Brian S. Yandell

Horticulture Department
1575 Linden Drive #480
University of Wisconsin–Madison
Madison, WI 53706
phone: 1–608–263–3304
email: byandell@wisc.edu

Statistics Department
1300 University Avenue #1120
University of Wisconsin–Madison
Madison, WI 53706
fax: 1–608–262–0032
web: www.stat.wisc.edu/~yandell

Education

1981	UC–Berkeley	PhD	Biostatistics (KA Doksum, advisor)
1978	UC–Berkeley	MA	Statistics
1974	Caltech	BSc	Mathematics (honors)

Dissertation: Non-parametric inference for rates and densities with censored serial data. Kjell A. Doksum, Advisor.

Employment

2019–22	David R. Anderson Founding Director, American Family Insurance Data Science Institute
2017—	Director, Biometry Program
2011–15	Chair, Department of Statistics
2009–11	Associate Chair, Department of Statistics
1996—	Professor, University of Wisconsin–Madison.
1988–96	Associate Professor, University of Wisconsin–Madison.
1982–88	Assistant Professor, University of Wisconsin–Madison: 50% Statistics (L&S) and 50% Horticulture (CALS).
1990	Visiting Fellow, Departments of Statistics, University of Glasgow and University of Strathclyde, Scotland (M Titterington, BD Ripley).
1976–82	Teaching Associate, Research Assistant, Teaching Assistant; Statistics Department and Biostatistics Program, University of California–Berkeley (KA Doksum, J Neyman, EL Scott, S Selvin).
1971–74	Research Assistant, Assistant Programmer, Coder; Entomology Department, University of California–Berkeley (B Ewing, DL Wood).

Teaching

998	Stat Consulting (F 1989–2000, 2002, 2008, 2018; S 1997, 1999, 2004–8, 2018–20).
850	Theory & Application of Linear Models II (S 1991–6, 1998, 2000).
628	Data Science Practicum (S 2016).
627	Professional Skills in Data Science (F 2013–15).
571/572	Stat Methods Biosci (1:F 1983–4, 1988, 2003; 2:S 1984–5, 1989).
201	Introductory Stat (F 1985–87, S 1986–88); CALS section (F 1982; S 1983).
6xx/992	Topics: Stat Genomics (1998–9, S 2001, 2003); Spatial Stat (F 1995, S 1986).

Research Summary

Research interests have arisen from joint work with researchers, particularly across the biological sciences in conjunction with Biometry statistical consulting responsibilities. Recent work (noted since 2006) has been largely in statistical genomics, concerning data analysis, methodology and design [A 68–70, 72–74, 76–82, 85–86, 89–92, 99–113; B 1–2; E 10–11]. Methodology research on quantitative trait loci (QTL) has addressed semi-parametric and non-parametric inference [A 73; E 10], Bayesian model selection [A 78–81], expression QTL or genetical genomics [A 68–72, 82, 85–85, 89, 91–94, 97–101, 103–104], fine mapping [A 68, 72, 107, 110, 113], genetic hot-spots [104], and causal networks [A 82, 85, 92, 97, 100, 108; B 2]. Several applied collaborations have involved microarray analysis [A 69, 71, 75, 85, 89, 91, 93–94, 97, 111, 113] while others arose from more general scientific investigations [A 74, 83–84, 87–88, 95–96, 98–99, 105, 109–110, 112]. Bayesian model selection for genetic architecture (location and gene action of multiple QTL) has been a major thrust of methodological research, largely in the development of computational resources, I have subcontracts on two NIH software development grants, with Alan Attie and Karl Broman, UW–Madison, and with Nengjun Yi and David Allison, U AL Birmingham. These involve enhancements to the widely used R/qtl library and a new Bayesian model selection library (R/qtlbim) was released in 2006 [A 78; S 10]; QTL-dependent phenotype causal graph packages (R/qdg, R/qtlhot; S 11, S 14) and QTL-based causal network inference (R/qtlnet; S 12) packages were released in 2008 and 2010; another package on expression QTL data management and analysis (R/qtlview; S 13) was released in 2010.

Impact of Research

Yandell's primary thesis publication, a key early paper in nonparametric survival rate inference, has been cited 64 times* [2:64x*3.96i]. Seminal methodology papers on inference for splines generalized to non-normal or functional data have been widely cited [7:159x3.74i; 14:97x3.96i]. New methodology for Bayesian inference in gene mapping [67:67x4.28i] that is widely used by scientists via the computing package, R/qtlbim [78:58x6.27i]. Recent methodology on causal models for infering molecular pathways disrupted by disease is having a substantial impact, although this is not yet reflected in citations [85:86x10.0i; 82:50x4.28i; 92:30x2.58i; 104:2x4.28i; 108:8x4.28i]; this work was favorably reviewed by Jansen et al. (2009 Curr Opin Plant Biol).

Yandell has had substantial impact on biologists who use genetics in their studies. Yandell's development of a meta-analysis across advanced intercrosses led to a *Nature Genetics* of one of the first positional cloning of a diabetes gene [68:96x29.8i], whose function is being investigated by many research labs, in particular Professor Alan Attie's recent renewal application to NIH/NIDDK. Yandell's early mapping collaboration with Prof. Tom Osborn [33:77x3.86i] led to his later methodolgy work cited above, as well as to the full sequencing of one acquisition under study, Brassica TO1000. Other collaborations with Attie in which Yandell was involved have been widely cited [56:348x10.3i; 48:177x10.3i; 58:69x8.51i; 49:54x8.51i; 86:142x11.1i; 64:31x4.28i] and have resulted in multiple candidate genes for diabetes (App, Slco1a6, Sorcs1, Tomosyn-2, Tsc2). (*Citation counts (x) and 5-year impact factors (i) found at ISI Web of Science, March 2011.)

Promoting Data Science Growth

Yandell has undertaken several important administrative roles to promote the growth of data science at UW-Madison. As Associate Chair (2009-11) and Chair of Statistics (2011-15), he developed a department vision for Data, Models & Statistics, and he pioneered the creation of two new revenue-generating programs – Visiting International Student Program (VISP) and Masters in Statistics Option Data Science (MSDS) – which have both shifted the scholarly emphasis of the department more toward data science and generated revenue to stabilize and grow the department at a time of diminishing state and federal resources.

Beginning in 2017, Yandell turned his attention to data science across campus, and helped form the Data Science Hub (directed by Michael Ferris), and was lead PI on the successful UW2020 proposal that funded the Hub for the first two years. The effort caught the attention of the Chancellor, who asked Yandell to lead committees in planning and creating the American Family Insurance Data Science Institute through 2018-19, completing the process in record time. Yandell was named the founding Interim Director of DSI, and worked with AFI and UW-Madison in Fall 2019 to finalize the AFI $20M commitment for funding the institute. Yandell is now expanding DSI, doubling the staff and adding data scientists with the goal of partnering with multiple departments, centers and colleges across campus to elevate data science research and attract new funding. Yandell has also worked closely in the past two years with the new CIO and her staff to ensure research cyberinfrastructure is enhanced in ways that best benefit the research mission of UW-Madison.

During the COVID-19 pandemic, Yandell pivoted DSI to help Wisconsin leaders make decisions and communicate to the public. Our team gained the respect and trust of Emergency Operations Centers for Wisconsin, the UW System and the UW-Madison campus, and contributed timely model projections that influenced policy on testing frequency, messaging to students, quarantine and isolation strategy, and resource allocation including state vaccination distribution plans. DSI has received COVID-19 funding from WARF, UW-Madison and state DHS, and attracted the attention of the Rockefeller Foundation. We meet regularly with COVID Response Teams for campus and state to advise on expanded testing operations and vaccination distribution, and are now looking to share our strategic approaches with other geographies beyond Wisconsin.

Peer-Reviewed Research Grants Submitted or Received

UW	**UW-Madison**
2020-21	**WARF:** COVID-19 Response CARES Grant. Yandell PI. $282K. Funded.
2020-21	**WARF:** DreamUp Opportunity Calculator Assessment Grant. Yandell/Trone PI. $100K. Funded.
2020-24	**WARF:** Sociological Methods & Research Journal Editor Assistant Grant. Elwert PI. $100K. Funded.
2020	**WARF:** COVID-19 Accelerator Grant. Goldstein PI. $10K. Funded.
2018-21	**UW2020:** Data Science Hub. Yandell PI. $500K. Funded.
WI	**DHS**
2021-22	**State Lab of Hygiene (SLoH)** Covid Response CARES Grant: wastewater surveillance. Yandell PI. $50K. Funded.
2020-21	**Covid Response Team (CRT)** Covid Response CARES Grant: Supply chain and vaccination modeling. Yandell PI. $50K. Funded.
RF	**Rockefeller Foundation**
2021	**SMDM:** The COVID-19 Fairness in Resource Allocation (FIRA) Engine. Jackson PI. $49.5K. Funded through Society for Medical Decision Making, Johns Hopkins University.
NSF	**National Science Foundation**
2022-27	**BIO Cooperative Agreement:** National Center for Navigation of Open Data for Environmental Sciences (NC-NODES). Yandell PI. $20M. Invited proposal. Declined.
2021-23	**HNDS-I Collaborative:** Understanding neighborhood isolation through human mobility Big Data analytics. Gao PI; Yandell Co-PI. $688K. Collaborators Hu (U Buffalo $172K) and Zhou (Arizona St U $150K). Declined.
2021-24	**MRI:** Heterogeneous Accelerator Lab. Livny PI; Yandell Co-PI. $2.7M. Declined.
DOD	**Department of Defense**
2022-23	AI-assisted detection and target recognition (AIDTR). Phase III. Yandell PI. $660K. Funded.
2020-21	AI-assisted detection and target recognition (AIDTR). Phase II. Johnson PI. $496K. Funded.
2019-20	AI-assisted detection and target recognition (AIDTR). Phase I. Ackerman PI. $419K. Funded.
NIH	**National Institutes of Health**
2021-24	**R25:** GM141504-01 Reproducible Lessons for Reproducibility and Rigor. Yandell PI. $270K. Declined.
2019-23	**NIGMS:** Statistical methods for multi-parent crosses: methods and software. Broman PI. $340K. Funded.
2018-21	**R01 1UG3NS111688:** Enabling Nanoplatforms for Targeted In Vivo Delivery of CRISPR/Cas9 Ribonucleoproteins in the Brain. Lead PI Gong. Co-I Yandell. 5% in later years.
2018-21	**R01 5UG3NS111688:** Nanoplatforms for targeted in vivo LRRK2 genomic editing in nonhuman primates. Lead PI Emborg. Co-I Yandell. 5% in later years.

Graduate Student Advisees: Statistics PhD

Year	Student	Position/Status
2019	Boehm F	with KA Broman; Postdoc, U Mass Med School
2012	Moon JY	Asst Prof, Epidem & Pop Health, Albert Einstein Coll Medicine
2010	Chaibub Neto E	Statistician, Sage Bionetworks, Seattle, WA
2010	Kittipadakul P	(PBPG PhD with S Jansky) Prof, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand
2005	Song Y	Statistician, Johnson & Johnson, NJ
2004	Jin CF	Marketing Specialist, McKinsey & Co., China
2001	Zou F	Prof, Biostatistics, U NC, Chapel Hill
2001	Gaffney PJ	Statistician, Progressive Insurance, Cleveland, OH
1997	Borghi E	Scientist, World Health Org, Geneva, SZ
1997	Tao HG	(co-advisor with M Palta, Preventive Medicine) GE Capital, CT
1996	Qiu P	Prof, Biostatistics, U FL Gaineville
1995	Satagopan JM	Asst Prof, Epidemiology & Biostatistics, Sloan-Kettering Inst, NY
1993	Feng C	Sr Analyst, Credit Policy, 1st Omni Bank, DE
1988	Taam W	Scientist, Boeing, Seattle, WA

Graduate Student Co-Advisees: Biometry MS

Year	Student	Co-Advisor	Department
active	Berro Rovela MI	de Leon Gatti	PBPG
active	Miao M	Lankau	Pl Path
2019	Gold K	Gevens	Pl Path
2011	Huang W	Khatib	Dy Sci
2006	Zheng W	M Culbertson	Genetics
2004	Bersch A	D Waller	Botany
1999	Tran T	C DeWitt	Environmental Studies
1997	Vazquez SP	DH Rusch	Wildlife Ecology
1996	Sargent G	RL Ruff	Wildlife Ecology
1992	Weigel KA	D Gianola	Dairy Science
1992	Miller MB	LJ Chapman	Psychology
1992	Vasquez O	T Smith	Dairy Science
1989	Reynolds PS	WP Porter	Zoology
1989	Wang C	JJ Rutledge	Animal Science
1986	Najar A	TW Tibbitts	Horticulture

Other Graduate Student Defense Committees

Year	Stat PhD	Other MS	Other PhD
active	3		2:PBPG(2)
2020s	4	1:Hort	4:ComSciDis,FWE,Kines,PBPG,PlPath
2010s	13		10:Bact,Biochem,Botany,DySci(2),Genet(3),PlPath,PBPG
2000s	8	1:Agronomy	18:AHABS,AgricApplEcon,AnimSci(2),CommDis,EcDev, EnvirMon,FoodSci,ForEcolMgmt,Genet,Limnol,PBPG(7)
1990s	27	3:Geogr,Genet, WildEcol	20:AnimSci(3),CEE(2),DairySci,ElecCompEngr (ECE),Entom(2),Geol(2),LandRes(2),PlBrPlGen (PBPG)(3),Sociol,WildEcol,Zool(2)
1980s	17	3:Agron,Entom,For	5:Agron,CivEnvirEngr(CEE),EnvirMon(2),PlPath
total	**72**	**8**	**59**

Bibliography of Publications

(click on Yandell or journal title or visit www.stat.wisc.edu/∼yandell/doc)

A. Papers published in, or accepted by, refereed journals

1. Yandell BS (1982) Non-identifiability of lethality in the survival experiment with serial sacrifice. *Mathematical Bioscience 62*: 1–6.

2. Yandell BS (1983) Nonparametric inference for rates with censored survival data. *Annals of Statistics 11*: 1119–1135.

3. Nicot P, Rouse DI, Yandell BS (1984) Comparison of statistical methods for studying spatial patterns of soilborne plant pathogens in the field. *Phytopathology 74*: 1399–1402.

4. Bjerve S, Doksum KA, Yandell BS (1985) Uniform confidence bounds for nonparametric regression. *Scandinavian J of Statistics 12*: 159–169.

5. Schenkman DI, Berman DT, Yandell BS (1985) Effect of stage of lactation on transport of colloidal carbon or *Staphylococcus aureus* from the mammary gland lumen to lymph nodes in guinea pigs. *J of Dairy Research 52*: 491–500.

6. Barabás B, Csörgő M, Horváth L, Yandell BS (1986) Bootstrapped confidence bands for percentile lifetime. *Annals of the Institute of Statistical Mathematics 38A*: Tokyo, 429–438.

7. O'Sullivan F, Yandell BS, Raynor WJ, Jr (1986) Automatic smoothing of regression functions in generalized linear models. *J of the American Statistical Assocication 81*: 96–103.

8. Romero-Andreas J, Bliss F, Yandell BS (1986) Bean Arcelin 1: Inheritance of a novel seed protein of *Phaseolus vulgaris* L. and its effect on seed composition. *Theor Appl Genet 72*: 123–128.

9. Taam W, Yandell BS (1986) Small sample power of Moran's I statistics for AR and MA models. *J of Statistical Computation & Simulation 26*: 127–129. [TR 769, Dept. of Statistics, Univ. of Wisconsin-Madison.]

10. Bates DM, Lindstrom MJ, Wahba G, Yandell BS (1987) GCVPACK Routines for Generalized Cross Validation. *Communications in Statistics B16*: Algorithms Section, 263–297.

11. Horváth L, Yandell BS (1987) Convergence rates for the bootstrapped product limit process. *Annals of Statistics 15*: 1155–1173.

12. Bewick TA, Binning LK, Yandell BS (1988) A degree day model for predicting the emergence of swamp dodder (*Cuscuta gronovii* Willd.) in cranberry (*Vaccinium macrocarpon* Ait.). *J of the American Society of Horticultural Science 113*: 839–845.

13. Chrisman NR, Yandell BS (1988) Effects of point error on area calculations: a statistical model. *Surveying & Mapping 48*: 241–246.

14. Cox D, Koh E, Wahba G, Yandell BS (1988) Testing the (parametric) null model hypothesis in (semiparametric) partial and generalized spline models. *Annals of Statistics 16*: 113–119.

15. Horváth L, Yandell BS (1988) Asymptotics of conditional empirical processes. *J of Multivariate Analysis 26*: 184–206.

16. Luebke HJ, Scriber JM, Yandell BS (1988) Use of multivariate discriminant analysis of male wing morphometrics to delineate the Wisconsin hybrid zone for *Papilio glaucus glaucus* and *P. g. canadensis*. *American Midland Naturalist 119*: 366–379.

17. Yandell BS (1988) Block diagonal smoothing splines. *Statistics & Probability Letters 6*: 331–334.

18. Yandell BS (1988) Algorithms for multidimensional semiparametric GLM's. *Communications in Statistics B17*: 295–312.

19. Yandell BS, Hogg D (1988) Modeling insect natality using splines. *Biometrics 44*: 385–395.

20. Yandell BS, Horváth L (1988) Bootstrapped multi-dimensional product limit process. *Australian J of Statistics 30*: 342–358.

21. Yandell BS, Najar A, Wheeler R, Tibbitts TW (1988) Modelling the effects of light, carbon dioxide and temperature on the growth of potato. *Crop Science 28*: 811–818.

22. Hasegawa T, Horie T, Yandell BS (1991) Improvement of yielding ability in Japonica rice cultivars and its impact on regional yield increase in Kinki District, Japan. *Agricultural Systems 35*: 173–187.

23. Lathrop RG, Lillesand TM, Yandell BS (1991) Testing the utility of simple multidate Thematic Mapper calibration algorithms for monitoring turbid inland waters. *International J of Remote Sensing 12*: 2045–2063.

24. Wang CS, Yandell BS, Rutledge JJ (1991) Bias of maximum likelihood estimators of intraclass correlation. *Theor Appl Genet 82*: 421–424.

25. Croxdale J, Smith J, Yandell BS, Johnson JB (1992) Stomatal patterning in *Tradescantia*: an evaluation of the cell lineage theory. *Developmental Biology 149* 158–167.

26. Jeanne RL, Williams NM, Yandell BS (1992) Age polyethism and defense in a tropical social wasp. *J of Insect Behavior 5*: 211–227.

27. Price JI, Yandell BS, Porter WP (1992) Chemical effects on survival of avian cholera organisms in pondwater. *J of Wildlife Management 56*: 274–278.

28. Staniswallis JG, Yandell BS (1992) Locally adaptive smoothing splines. *J of Statistical Computation & Simulation 43*: 45–53.

29. Stieve SM, Stimart DP, Yandell BS (1992) Heritable tissue culture induced variation in *Zinnia Marylandica*. *Euphytica 64*: 81–89.

30. Wang CS, Yandell BS, Rutledge JJ (1992) The dilemma of negative analysis of variance estimators of intraclass correlation and its variants. *Theor Appl Genet 85*: 79–88.

31. Weigel KA, Gianola D, Yandell BS, Keown JF (1993) Identification of factors causing heterogeneous within-herd variance components using a structural model of variances. *J of Dairy Science 76*: 1466–1478.

32. Yandell BS (1993) Smoothing splines – a tutorial. *The Statistician 42*: 317–319.

33. Ferreira ME, Satagopan J, Yandell BS, Williams PH, Osborn TC (1995) Mapping loci controlling vernalization requirement and flowering time in *Brassica napus*. *Theor Appl Genet 90*: 727–732.

34. Jeanne RL, Graf CA, Yandell BS (1995) Non-size-based morphological castes in a social insect. *Naturwissenschaften 82*: 296–298.

35. Nichols SA, Yandell BS (1995) Habitat relationships for some Wisconsin lake plant associations. *J of Freshwater Ecology 10*: 367–377.

36. Scott TA, Shaver RD, Zepeda L, Yandell B, Smith TR (1995) Effects of rumen-inert fat on lactation, reproduction, and health in high-producing Holstein herds. *J of Dairy Science 78*: 2435–2452.

37. Teutonico RA, Ferreira ME, Satagopan JM, Yandell BS, Palta JP, Osborn TC (1995) Genetic analysis and mapping of genes controlling freezing tolerance in oilseed. *Molecular Breeding 1*: 329–339.

38. Satagopan JM, Yandell BS, Newton MA, Osborn TC (1996) Markov chain Monte Carlo approach to detect polygene loci for complex traits. *Genetics 144*: 805–816. PMCID: PMC1207571

39. Scott TA, Yandell BS, Shaver RD, Zepeda L, Smith TR (1996) Use of lactation curves in analysis of milk production data. *J of Dairy Science 79*: 1885–1894.

40. Tavoletti S, Bingham ET, Yandell BS, Veronesi F, Osborn TC (1996) Half tetrad analysis in alfalfa using multiple RFLP markers. *Proceedings of the National Academy of Science USA 93*: 10918–10922. PMCID: PMC38258

41. Qiu P, Yandell BS (1997) Jump detection in regression surfaces. *J of Computational and Graphical Statistics 6*: 332–354.

42. Qiu P, Yandell BS (1998) A local polynomial jump detection algorithm in nonparametric regression. *Technometrics 40*: 141–152.

43. Kidwell KK, Hartweck LM, Yandell BS, Crump PM, Brummer JE, Moutray J, Osborn TC (1999) Forage yields of alfalfa populations derived from parents selected on the basis of molecular marker diversity. *Crop Science 39*: 223–227.

44. Debaene JEP, Goldman IL, Yandell BS (1999) Postharvest flux and genotype x environment effects for onion-induced antiplatelet activity, pungency and soluble solids in long-day onion during postharvest cold storage. *J Amer Soc Hort Sci 124*: 366–372.

45. Tao H, Palta M, Yandell BS, Newton MA (1999) An estimation method for the semiparametric mixed effects model. *Biometrics 55*: 102–110.

46. Vorperian HK, Kent RD, Gentry LR, Yandell BS (1999) Magnetic resonance imaging procedures to study the concurrent anatomic development of vocal tract structures. *International J of Pediatric Otorhinolaryngology 49*: 197–206.

47. RF Young and Yandell BS (1999) Top-down vs. bottom-up analyses of interlanguage data: a reply to Saito. *Studies in Second Language Acquisition 21*: 477–488.

48. Nadler ST, Stoehr JP, Schueler KL, Tanimoto G, Yandell BS, Attie AD (2000) The expression of adipogenic genes is decreased in obesity and Diabetes mellitus. *Proceedings of the National Academy of Science USA 97*: 11371–11376. PMCID: PMC17207

49. Stoehr JP, Nadler ST, Schueler KL, Rabaglia ME, Yandell BS, Metz SA, Attie AD (2000) Genetic obesity unmasks non-linear interactions between murine type 2 diabetes susceptibility loci. *Diabetes 49*: 1946–1954.

50. Ostermeier GC, Sargeant GA, Yandell BS, Evenson DP, Parrish JJ (2001) Relationship of bull fertility to sperm nuclear shape. *J Androl 22*: 595–603.

51. Ostermeier GC, Sargeant GA, Yandell BS, Parrish JJ (2001) Measurement of bovine sperm nuclear shape using Fourier harmonic amplitudes. *J Androl 22*: 584–94.

52. Zou F, Yandell BS, Fine JP (2001) Statistical issues in the analysis of quantitative traits in combined crosses *Genetics 158*: 1339–1346. PMCID: PMC1461706

53. Ewing B, Yandell BS, Barbieri JF, Luck RF, Forster LD (2002) Event-driven competing risks. *Ecological Modelling 158*: 35–50.

54. Rosa GJM, Yandell BS, Gianola D (2002) A Bayesian approach for constructing genetic maps when genotypes are miscoded. *Genetics, Selection and Evolution 34*: 353–369.

55. Kole C, Thorman CE, Karlsson BH, Palta JP, Gaffney P, Yandell BS, Osborn TC (2002) Comparative mapping of loci controlling winter survival and related traits in oilseed *Brassica rapa* and *B. napus*. *Molecular Breeding 9*: 201–210.

56. Ntambi JM, Miyazaki M, Stoehr JP, Lan H, Kendziorski CM, Yandell BS, Song Y, Cohen P, Friedman JM, Attie AD (2002) Loss of stearoyl-CoA desaturase-1 function protects mice against adiposiy. *Proc. Nat. Acad. Sci. 99*: 11482-11486. PMCID: PMC123282

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61. Lan H, Rabaglia ME, Schueler KL, Mata C, Yandell BS, Attie AD (2004) Distinguishing co-variance from causality: a lesson from the protein disulfide isomerase mRNA abundance trait in diabetic mice. *Diabetes 53*: 240-244.

62. Stoehr JP, Byers JE, Clee SM, Lan H, Boronenkov I, Schueler KM, Yandell BS, Attie AD (2004) Identification of major quantitative trait loci controlling body weight variation in ob/ob mice. *Diabetes 53*: 245–249.

63. Fine JP, Zou F, Yandell BS (2004) Nonparametric estimation of mixture distributions with known mixture proportions. *Biostatistics 5*: 501–513.

64. Jin C, Lan H, Attie AD, Bulutuglo D, Churchill GA, Yandell BS (2004) Selective phenotyping for increased efficiency in genetic mapping studies. *Genetics 168*: 2285–2293. PMCID: PMC1448737

65. Spach KM, Pedersen LB, Nashold FE, Yandell BS, Kayo T, Prolla TA, Hayes CE (2004) Rapid gene expression changes in the central nervous system following 1,25-dihydroxyvitamin D3 administration to mice with experimental autoimmune encephalomyelitis suggest apoptosis induction as a disease resolution mechanism. *Physiological Genomics 18*: 141–151.

66. Vorperian HK, Kent RD, Lindstrom MJ, Kalina CM, Gentry LR, Yandell BS (2005) Development of vocal tract length during early childhood: A magnetic resonance imaging study. *J Acoustical Soc Amer 117*: 338–350.

67. Yi N, Yandell BS, Churchill GA, Allison DB, Eisen EJ, Pomp D (2005) Bayesian model selection for genome-wide epistatic QTL analysis. *Genetics 170*: 1333–1344. PMCID: PMC1451197

68. Clee SM, Yandell BS, Schueler KM, Rabaglia ME, Richards OC, Raines SM, Kabara EA, Klass DM, Mui ETK, Stapleton DS, Gray-Keller MP, Young MB, Stoehr JP, Lan H, Boronenkov I, Raess PW, Flowers MT, Attie AD (2006) Positional cloning of Sorcs1, a type 2 diabetes quantitative trait locus. *Nat Genet 38*: 688-693. PMID: 16682971

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73. Jin C, Fine JP, Yandell BS (2007) A unified semiparametric framework for QTL analyses, with application to spike phenotypes. *J Amer Statist Assoc 102*: 56–67.

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B. Papers submitted to refereed journals

1. Aravamuthan S, Reyes JFM, Yandell BS, Döpfer (2022) Real-Time Estimation and Forecasting of COVID-19 Cases and Hospitalizations in Wisconsin HERC Regions for Public Health Decision Making Processes. *BMC Public Health* (in review).

2. Barzen JA, Lacy AE, Yandell BS (2019) Chemical deterrence on planted seeds promotes effective prevention of bird herbivory in agricultural landscapes. *Conservation Science and Practice* (in review).

3. Gambardella JC, Schoephoerster W, Bondarenko V, Yandell BS, Emborg ME (2022) Expression of tau and phosphorylated in the brain of normal and hemiparkinsonian rhesus macaques. *J Comparative Neruology* (to be submitted).

4. Kent SP, Aravamuthan S, Yandell BS, Goldstein S (2021) Development and Performance of an Interactive Web-Based Decision Support Tool to Assess SARS-CoV-2 Screening Strategies (in prep.)

5. Xie R, Wang X, Wang Y, Ye M, Zhao Y, Yandell BS, Gong S (2022) pH-Responsive Polymer Nanoparticles for Efficient Delivery of Cas9 Ribonucleoprotein With or Without Donor DNA. *Advanced Materials* (in review)

C. Published Monographs or Books

1. Yandell BS (1981) Non-parametric inference for rates and densities with censored serial data. PhD Dissertation, Department of Statistics, University of California–Berkeley. Kjell A. Doksum, Advisor. UMI 8212159.

2. Yandell BS (1997) *Practical Data Analysis for Designed Experiments*. CRC/Chapman & Hall: London. ISBN 0-412-06341-7.

E. Invited Papers in Conference Proceedings and Book Chapters

1. Doksum KA, Yandell BS (1982) Properties of regression estimates based on censored survival data. *A Festschrift for Erich L. Lehmann*, ed. by PJ Bickel, KA Doksum, JL Hodges, Jr, Wadsworth: Belmont, CA, 140–156. (refereed)

2. Doksum KA, Yandell BS (1984) Tests for exponentiality. *Handbook of Statistics 4*, ch. 26, ed. by PR Krishnaiah and PK Sen, North Holland: Amsterdam, 579–611. (refereed)

3. Green PJ, Yandell BS (1985) Semi-parametric generalized linear models. GLIM85: Proceedings of the International Conference on Generalized Linear Models, September 1985, *Lecture Notes in Statistics 32*, ed. by R Gilchrist, Springer-Verlag, 44–55.

4. Ventura SJ, Lillesand TM, Lathrop RG Jr, Maclean GA, Yandell BS (1985) Thematic mapper crop spectral separability as determined by field radiometry. *Proceedings of the 51st Annual Meeting, American Society of Photogrametry, Washington, DC, March 1985, 1*, 404–413.

5. Yandell BS (1985) Graphical analysis of proportional Poisson rates. *Proceedings of the 17th Symposium on the Interface, Lexington, 17–19 March 1985*, ed. by DM Allen, 283–287. [TR 763, Dept. of Statistics, Univ. of Wisconsin-Madison.]

6. Yandell BS (1986) Graphical tests with censored data. Goodness-of-Fit, Debrecen, Hungary, June 1984, *Colloquia Mathematica Societatis János Bolyai 45*, ed. by Gy Michaletzky, 607–624.

7. Yandell BS, Green PJ (1986) Semi-parametric generalized linear model diagnostics. *Proceedings of the Statistical Computing Section, ASA, Joint Statistical Meetings, Chicago*, 48–53.

8. Yandell BS, Satagopan JM (1997) Mapping of QTLs associated with traits of agronomic importance. in *Biodiversity, Genetics and Breeding of Plants – Current Techniques and their Applications*, ed. by ME Ferreira and D Grattapaglia, SPI/EMBRAPA and Dalmo Catauli Giacometti Foundation in Support of Genetic Resources and Biotechnology, Brasília, Brasil (in Portuguese). (invited; never published)

9. Lin Y, Nadler ST, Lan H, Attie AD, Yandell BS (2003) Adaptive gene picking with microarray data: detecting important low abundance signals. in *The Analysis of Gene Expression Data: Methods and Software*, ed by G Parmigiani, ES Garrett, RA Irizarry, SL Zeger. Springer-Verlag.

10. Zou F, Yandell BS, Fine JP (2007) Semiparametric and nonparametric gene mapping. In *Advances in Statistical Modeling and Inference: Essays in honor of Kjell A. Doksum.* Ed. by V Nair. World Scientific, pp. 387-404.

11. Yandell BS, Bradbury P (2007) Computing strategies and software for gene mapping. Ch. 11, *Principles & Practices of Plant Molecular Mapping & Breeding.* Ed. by C Kole. Science Publishers, Inc., Enfield, New Hampshire, USA: 329–377.

12. Moon JY, Chaibub Neto E, Deng X, Yandell BS (2011) Growing graphical models to infer causal phenotype networks. In *Probabilistic Graphical Models Dedicated to Applications in Genetics.* Sinoquet C, Mourad R, eds.

13. Draper N, Johnson R, Stigler S, Tsui KW, Yandell B (2013) University of Wisconsin Department of Statistics. In *Strength in Numbers: The Rising of Academic Statistics Departments in the US.* Ed. by A Agresti, XL Meng. Springer, pp 525–536.

F. Contributed Papers and Abstracts

1. Yandell BS (1986) Algorithms for nonlinear generalized cross-validation. *Proceedings of the 18th Symposium on the Interface, Fort Collins, 19–21 March 1986*, ed. by TJ Boardman, American Statistical Assocication, 450–455.

2. Lathrop RG, Lillesand TM, Yandell BS (1987) An evaluation of thematic mapper data for forest cover mapping in northern Wisconsin. *Proceedings of the 11th Pecora Symposium, Sioux Falls, 5–7 May 1987*, 286–393.

3. Taam W, Yandell BS (1989) The torus structure approximation for spatial autocovariances. *Proceedings of the 21st Symposium on the Interface, March 1989*, 579–585.

4. Yandell BS (1991) Quantitative Trait Loci in *Brassica rapa*. *Proceedings of the 23rd Symposium on the Interface, Seattle, April 1991*, 258–261.

5. Kidwell KK, Yandell BS, Crump PM, Osborn TC (1994) Estimating genetic diversity in multi-parent synthetics. *Agronomy Abstracts*, Crop Science Division C1: Crop Breeding, Genetics and Cytology, 125.

6. Satagopan JM, Yandell BS, Newton MA, Osborn TC (1995) Simultaneous detection of multiple QTLs using Markov chain Monte Carlo. *Plant Genome III* abstract and poster.

7. Qiu P, Yandell BS (1996) Discontinuity detection in regression surfaces. Contributed Paper Session, Joint Statistical Meetings, Chicago, IL.

8. Satagopan JM, Yandell BS (1996) Estimating the number of quantitative trait loci via Bayesian model determination. Special Contributed Paper Session on Genetic Analysis of Quantitative Traits and Complex Diseases, Biometrics Section, Joint Statistical Meetings, Chicago, IL.

9. Gaffney PJ, Yandell BS, Satagopan JM (1997) QTLCart-MCMC: Bayesian data exploration and inference module. *Plant & Animal Genome V* abstract and computer demo.

10. Satagopan JM, Yandell BS (1998) Bayesian model determination for quantitative trait loci. TR, Department of Statistics, UW-Madison.

11. Rosa GJM, Yandell BS, Gianola D (2001) A Bayesian approach for constructing genetic maps when genotypes are miscoded. *J Anim Sci 79*: 190.

12. Vorperian HK, Kalina CM, Kent RD, Yandell BS, Gentry LR (2001) Vocal tract length development: MRI procedures. Acoustical Society of America, Chicago, IL, June. *J Acoustical Soc Amer 109*: 2446.

13. Shannon LM, Yandell BS, Galubitz J, Doebley JF (2012) Mapping domestication QTL in a Maize-Teosinte BC2S3 population using GBS data. Maize Meeting 2012.

G. Nonrefereed Publications Not Included Above

1. Yandell BS (2006) My life as a statistical scientist. September Career Issue, *Amstat News*.

H. Departmental Technical Reports

Note: Technical Reports (TR) below without numbers are unpublished manuscripts. Those with numbers are in departmental series.

1. Yandell BS (1979) Progressive multistage processes. TR, Dept of Statistics, UC–Berkeley.

2. Nicot PC, Rouse DI, Yandell BS (1985) Spatial patterns of soilborne inoculum of *Verticillium dahlia* in four commercial potato fields of Central Wisconsin. TR, Dept of Plant Pathology, U Wisconsin–Madison.

3. Yandell BS, Lindahl KQ Jr (1985) Computation of exact significance probabilities for generalized sum-of-scores tests: an algorithm and Pascal program. TR # 772, Dept of Statistics, U Wisconsin–Madison.

4. Csörgő M, Csörgő C, Horváth L, Mason DM, Yandell BS (1986) Asymptotic theory of some bootstrapped empirical processes. TR, Laboratory for Research in Statistical Probability, Carleton U, Ottawa, Canada.

5. Yandell BS (1987) Algortithms for mulidimensional semiparametric GLMs. TR 813, Dept of Statistics, U Wisconsin–Madison.

6. Taam W, Yandell BS (1987) Approximate diagonalization of spatial covariance. TR 814, Dept of Statistics, U Wisconsin–Madison.

7. Yandell BS, Green PJ (1987) Who owns phones: diagnosis using semi-parametric GLMs. TR, Dept of Statistics, U Wisconsin–Madison.

8. Staniswalis JG, Yandell BS (1988) Locally adaptive smoothing splines. TR 828, Dept of Statistics, U Wisconsin–Madison.

9. Reynolds PS, Yandell BS (1989) Time-series and intervention analysis of rodent body temperature data: implications for models of mammalian temperature regulation. TR, Dept of Zoology, U Wisconsin–Madison.

10. Horváth L, Yandell BS, Sen A (1990) Convergence of kernel regression estimators. TR 869, Dept of Statistics, U Wisconsin–Madison.

11. Yandell BS (1990) Bootstrapped spatial point processes. TR, Dept of Statistics, U Wisconsin–Madison.

12. Yandell BS, Taylor CC, Ripley BD (1991) Ideas on Inference for Image Reconstructions. TR, Dept Statistics, U Wisconsin–Madison.

13. Yandell BS, Scott EM, Buchanan D, Martin E (1991) Estimation and design considerations for the UK RIMNET. TR, Dept of Statistics, U Wisconsin–Madison.

14. Borghi E, Yandell BS (2000) An approximation of the K-function for Strauss disc processes. TR 1018, March 2000, Statistics Department, UW-Madison.

15. Borghi E, Yandell BS (2000) Methods for estimating the interaction parameter of Strauss disc processes. TR 1019, March 2000, Statistics Department, UW-Madison.

16. Ewing B, Yandell BS, Barbieri JF, Luck RF (2001) Practical model building for quantitative population ethology with event-driven competing risks. TR 1034, Department of Statistics, UW-Madison (working paper).

17. Ewing B, Yandell BS, Barbieri JF, Luck RF (2001) Quantitative population ethology. TR 1033, Department of Statistics, UW-Madison.

18. Yandell BS, Kendziorski C, Lan H, Chaibub Neto E, Attie AD (2004) Inferring genetic architecture of complex biological processes. TR, Department of Statistics, UW-Madison.

19. Chaibub Neto E, Keller MP, Attie AD, Yandell BS (2008) Causal Graphical Models in Systems Genetics: a unified framework for joint inference of causal network and genetic architecture for correlated phenotypes. TR 1146R, Department of Statistics, UW-Madison. [See 2010 Ann Appl Statist.]

20. Manichaikul A, Moon JY, Sen S, Yandell BS, Broman KW (2008) A model selection approach for the identification of quantitative trait loci in experimental crosses. TR 205, Department of Biostatistics and Medical Informatics, UW–Madison. [See 2009 Genetics.]

I. Published Discussions of Papers

1. Yandell BS (1987) Discussion of Professor Jórgensen's paper on exponential dispersion models. *J of the Royal Statistical Society B 49*, 156–157.

2. Taam W, Yandell BS (1989) Discussion of paper by Professors Haslett and Raftery. *Applied Statistics 38*, 39–40.

3. Clayton MK, Yandell BS (1990) Discussion of paper by Professors Cuzick and Edwards. *J of the Royal Statistical Society B 52*, 100.

4. Yandell BS, Jin C, Satagopan JM, Gaffney PJ (2002) Discussion of "A model selection approach for the identification of quantitative trait loci in experimental crosses" by Professors Broman and Speed. *J of the Royal Statistical Society B 00*, 000–000.

J. Book Manuscripts in Preparation

1. Ewing B, Yandell BS, Barbieri JF, Luck RF, Forster LD, *Quantitative Population Ethology.*

2. Yandell BS, *Population Ethology: The Life and Work of Bland Ewing.*

3. Yi N, Yandell BS, Churchill GA, *Bayesian Model Selection for Multiple QTL.* To be published by Springer-Verlag.

K. Book Reviews

1. Yandell BS (1989) Book review of Wegman and DePriest: Statistical Image Processing and Graphics. *J of the American Statistical Association 84*, 338.

2. Yandell BS (1989) Book review of Eubank: Spline Smoothing and Nonparametric Regression. *Technometrics 31*, 380.

3. Yandell BS (1990) Book review of Anselin: Spatial Econometrics. *J of the American Statistical Association 85*, 905–906.

4. Yandell BS (1996) Book review of Wand and Jones: Kernel Smoothing. *Technometrics 38*, 210–211.

5. Yandell BS (1997) Book review of Simonoff: Smoothing Methods in Statistics. *Technometrics 39*, 338–339.

6. Yandell BS (1998) Book review of Ryan: Modern Regression Methods. *J of the American Statistical Association 93*, 837–838.

S. Software Releases

1. GCVPACK: Routines for Generalized Cross Validation (free release in 1986; Bates, Lindstrom, Wahba, Yandell 1987)

2. MCMC-QTL: Markov chain Monte Carlo inference for Quantitative Trait Loci. (free release in 1998; Satagopan, Yandell, Newton and Osborn 1996).

3. RevJump-QTL: Bayesian model Determination of the Number of QTLs using Reversible Jump MCMC. (free release in 1999; Satagopan and Yandell 1998).

4. Splus/QDA: Quality Data Attributes Analysis. (proprietary release in 1999; Yandell and Tragon Corporation).

5. Practical Data Analsysis: library(pda) for Splus and R. (free release in 1997; revised in 2000; Yandell)

6. Microarray Data Analysis: library(microarray) for R. (free release in 2001; Lin and Yandell 2001)

7. Quantitative Population Ethology: library(ewing) for R. (free release in 2001; Ewing and Yandell 2001)

8. Bmapqtl: Bayesian QTL mapping module for QTL Cartographer. (free release in 2001; Gaffney and Yandell 2001)

9. library(bim): Bayesian interval mapping R package. (free release in 2002; Yandell)

10. library(qtlbim): QTL Bayesian inteval mapping R package. (free release in 2006; Yandell and Yi)

11. library(qdg): QTL-driven dependent graphs R package. (free release in 2008; Chaibub Neto and Yandell)

12. library(qtlnet): Infer QTL genetic architecture and causal network for set of correlated traits R package. (free release in 2010; Chaibub Neto and Yandell)

13. library(qtlview): Utilities to view QTL results on the web R package. (free release in 2010; Yandell)

14. library(qtlhot): Inference for QTL hotspots R package. (free release in 2012; Chaibub Neto and Yandell)

Research Presentations and Workshops

Invited (recent talks available at www.stat.wisc.edu/∼yandell/talk)

1976 Organization for Tropical Studies (OTS) summer program (Henry Hespenheide, coordinator) in Costa Rica, followed by a one-week nature visit to Barro Colorado Island, Panama.

1977 First International Statistical Ecology Conference, Texas A&M and UC–Berkeley.

1983 "Nonparametric regression with censored data," Biometrics (ENAR) / American Statistical Association (ASA) / Institute of Mathematical Statistics (IMS) regional meeting, Nashville, TN.

1984 "A graphical critique of proportional hazards," Biometrics (WNAR) / IMS regional meeting, Logan, UT.
"Graphical tests with censored data," Conference on Goodness-of-Fit, Debrecen, Hungary, sponsored by the János Bolyai Society.

1986 "Applications of strong approximation to random censorship," Statistical Society of Canada annual meeting, Banff, Alberta (with L. Horváth).

1988 "Adaptive smoothing splines," IMS regional meeting, Boston, MA (with J. G. Staniswallis).
"Diagnostic properties for semiparametric GLMs," BellCore, Morristown, NJ.
"Modeling insect natality using splines," AT&T BellLabs, Murray Hill, and BellCore, Holmdel, NJ.

1990 "Modeling smooth biological processes," U. of Glasgow and U. of Strathclyde, Scotland; Visiting Fellow with Brian D. Ripley and D. Michael Titterington. Gregynogg Conference, U. of Wales; Visits to various universities in Britain and Ireland.

1991 "Modeling smooth biological processes," U. British Columbia, Vancouver, Canada.

1992 "Smoothing tutorial," Conference on Applied Statistics in Ireland. Visit to J Haslett, Trinity College Dublin, Ireland.
"Finding Quantitative Trait Loci in a Plant Genome," U. of Glasgow, Scotland
"Data collection and analysis," Forum on Plant Development, Botany Department, UW–Madison.

1994 "Markov Chain Monte Carlo Based Inference for Quantitative Trait Loci in Plant Breeding," Institute of Multivariate Analysis (IMA) Conference on Gene Mapping, Minneapolis, MN (with JM Satagopan and MA Newton).

1995 "Simultaneous detection of multiple QTLs using Markov chain Monte Carlo," Statistics Department, U CA San Diego; Statistics Department, U IA, Iowa City.
Teaching Research Ethics Workshop, IN U, Bloomington, IN.
"Markov chain Monte Carlo Inference for Multiple QTLs," Statistics Department, OH St U, Columbus; Statistical Genetics Group, MT St U, Bozeman.

1996 "Ethics in Statistics," Teaching Research Ethics Workshop, Poynter Center, IN U, Bloomington (declined).
"Estimating the Number of Quantitative Trait Loci via Bayesian Model Determination," JM Satagopan and BS Yandell. Special Contributed Session on Genetics, Joint Statistical Meetings, Chicago, IL. Gary Churchill, organizer; Rebecca Doerge, discussant.

1997–1999 "Responsible Data Management," Teaching Research Ethics Workshop, Poynter Center, IN U, Bloomington

Research Presentations and Workshops

Invited (cont.)

1998 "Bayesian Inference on the Number of QTL," Purdue U, Lafayette, IN

1999 "Finding Quantitative Traits in Controlled Breeding Systems," Animal Sciences Department, MI St U, Lansing, MI

"Finding Quantitative Traits in Controlled Breeding Systems," HSSS Workshop on Bayesian and MCMC Methods in Gene Mapping, Lammi, Finland

"Bayesian, MCMC and Reversible Jump Methods in Inbred Lines," Quantitative Trait Gene Mapping I & II, Summer Institute in Statistical Genetics, NC St U, Raleigh.

"Statistical Issues in Mammalian and Cancer Genetics," Genetics, Genomics & Molecules Conference, U WI Madison.

"The Evolving Amstat Online: Editing in the Age of Web Publishing," ASA and the Web Invited Session, Joint Statistical Meetings, Baltimore, MD. Deborah Swayne, organizer; Anthony Rossini, chair.

2000–2002 "Bayesian, MCMC and Reversible Jump Methods in Inbred Lines," Quantitative Trait Gene Mapping II, with ZB Zeng, Summer Institute in Statistical Genetics, NC St U, Raleigh, org. by B. Weir.

2001 "On the Empirical Likelihood for a Semiparametric Mixture Model," F Zou speaker (winner of Byar Award), Biometrics Section & ENAR, Joint Statistical Meetings, Atlanta, GA.

"Smooth Collaboration in Statistical Genomics," Topic Contributed Session, Statistical Consulting and Nonparametrics Sections, Joint Statistical Meetings, Atlanta, GA.

"Amstat Online: ASA Goes Digital," Chair & Organizer, Joint Statistical Meetings, Atlanta, GA.

2002 "Mining for Low-abundance Transcripts in Microarray Data," Biometrics/ENAR, Washington, DC.

"A Graphical Investigation of Some Microarray Experiments," American Society for Biochemistry & Molecular Biology, New Orleans, LA; Biochem 711 Sequence Analysis guest lecture, Department of Biochemistry, UW–Madison.

"The Future of Electronic Publication: Show Me ALL the Data," Invited Papers Competition (Journals): Amstat Online and JCGS. Organizer, Joint Statistical Meetings, New York, NY.

"Introduction of statistical genomics issues with microarray data," Computational Approaches to Analyzing Gene Expression Data, BioPharmaceutical Technology Center Institute, Fitchburg, WI.

"Model Selection for Multiple QTL in Inbred Lines," Mathematical Approaches to the Analysis of Complex Phenotypes, Jackson Laboratory, Bar Harbor, ME.

2003 "Gene Mapping for High Throughput Expression Profiles: Lessons from Diabetes," Genetics Colloquium, UW–Madison.

"Introduction of statistical genomics issues with microarray data," Computational Approaches to Analyzing Gene Expression Data, BioPharmaceutical Technology Center Institute, Fitchburg, WI.

Research Presentations and Workshops

Invited (cont.)

2003–2005 "Model Selection for Multiple QTL in Inbred Lines," Quantitative Trait Gene Mapping II, with ZB Zeng, Summer Institute in Statistical Genetics, NC St U, Raleigh, org. by B Weir.

"Mathematical Approaches to the Analysis of Complex Phenotypes", Jackson Laboratory, Bar Harbor, ME, org. by GA Churchill, KA Broman, RC Jansen.

2004 "Graphical Diagnostics for Multiple QTL Investigation," Complex Trait Consortium, Bar Harbor, ME.

"Graphical Presentation of Data", American Society for Horticultural Science, Austin, TX.

"Selective Phenotyping for Increased Efficiency in Genetic Mapping Studies" (to be given by C. Jin), Special Contributed Session on Design of Microarray Experiments, Joint Statistical Meetings, Toronto, Canada.

"Introduction of statistical genomics issues with microarray data," Computational Approaches to Analyzing Gene Expression Data, BioPharmaceutical Technology Center Institute, Fitchburg, WI.

"Inferring Genetic Architecture of Complex Biological Processes," U AL Birmingham Bioinformatics.

2005 "Graphical Diagnostics for Multiple QTL Investigation," Complex Trait Consortium, Bar Harbor, ME.

2006 "Introduction of statistical genomics issues with microarray data," Computational Approaches to Analyzing Gene Expression Data, BioPharmaceutical Technology Center Institute, Fitchburg, WI.

2006–2010 "Bayesian Model Selection for Genetic Architecture," Mathematical Approaches to the Analysis of Complex Phenotypes, Jackson Laboratory, Bar Harbor, ME, org. by GA Churchill, KA Broman, RC Jansen.

2006–2011 Advanced Gene Mapping Module 15, with ZB Zeng, Summer Institute in Statistical Genetics, U WA Seattle, org. by B Weir.

2008 "Bayesian Interval Mapping", NSF Workshop on Statistical Genetics & Statistical Genomics, U AL Birmingham.

2009 "Bayesian Interval Mapping", NSF Workshop on Statistical Genetics & Statistical Genomics, Honolulu, HI, org. by D Allison, H Tiwari.

2010 "Computational Infrastructure for Systems Genetics", Systems Genetics Workshop, U NC Chapel Hill, org. by GA Churchill, T Mackay, RC Jansen.

Sage Congress, Sage Bionetworks, San Francisco, org. by S Friend, EE Schadt.

"Recent Advances and Statistical Challenges in Genetical Genomics Analysis", Intl Chinese Statist Assoc, org. by Y Cui (declined).

"Biostatistics in the Genomics Age", U Notre Dame, org. by M Fertig (declined).

2010–2014 "Causal Network Models for Correlated Quantitative Traits," Mathematical Approaches to the Analysis of Complex Phenotypes, Jackson Laboratory, Bar Harbor, ME, org. by GA Churchill, KA Broman, RC Jansen.

Research Presentations and Workshops

Invited (cont.)

2011 "Inferring Causal and Genetic Architecture with Omic Data," Workshop on Computational Statistical Methods for Genomics and Systems Biology, Centre de Recherches Mathematiques, Montreal, Canada, org. by S Dudoit, R Gottardo, J Graham, A Labbe, F Larribe (declined).

"Making sense of SNPs and omic data in an experimental cross," Bioinformatics for Crop Improvement: Introduction to Assay Design and Applications, ASA, CSSA, and SSSA Annual Meetings, San Antonio, TX, org. by CJ Coyne.

2012 "Inferring Causal and Genetic Architecture with Omic Data," Sociological and Biological Networks–Theory and Modelling, Oslo, Norway.

"Systems Genetics for Experimental Crosses," Module 15, with E Chaibub Neto, Summer Institute in Statistical Genetics, U WA Seattle, org. by B Weir.

"Building Bridges from Breeding to Biometry and Biostatistics," Monsanto Corp., St. Louis, MO.

"Quantile Based Permutation Thresholds for QTL Hotspots," Midwest Statistics Research Colloquium, Madison WI.

2013 "Network Analysis Short Course," UCLA, org. by S Horvath.

Research Presentations and Workshops

Contributed

1974 Watson Fellow: mathematical modelling of ecosystems in Europe. World Population Conference, Bucharest, Romania; First International Congress of Ecology, The Hague, The Netherlands; Visited universities and international organizations.

1975 Watson Fellow: mathematical modelling of ecosystems in India. Ornithological expeditions to wildlife sanctuaries and nature areas in India, Nepal and Ladakh.

1979 OTS winter visit to Monte Verde, Costa Rica, for field research with plant ecologists.

1982 "Properties of regression estimates based on censored survival data," Joint Statistical Meetings, Cincinnati, OH (with KA Doksum).

1983 "Nonparametric inference for rates with censored survival data," Meeting in honor of Jerzy Neyman and Jack Kiefer, Statistics Department, U CA Berkeley.

1985 June visit to Carleton University, Ottawa, Canada, for collaborative research with Lajos Horváth and Miklós Csörgő.

1987 "Modeling insect natality using splines," Joint Statistical Meetings, San Francisco, CA (with DB Hogg).

1988 NSF / American Mathematical Society (AMS) / IMS / Society for Industrial and Applied Mathematics (SIAM) Conference on "Spatial Statistics and Imaging," Bowdoin College, Brunswick, ME.

1994 "Agricultural statistics tutorial," USDA NCR-170 Agricultural Statistics Conference, U WI Madison.

1996 "A Bayesian approach to detect quantitative trait loci via Markov chain Monte Carlo," International Biometrics Conference, Amsterdam, Netherlands (with JM Satagopan, MA Newton and TC Osborn).

1998 "Estimating the number of quantitative trait loci via Bayesian model determination," 6th Purdue International Symposium on Statistics, West Lafayette, IN.

2001 "On the empirical likelihood for a semiparametric mixture model," F Zou speaker, Joint Statistical Meetings, Atlanta, GA.

"Smooth collaboration in statistical genomics," Special Contributed Session, Statistical Consulting Section, Joint Statistical Meetings, Atlanta, GA.

Academic Honors

2001	David P. Byar Young Investigator Award (student Fei Zou, with JP Fine)	Amer. Stat. Soc. Biometrics Sec.
1990	Anna M. Jackson Award (student Penelopy Reynolds, with WP Porter)	Amer. Soc. Mammalogists
1982	Evelyn Fix Memorial Medal	UC–Berkeley
1976–81	NIH Traineeship	UC–Berkeley
1977–78	UC Regents Fellow	UC–Berkeley
1976	Organization for Tropical Studies Program	U Costa Rica
1975–76	UC Regents Fellow	UC–Berkeley
1974–75	Thomas J. Watson, Jr., Fellow	Caltech
1970	National Merit Semifinalist	Miramonte
1970	Rensselaer Math Award	Miramonte

Professional Service

Editorial Board: Editor, *Amstat Online* (1999–2002); Associate Editor, *BMC Genetics* (2009–12, Editorial Advisor 2012—); Associate Editor, *BMC Open Network Biology* (2011—); Associate Editor, *G3* (2011—); Associate Editor, *J Biometrics & Biostatistics* (2011 declined); Statistical Reviewer, *Plant Cell* (2008–12).
External Review Committee: Statistics Department, Indiana University, Bloomington (2014); Mathematical Biology Institute (MBI), Ohio State University, Columbus (2013); Dutch Region of the International Biometric Society and Dutch Society for Statistics and Operations Research Biometry Award (2012, declined); Center For Statistical Consultation and Research (CSCAR), University of Michigan, Ann Arbor (2001).
Grant Study Sections: National Institutes of Health (Metabolism 2003, NIAAA 2005, GCAT 2009, NIDDK 2011); United States Department of Agriculture (Bioinformatics 2001).
Grant Referee: American Math Soc; Australian Research Council; Canadian Scientific & Engineering Research Council; Georgia National Science Foundation (GNSF); National Science Foundation (BIO, DEB, DMS, EPSCoR); Netherlands Org for Sci Res (NWO); Research Council of Norway; United States Department of Agriculture (CSREES, NRICGP, SBIR); and Veterans Administration.
Journal Referee: J of Amer Statist Assoc, Annals of Applied Statist, Australian J of Statist, Behavior Genetics, Bioinformatics, Biometrics, J of Biopharm Statistics, BMC Bioinformatics, BMC Genomics, BMC Med Genetics, BMC Systems Biology, Clinical Med & Res, Comput Statist & Data Analy, Ecol Model, Endocrin, Genetica, Genet Select Evol, Genetics, Genome Biology, Genome Research, Heredity, J of Heredity, Hort Science (ASHS), Intl J of Plant Genomics, Mol Sys Bio, Nuc Acids Res, Physiol Genom, PLoS Bioinformatics, PLoS Biology, PLoS Comp Biol, PLoS Genetics, PLoS ONE, Proc Nat Acad Sci, Science, Science Trans Med, J Statist Plan Infer, J Statist Software, Statist Appl Gen Mol Biol, Statist in Med, Theor Appl Genet, Trends in Genet.
Book and Proceedings Referee: Scientific texts for American Statistical Association, and Technometrics. Textbooks for Arnold, Harper & Row and Wadsworth. Symposium Chemometric Methods in Pesticide/Environmental Analysis. Plant Genomes: Methods for Genetic and Physical Mapping.

Professional Societies

American Statistical Association (ASA)
Gnome Club, Caltech
International Biometrics Society (IBS)
Institute of Mathematical Statistics (IMS)
Biometrika Association
Royal Statistical Society (RSS)

Biometry Responsibilities

Biometry at UW-Madison encompases statistical issues concerning non-human biological processes. Biometry faculty responsibilities, shared with MK Clayton, J Zhu, B Larget and C Ane include (1) regular collaboration with scientists in CALS and VETMED through the Statistical Consulting Facility, (2) training of project assistants in consulting skills, (3) co-advising one to three Biometry Masters students, (4) hosting the Biometry Seminar on semester rotation, and (5) chairing the Biometry Executive Committee on two-year rotation. Additional private consulting with agricultural industry by Yandell includes Asgrow and Upjohn (cultivar development, Kalamazoo, MI), Kraft Foods (food safety, Chicago, IL), Tragon (food sensory analysis, Palo Alto, CA) and Promega (biotechnology assessment, Madison, WI).

Consulting Summary

Statistical consulting, equivalent to one course or roughly 5 hours of one-to-one meetings per week, is an integral part of the Biometry Program at UW-Madison. My consultating has led to collaborative publications in breeding and genetics [A 38, 40, 43–44, 48–51, 54–56, 58–59, 61–62, 64–65, 68–72, 74–76, 82, 84–86, 88–89, 91, 93–94, 97–100; E 9, 11; F 5–6, 8–10]; ecology and evolution [A 66, 83, 87, 95–96; F 2, 11; H 11–12]; and agriculture [A 39, 83]. Consulting projects and experiences are integral to my book on *Practical Data Analysis* [C 1] and to educational publications [A 77; E 11]. Other less obvious aspects of consulting include numerous, acknowledgements, degree committees and co-advising of Biometry Masters students. Shared consulting responsibilities (with MK Clayton and EV Nordheim) include directing three Project Assistants, maintaining a reference library, developing Internet resources for statistical consulting and working with Biometry & Computing staff (P Crump and T Tabone) on statistical computing needs.

Recent consulting has deepened commitments in two interdisciplinary arenas. I have written several grants on statistical genetics and participate in regular laboratory meetings (A Attie, Biochemistry; B Kirkpatrick and H Khatib, Animal Breeding & Genetics; J Jiang, PBPG). I taught a Statistical Methods in Molecular Biology course in Fall 1998 that was team taught in Spring 2008.

Campus-Level Contributions not Otherwise Cited

Informal counselling of graduate students from many departments beyond official consulting and advising duties about programs and research. Regularly place students in jobs on campus and in industry. Provide advice and leadership to students, faculty and staff across campus on computing issues from statistical software to Internet publishing to information architecture. Have helped several departments and degree programs learn how to present information on the world wide web. Maintain an internationally recognized Internet resource on genomics, statistical computing, statistical consulting and web publishing. Working with secretarial staffs in both departments to improve management of data about students, courses and degree programs.

Committee Responsibilities

Department

Hort Budget Advisory (2011–19); Technology & Publicity (2011–19); Computing (2003–2010, chair); Krenz Reading Room (1991-2003, chair 1994-2003); Promotion & Screening (2005–2012, chair 2011–2012); Diversity Liaison (1994–2011).

Stat Budget (chair 2019—); Computing & Web (2017–18, chair 2020—); VISP & MSDS (2017–18, 2019—); Post-Tenure Review (2017–18); Masters Exam (1983–84, 1990–91, 1997–98, 2000–01, 2017–18); Gateway Courses (chair 2017–18); Post-tenure Procedure (chair 2017–18); Chair (2011–15); Associate Chair (2009–11); Diversity Liaison (2006–19).

Campus

CALS **College of Agriculture & Life Sciences**
Biometry (1982—, chair 1997–8).

CoE **College of Engineering**
Benjamin Smith Reynolds Award Committee (2014).

L&S **College of Letters & Science**
Botany & Zoology Majors 10-Year Review Committee (2013-14).

PBPG **Plant Breeding & Plant Genetics**
Executive/Statistics Liaison (2000–4, 2006—); Faculty (1994—).

CCC **Comprehensive Cancer Center**: Faculty (Affiliate 2006-9).

BMI **Biostatistics & Medical Informatics**: Faculty (Affiliate 2006—).

WID **Wisconson Institute for Discovery**: Discovery Fellow (2018-23).

UW **University of Wisconsin–Madison**
Campus Health Issues Planning (2021—); Learning Analytics Advisory (2021—); Nelson Institute Dean Review (2021–2022); OVCRGE Research Forward Arts Humanities Social Sciences (2021); Campus Diversity & Climate (2018–21); Data Science Hub Steering (2017—); UniverCity Alliance Steering (2017–20); Data Working Group (2016); Academic Calendar Committee (2016); Committee on Committees (2015-16); Vice Provost for Diversity Search Committee (chair 2014-15); Research Data Services Sponsor Group (2012–16); Biology Major 10-Year Review Committee (chair 2011-12); Review Committee of Proposed Epidemiology MS/PhD (2011; Provost rep); Registrar Search Committee (co-chair 2010); Course Guide on the Web Policy and Content Subcommittee (co-chair 2007–11); WISELI Search Chair Training Workshop (2005–7); Cluster Strategic Hiring (Molecular Biometry chair 2004-5).

National/International

ICF **International Crane Foundation**: Board of Advisors (2010—).

IMS **Institute of Mathematical Statistics**
Committee on Electronic Issues (2002–2006); Committee to Select Editors (2002 ad hoc member).

ASA **American Statistical Association**
Editor, Amstat Online (1999–2002); Publications Committee (1999–2000); Publications Management Committee (1999–2000); Statistical Consulting Section (secretary/treasurer 1996–97, webmaster 1996–1998, chair-elect 1999, chair 2000, past-chair 2001).

IBS **International Biometrics Society**
Eastern North American Region (ENAR): Regional Advisory Board (1998–2000).

MSRC **Midwest Statistics Research Conference**: Local organizer (chair 2011–2013);

Sage **Sage Bionetworks**: Network Modeling User Group (2010).