanced Data Visualization.
- Organized and participated in a Quantitative Literacy Workshop (Aug. 2011) to promote the development of course proposals in the College of Arts and Science to meet the QL core competency requirement
- STA organized a workshop addressing "data visualization" that was offered in February 2012. Former students were invited to participate along with current students and faculty members from STA and other majors and members of the local statistical community.
- Coordinated development of new graduate certificate in professional development for in-service high school and middle school math teachers (Fall 2011 – STA 699.B workshop approved; two additional courses are in development now). Joint work with STA instructors (Bailer, Hudiburgh) and MTH professor (Naresh).
- Offered two online STA classes (STA 261) in Summer of 2012.

Activities in the Dept. of Statistics (from July 1, 2010 –June 30, 2011)
- Provided workshop for Great Oaks School district math teachers to help them prepare for teaching statistics in their classes.
- Developed recruiting materials to encourage undergraduate students who received AP credit for STA 261 or who did well in intro. stat. classes to pursue a statistics thematic sequence, minor or major.

- Sponsored statistical presentations of interest to general audiences: October 2010 celebration of World Statistics Day and March 2011 co-sponsored seminar "Damned Lies and Statistics"
- Initiated and promoted new graduate certificate in applied statistics
- Initiated and promoted new course in Bayesian Methods (STA 427/527)
- Invited and involved the first two affiliate members of the department of statistics

Accomplishments of the Dept. of Statistics (from July 1, 2009 – May 1, 2010)

- Established new department
    - Governance, climate statement, and operating policies were developed and implemented
    - Faculty workload document developed and applied
    - Started new department traditions
        - Held first department retreat
- Sponsored November 2009 conference – "Bicentennial beginnings of statistics at Miami"
    - 84 participants (60 alumni returned to campus + 24 current students/faculty)
    - ~$3000 donated by alumni to support student participation at no cost
    - Set precedent for alumni involvement in department life
- Moved and settled in to new location (Upham Hall)
    - Included a suite to serve as a home of the Statistical Consulting Center
- Conducted successful search for new assistant professor of statistics.
- Completed first year of a Top 25 project redesigning STA 261, introductory statistics
- Submitted and received a Student Tech Fee proposal for streaming and archiving class material.
- Formulated a contract to provide statistics training for teachers in the Great Oaks school district in Cincinnati. This involves a partnership with a mathematics educator to develop materials with a statistician presenting the summer class this July.

(see Appendix B for a more extensive listing of departmental, divisional and university service)

**Appendix A:** Graduate Student Thesis/Internship/project committees – 04 September 2020 [revised]
[ student (adviser/internship chair, start date, completion date) ]

Active (1)

Na Sun (GTY PhD – McLaughlin – start 1/21)

Graduate Student list sorted by year of completion

Completed (TOTAL: 150 - 1991:2; 1992:4; 1993:6; 1994:4; 1995:4; 1996: 6; 1997: 7; 1998: 7; 1999:3; 2000: 7; 2001: 7; 2002: 5; 2003: 6; 2004: 4; 2005: 5; 2006: 6; 2007: 7; 2008: 1; 2009: 10; 2010: 2; 2011: 9; 2012: 5; 2013: 7; 2014: 10; 2015:1; 2016: 5; 2017: 2; 2018: 2; 2019: 4; 2020: 2; did not finish: 10)

Advised/Mentored (TOTAL: 58 - 1993:1; 1994:1; 1995:2; 1996:3; 1997:3; 1998:4; 1999:3; 2000:2; 2002:3; 2003:2; 2004:3; 2005:3; 2006:4; 2007: 3; 2008: 0; 2009: 6; 2010:1; 2011: 4; 2012: 1; 2013: 1; 2014: 2; 2015: 1; 2016: 1; 2017: 1; 2018: 1; 2019: 3; 2020: 2)

2020 Colton Gearhart (STA MS – Bailer – start 5/19; finished 5/20)
Paul Gunsalus (STA MS – Kim / Bailer – start 6/20; finished 9/20)

2019 Erika Resnick (STA MS – Bailer/Fisher – start 12/18; finished 5/19)
David Lau (STA MS – Bailer – start 12/18; finished 5/19)
Sooyeong Lim (STA MS – Bailer – start 12/18; finished 7/19)
Bunyod Tusmatov (STA MS – Maurer –finished 5/19)

2018 Kyle Linville (STA MS – Bailer/Fisher – start 5/16; finished 7/18)
George Woodbury (STA MS – Kim – start 8/18; finished 11/18)

2017 Craig Heard (STA MS – Bailer – start 5/16; finished 4/17)
Baini Li (STA MS – Zhang – start 9/16; finished 3/17)

2016 Mitch Beebe (STA MS – Fisher – start 9/15; finished 5/16)
Diana Eid (STA MS – Noe – start 9/15; finished 7/16)
Dan Garbinsky (STA MS – Bailer/Wheeler/Zhang – start 9/15; finished 7/16)
Taylor Leach (ZOO PhD – Williamson – start 3/12; finished 11/16)
Zheng Zhu (STA MS – Zhang – start 9/16; finished 8/16)

2015 Pam Castricone (STA MS – Bailer – start 9/14; finished 4/15)

2014 Tim Bankroff (ZOO MS – Cady – start 12/07; finish 11/14);
Tarah Cole (STA MS – Bailer/Wheeler – start 8/13; finish 5/14)
Clara do Amaral (ZOO PhD – Constanzo/Lee – start 9/10, finish 7/14)
J. Rafael Herrera-Herrera (ZOO PhD – Oris/Russell – start 5/09; finish 4/14)
Patrick Mineo (ZOO PhD – Schaeffer – start 05/11; finish 5/14)
Xi Pan (GTY PhD – Kunkel/Brown – start 3/12; finish 3/14)
Michael Tekavec (STA MS – Bailer/Carr – start 8/13; finish 5/14)
Sheng Wang (STA MS - Zhang – start 1/14, finish 7/14)
Jeff Wedgeworth (IES MS prof. experience cmt. – start 2/14)
Eunsun Yook (STA MS – Zhang – start 11/13; finish 6/14)

2013 Rachel Gilbert (STA MS – Bailer – start 8/12; finish 10/13)
Yuta Kawarasaki (ZOO PhD – Lee – start 8/10; finish 8/13)
Nitija Kharel (STA MS – Zhang – start 8/12; finish 7/13)
Maricruz Rivera-Hernandez (GTY PhD – Brown/Kunkel – start 1/11; finish 4/13)
Jenni Webb (STA MS – Smucker – start 8/12; finish 5/13)
Lisa Werwinski (STA MS – Noe/Smucker – start 5/12; finish 11/13)
Xingping Zhang (STA MS – Smucker – start 1/13; finish 12/13)

2012 Traci Blonquist (STA MS project – Smucker – start 8/11, finish 5/12)
Kelly Mathews (STA MS project – Noe – start 8/11; finish 7/12)
Jacob Mausch (STA MS project – Noe – start 1/12; finish 8/12)

Wei Wang (STA MS project – Zhang – start 9/11; finish 8/12)
Kelsey Warsinske (STA MS project – Bailer – start 10/11; finish 6/12)

2011 Julia Janosko (STA MS project– Bailer – start 1/11; finish 8/11)
Oliver Kroner (IES MS – Bailer – start 1/11; finish 8/11)
Monica Lopez (STA MS project – Schaefer – start 4/11; finish 9/11)
Kevin Rose (ZOO PhD – Williamson – start 9/07; finished 4/11)
Jason Schmidt (ZOO PhD – Rypstra – start 6/05; finish 7/11)
Greg Slutz (STA MS project – Bailer – start 1/11; finish 8/11)
Andrew Tucker (ZOO PhD – Williamson – start 3/07; finished 4/11)
Takashi Yamashita (GTY PhD – Brown/Kunkel – start 4/09; finish 3/11)
Peng Wang (STA MS project – Zhang/Bailer – start 5/11; finish 7/11)

2010 Susan Sprunt (BOT PhD – Hickey – start 2/07; finish 7/10)
Koffi Wima (STA MS project – Bailer/Karro – start 8/09; finish 8/10)

2009 Sarah Anderson (STA MS project – Bailer – start 8/08; finish 7/09)
Emily Donohoe (IES MS – Bailer – start 12/08; finish 9/09)
Justin Hillier (STA MS project – Noe – start 1/09; finish 6/09)
David McCarthy (STA MS project – Groggel – start 8/08, finish 5/09)
Jesse Pratt (STA MS project – Bailer – start 4/09; finish 12/09)
Heather Reese (GTY MS – Applebaum – start 9/07; finish 04/09)
Rick Seidel (ZOO PhD – Berg - start 2/06; finish 8/09)
Laura Sietsma (STA MS project – Bailer – start 8/09; finish 12/09)
Stefan Stanev (STA MS project – Bailer – start 8/06; finish 6/09)
Jiajing Wang (STA MS project – Bailer – start 1/09; finish 12/09)

2008 Colleen Mangeot (STA MS project – Murphree – start 8/08, finish 12/08)

2007 Enas Al-Shaikh (STA MS project – Bailer – start 4/07; finish 8/07)
Sandi Connelly (ZOO PhD – Williamson – start 9/05; finish 9/07)
Billy Fadel (STA MS project – Bailer – start 6/06; finish 12/07)
Alberto Pilati (ZOO PhD – Vanni – start 12/02; finish 5/07)
Jim Stoeckel (ZOO PhD – Gonzalez – start 3/01; finish 7/07)
Xingtao Wei (STA MS project – Dunn – start 1/07; finish 4/07)
Jian Wu (STA MS project – Bailer – start 8/05; finish 6/07)

2006 Kevin Donges (Math MS project – Bailer – start 12/04; finish 8/06)
Janelle Duncan (ZOO MS – Gonzalez – start 2/03; finish 7/06)
Matt Fenchel (STA MS project – Bailer – start 8/06; finish 12/06)
James Schuurman (STA MS project – Bailer – start 12/05; finish 4/06)
Kevin Slaven (IES internship – Bailer – start 1/06; finish 7/06)
Katie Spencer (STA MS project – Bailer – start 8/05; finish 4/06)

2005 Fred Apeaning (IES MS – Hand – start 7/2004, finish 8/05)
Harry Charway (STA MS project – Bailer – start 9/2004, finish 6/05)
Hanjin Li (STA MS project – Bailer – start 9/2004, finish 7/05)
Aaron Roberts (ZOO PhD - Oris – start 12/2001, finish 7/05)
Shannon Smith (STA MS project – Bailer – start 5/2004, finish 10/05)

2004 Jeremy Craft (STA MS project – Bailer - finish 5/04)
Artem Lavrinovich (STA MS project – Dunn - finish 12/04)
Jim Ostrowski (STA MS project – Bailer/Wright - finish 7/04)
Sandy Steiger (STA MS project – Bailer - finish 5/2004)

2003 Agnes Balogh (STA MS project – Bailer - finish 6/03)
Sarah Denman (STA MS project – Bailer - finish 11/03)
Shaun Roark (ZOO Ph.D. adv. Guttman - finish 4/03)

Brian Sampsel (STA MS project – Groggel – start 1/2003, finish 6/03)
Carrie Smith (ZOO MS: adv. Oris - finish 10/03)
Dave Sternberg (ZOO Ph.D. adv. Guttman - finish 4/03)

2002 Chris Betrus (ZOO MS - Blair – start 4/2001; finish 10/2002)
Sonja Greven (UNC BIOS MS proj. – Bailer/Kupper – start 1/2002; finish 6/2002)
Gretchen Johnson (STA MS project – Bailer – start 10/2000; finish 11/2002)
Scott McLain (ZOO PhD Oris – start 11/99; finish 11/2002)
Matt Wheeler (MST MS project – Bailer – start 1/2001; finish 7/2002)

2001 Dorothy Chen (STA MS project – See – finish 5/2001)
Kevin Geiss (ZOO PhD Oris - start 10/97, finish 5/2001)
Jo Ellen Hinck (ZOO PhD Oris – start 11/99, finish 6/2001)
Joe Reale (ZOO MS Blair -- start 3/2000, finish 10/2001)
Aaron Roberts (ZOO MS Oris – start 10/99, finish 11/2001)
Sean Walker (ZOO PhD Rypstra - start 8/97, finish 7/2001)
Jake Williams (ZOO MS Lee – start 10/99, finish 3/2001)

2000 Eun-ah Cho (ZOO MS Oris - start 12/98, finish 7/2000)
Junghoon Choi (ZOO PhD Oris - start 10/97, finish 8/2000)
Jennifer Hoffman (ZOO M.S. Oris – start 3/99, finish 12/2000)
Sarah Pierson (STA MS project – Bailer – start 12/99, finish 4/2000)
Zhengxi Ruan (STA MS project – Bailer – start 12/99, finish 6/2000)
Valerie Tierce (ZOO MS Blair - start 11/97; finish 2/2000)
Lisa Zinn (IES MS Blair -- start 7/99, finish 4/2000)

1999 Richann Gonzales (STA MS project - Bailer - start 8/98; finished 5/99)
Siyu Liu (STA MS project - Bailer - start 8/98; finished 7/99)
Trang Ta (STA MS project - Bailer - start 8/98; finished 5/99)

1998 Chad Blystone (ZOO MS Claussen - start 6/97; finish 6/98)
Ryan Elmore (STA MS project - Bailer - start 8/97; finish 7/98)
Michael Finkler (ZOO PhD Claussen - start 8/96; finish 6/98)
Brian Harootyan (IES - start 2/97; finish 5/98)
Mike Schwiers (STA MS project - Bailer - start 8/97; finish 4/98)
Kyle Venis (MTH/STA MS project - Bailer - start 8/97; finish 11/98)
Zhumei Xu (STA MS project - Bailer - start 6/97; finish 5/98)

1997 Dave Cline (IES MS Bailer - start 3/93; finish 5/97)
Yihao Duan (ZOO PhD Guttman - start 5/93; finish 8/97)
Yihao Duan (IES MS Guttman - start 8/95; finish 12/97)
Cheryl Glendening (IES MS Hand - start 1/94; finish 11/97)
Mike Lane (STA MS project - Bailer - start 9/96; finish 5/97)
Patricia Rameriz-Romero (ZOO PhD Oris - start 11/92; finish 9/97)
Tony Tersine (STA MS project - Bailer - start 9/96; finish 5/97)

1996 Carrie Barge (STA MS project - Bailer - start 9/95; finish 5/96)
Heasun Choung (STA MS project - Bailer - start 9/95; finish 5/96)
Michelle Depoy (STA MS project - Bailer - start 9/95; finish 5/96)
Michael Finkler (ZOO MS Claussen - start 5/93; finish 5/96)
Kory Groetsch (ZOO MS Oris - start 7/93, finish 5/96)
Judy Schofield (IES/BOT MS Hagerman - start 1/94; finish 5/96)

1995 Mike Anderson (STA MS project - Bailer - start 9/94, finish 5/95)
Steve Diamond (ZOO PhD Oris - start 1/93, finish 8/95)
Craig Billeau (ZOO MS Isaacson - start 8/94, finish 6/95)
Joe Shumate (STA MS project - Bailer - start 9/94, finish 5/95)

1994 Sue Balmer (STA MS project - Bailer - start 9/93, finish 5/94)
Laura Barghusen (ZOO MS Rypstra - start 1/94, finish 9/94)
Connie Farmer (IES MS Smith - start 7/93, finish 7/94)
Michael Mongomezulu (GEO MS Renwick - start 12/93, finish 9/94)

1993 Marc Greenburg (ZOO MS Oris-Wissing - start 3/92, finish 11/93)
Steve Levine (ZOO MS Oris - start 7/91, finish 6/93)
Wei Gao (IES MS - start 8/91, finish 9/93)
Karen Martin (EDT MAT Hill - finish 4/93)
Jason Scherrer (IES MS Bailer - start 3/93, finish 12/93)
Mark Schlueter (ZOO MS Guttman - start 6/92, finish 8/93)

1992 Sandy Brewer (IES MS Vanni- start 6/91, finish 8/92)
Chris Brueske (IES MS Loucks-Barrett - start 6/91, finish 7/92)
Chris Harrington (ZOO MS Wissing - start 11/91, finish 3/92)
Naagesh Oruganti (SAN MS Kiper - finish 4/92)

1991 Jim Coon (IES - finish 8/91)
Vince Lapolla (ZOO MS Barrett - finish 7/91)

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Topics for recent MS Statistics/Biostatistics/Mathematics students supervised (* = significant co-advising of project; **= co-advisor of PhD ZOO student)

Colton Gearhart (2020) Rules of Thumb for Sample Size for Predictive Modeling in Regression
Paul Gunsalus (2020) – Causal Inference for the Value of Transferring in Collegiate Football

Sooyeong Lim (2019) - Identifying Optimal Dynamic Treatment Regime: Compare Performances of Different Methods under Model Misspecification
Erika Rasnick (2019) – Distributed lag models for identifying sensitive exposure windows (co-advised with Tom Fisher)
David Lau (2019) Attributes of a Successful March Madness Run.

Kyle Linville (2018) – Predicting National Football League Game Outcomes Versus the Las Vegas Point Spread (co-advised with Tom Fisher)
Craig Heard (2017) – A Simulation Study of English Premier Leagues finishes
Dan Garbinsky (2016) – Bayesian Risk Estimation methods
Pamela Castricone (2015) Evaluation of the Leggett+ Model for Predicting Blood Lead Levels.

Tarah Cole (2014) Benchmark dose estimation using quantile regression (co-advised with Matt Wheeler)
Mike Tekavec (2014) Nonparametric smoothing with gridded data
Rachel Gilbert (2013) Hazard banding for occupational hazards
Kelsey Warsinske (2012) Text mining of market research and political data

Julia Janosko (2011) Investigating recommender systems
Oliver Kroner (2011) A web-based implementation of the NRC Silver Book recommendations
Greg Slutz (2011) Estimating benchmark doses for continuous responses with unequal variances
Peng Wang (2011) Bayesian formulation of potency estimation for zero-inflated data (co-advised with Jing Zhang)

Koffi Wima (2010) Characterizing overlap in gene sequences (co-advised with John Karro)

Sarah Anderson (2009) Weighted vs. unweighted regression analysis with pooled observations
Emily Donohoe (2009) Human impact on freshwater quality in Dominica
Jesse Pratt (2009) Evaluating health and wellness programs at Miami
Laura Sietsma (2009) Evaluating models for predicting restaurant sales
Stefan Stanev (2009) Predictors of injury in nursing home workers
Jiajing Wang (2009) Evaluating impact of job loss on older workers

Colleen Mangeot (2008) Ordinal regression for toxicity severity data*

Enas Al-Shaikh (2007) Proper weighting of pooled observations in aquatic experiments
Billy Fadel (2007) Benchmark dose estimation when variability is linearly related to dose
Jian Wu (2007) Modeling the probability of cellular infection by two competing viruses

Matt Fenchel (2006) Predictors of longitudinal patterns of activity in children
Kevin Donges (2006) Estimating the probability of winning in Texas Hold 'Em poker
Katie Spencer (2006) Defining and predicting childhood activity using child-specific and parental variables.
James Schuurman (2006) Structural zeroes in repeated binary categorical data

Harry Charway (2005) Randomization tests for multiple group variance equality
Hanjin Li (2005) Predicting injuries in nursing home workers
Shannon Smith (2005) Constructing integrated measures of childhood activity

Sandy Steiger (2004) Outlier detection in continuous monitoring data
Jeremy Craft (2004) Incorporating covariates in the analysis of step-stress experiments
Jim Ostrowski (2004) Optimal designs for two-compartment models

Sarah Denman (2003) Grouped binary testing in the analysis of microbial assays
Agnes Balogh (2003) Rate modeling for events in a Hungarian hospital

Matt Wheeler (2002) A simulation study of statistical tests for bioaccumulation equality
Gretchen Johnson (2002) Predicting disenrollment from community-based assistance programs
Sonia Greven (2002) Likelihood ratio tests for evaluating group equality in step-stress experiments.

Appendix B: University, Division and Department Service:

Division (CAS – College of Arts & Science) or University Committees:

Member, Committee to review academic integrity process at Miami (Fall 2015-Spring 2017)
Chair, Research Misconduct Committee (Fall 2013-Spring 2014)
Chair, Committee to review Miami University data provided to the US News & World Report (Fall 2014-Spring 2015)
Member, CAS Committee on Awards and Honors (Spring 2014-Spring 2015)
Member of Coordinating Team for the Miami 2020 strategic planning process (Fall 2012)
Chair, Target Goal Team 1 "Innovation learning and discovery" for Miami 2020 process (Fall 2012)
Steering committee for Strategic Analysis of Support Services (Jan. 2011-May 2011)
Provost search committee (June 2010 – October 2010)
Chair, Pathways to graduation committee (Nov. 2009-March 2010)

Advisory Committee to the Dean of the CAS (May 2009-August 2009)
CAS Requirements Review committee (Oct. 2009-May 2010)

Oversight Committee for the Environmental Studies Co-Major (Fall 2005-Spring 2008)
Steering Cmt. for MU-ECONET Presidential Advancement Enrichment Activity (Fall 2006-2008)
Miami University Harassment/Discrimination Review Panel (Spring 2007-)

College of Arts & Science Cmt. to Review Chairs & Program Directors (Fall '05-Spring '07)

Graduate Council (Fall 2002 – Spring 2008)
College of Arts & Science Computer Policy Cmt. (Spring '90 - Spring '92; Fall '96 - 04)

Researcher of the Year Award Committee (Spring 2000 - 2002), Chair 2002
UPTOP computing planning core team (Fall 2001)
University Computer Policy Committee (CPC) (Fall '90 - Spring '93)
Academic Divisional Advisory Subcommittee of CPC (Fall '89 - '90)
Network Subcommittee of the CPC, Chair (Spring '91)
Computer Advisory Group (CAG) (Fall '91 - Spring '93)
Search Committee for Associate Provost for Computing (Fall '91 - Spring '92)
Natural and Applied Sciences Subcommittee of the Graduate Council (Fall '93-Spring '95)
Search Committee for UNIX Support Staff person (Spring '94)

Institute of Environmental Sciences (IES) Service:

IES Executive Committee (Fall 2006 – Spring 2009)
Environmental Studies Advisory Committee (Fall '99 – Fall 2006)
IES oral exam committees (most Springs)
Special lecturer in IES Public Service Project (PSP) course (Fall '91)
Consultant on IES Public Service Projects (semesters when I taught STA 671)

Non-committee University Service:

Guest lecturer in graduate Ecotoxicology course (Fall '91, Spring '94, Fall '97, '98, '99)
Guest lecturer in GHS 101, introductory global health studies course (Fall 2013, Fall 2014)

Statistical Collaboration/Consulting on Campus:

Since Fall 1989, I have collaborated on a host of separate research projects that were being conducted by faculty and students from a variety of programs and departments.

STA Departmental Committees:

Ex-officio to most committees
Top 25 Committee for reorganization of STA 261 (Fall 2008-)

Faculty Learning Communities:

Co-facilitator of Quantitative Literacy Faculty Learning Community (August '08-Spring '09)

Scripps Gerontology Center:

Research Management Team Committee (Fall '98-2005)

MST Departmental Committees (member of this department from Aug. 1988-June 2009):

MST reorganization/partitioning committee (Spring 2008-)
Statistics Committee (Fall '88 – Spring 2009)
Tenure and Associate Professor Promotion Committee (Fall 1993-Spring 2009)
Professor Promotion Committee (Fall 1996-Spring 2009)
Graduate Program Review Committee (Fall 2008-)
Chair, Computational Statistics Search Committee (Fall 2008-Spring 2009)
Mentor for John Karro, Alumni Teaching Scholar participant (Fall 2008-Spring 2009)

Chair, Statistics Search Committee (Fall 2007 - Spring 2008)
MST Department Recorder (Spring 2007)
Tenure and Promotion Committee, Secretary (Fall 2004-Spring 2006)
Statistics Search Committee (Fall 2005 - Spring 2006)
Applied Mathematics Search Committee (Fall 2003-Spring 2004)
Peer Review of Teaching Committee for S. Harper (Fall 2006); R. Noble (Spring 2006); J. Moler (Spring 2005); J. Westman (Fall 2003); R. Noble (Spring 2003)
Faculty Colloquium Committee (Fall 2003-Spring 2004)
Chair, Statistical Programming Course proposal committee (Fall 2002)
Computer Usage Committee (Fall '88 - 2003)
Statistics Steering Committee (Fall '99 – Fall 2001)
Chair, Statistics Search Committee (Fall 2000 - Spring 2001)
Climate for Women Committee (Fall 2002-Spring 2003)
Undergraduate Committee (Spring '90 - Spring '92)
Graduate Committee (Fall '92 - Spring '94)
Colloquium Committee (Fall '96 - Spring '97)
Mathematics Education Search Committee (Spring '91)
Various comprehensive exam and textbook selection committees

Other Departmental Service:

Lecture to New Graduate students, "Engaging students as learners" (Fall '96)
General resource person for VAX, UNIX, MAC, and e-mail questions
Co-authored department proposal for the NSF/ILI grant program (Fall '90 & '91)
Pi Mu Epsilon speaker (December '90)
Dept. representative to workshop on "Computers for Mathematics Faculty" at the Institute for Academic Technology, Chapel Hill, N.C. (Spring '91)
Chaired Ad Hoc committee to revise Department's teaching evaluation form (S '93-F '94)