

VITA

George Casella

Address

Department of Statistics
102 Griffin-Floyd Hall
University of Florida
Gainesville, FL 32611

Email: casella@stat.ufl.edu
Phone: 352-392-1941x204
Fax: 352-392-5175

Current Positions

Distinguished Professor, Department of Statistics, University of Florida
Distinguished Member, Genetics Institute, University of Florida
Member, Governing Board of the *Statistical and Mathematical Sciences Institute* (SAMSI)
Member, Board of Trustees of the *National Institute of Statistical Science* (NISS)

Previous Positions

Distinguished Professor and Chair, Department of Statistics, University of Florida
Executive Editor, *Statistical Science*
Professor and Chair, Department of Statistics, University of Florida, 2000-2003
Arun Varma Commemorative Term Professor, Department of Statistics, University of Florida
Liberty Hyde Bailey Professor of Biological Statistics, Cornell University, Ithaca, New York
1997-2000
Theory and Methods Editor, *Journal of the American Statistical Association*, 1996-1999
Professor, Biometrics Unit, Cornell University, Ithaca, New York. 1989-1997
Graduate Faculty Representative, Field of Statistics, Cornell University.
Director, Statistics Center, Cornell University.
Associate Professor, Biometrics Unit, Cornell University, Ithaca, New York 14853, 1983-1989.
Visiting Professor, Department of Statistics, Purdue University, West Lafayette, IN, 1987-1988.
Chairman, Biometrics Unit, Cornell University, Ithaca, NY, 1985-86.
Visiting Associate Professor, Department of Statistics, North Carolina State University, Raleigh,
NC, Jan.-May 1985.
Assistant Professor, Biometrics Unit, Cornell University, Ithaca, NY, 1981-1983.
Assistant Professor, Department of Statistics, Rutgers University, New Brunswick, NJ, 1977-
1981.

Education

<u>School</u>	<u>Major</u>	<u>Degree</u>	<u>Date</u>
1. Purdue University	Mathematical Statistics	Ph.D.	May, 1977
2. Purdue University	Applied Statistics	M.S.	May, 1974
3. Fordham University	Mathematics	B.A.	June, 1972

Honors

ISI "Highly Cited" Researcher www.isihighlycited.com

Twentieth Century Distinguished Service Award, Ninth Lukas Symposium

SUNY Chancellor's Award for Excellence in Teaching, 1999

Distinguished Achievement Award, ASA Section on Statistics and the Environment, 1999

Distinguished Alumnus, Purdue University School of Science, 1998

Fellow, American Statistical Association, elected 1988.

Fellow, Institute of Mathematical Statistics, elected 1988.

Elected Fellow, International Statistics Institute, elected 1989.

Grants Held

Co-Principal Investigator, NSF Plant Genome Project: Association Genetics in Pine
 Co-Principal Investigator, NSF Mathematical Biology Division: Functional Mapping
 of Quantitative Traits

Principal Investigator for National Science Foundation Grants in Statistical Methodology:

No. MCS79-05771	(June 1979-Nov. 1981),
No. MCSS81-02541	(June 1981-Nov. 1983),
No. MCSS83-00875	(June 1983-Nov. 1985),
No. DMS-8501973	(Sept. 1985-Feb. 1988),
No. DMS-89-0039	(July 1989-Feb. 1992),
No. DMS-91-00839	(July 1991-Feb. 1994),
No. DMS-93-05547	(July 1993-Feb. 1997).
No. DMS-96-25440	(July 1996-Feb. 2000).
No. DMS-9971586	(July 1999-Feb. 2004).
No. DMS-0405543	(July 2004-Feb. 2007)

Project Director, National Institutes of Health Training Grant EHS-1-T32-ES-7261-01, "Training in Statistics and Environmental Science," 1990-1995, and Grant EHS-2-T32-ES-07261-6, 1995-2000.

Co-Principal Investigator (with C. Robert) on the joint NSF-CNRS (France) INT-9216784, 1992-1996.

Principal Investigator for National Security Agency Grant No. 90F-073, July 1991-Feb. 1994.

Principal Investigator for Hatch Project NYC-1517402, "Empirical Bayes Data Analysis," Oct. 1986-Sept. 1994.

Experience

1. *Teaching:* Purdue University, Department of Statistics, 1972-1977.
 Rutgers University, Department of Statistics, 1977-1981.
 Cornell University, Biometrics Unit, 1981-2000.
 University of Florida, Department of Statistics, 2000-
2. *Consulting:* Statistical consultant for New Jersey Agricultural Experiment Station, Rutgers University, 1977-1981, Cornell University College of Agriculture & Life Sciences, 1981-2000, University of Florida 2000-. Extensive consulting experience, both university and industrial, including such projects as: detection of sex-based salary discrimination, modeling sulfur dioxide concentration around power plants, evaluation of risk to aircraft due to bird concentration around airports, analysis of efficacy and safety of a new drug, quality control in candy manufacturing, evaluation of studies concerning toxicity of power plant waste, assessing environmental impact of power plant operations on Hudson River fish population, evaluation of meta-analytic studies of fluoride-containing dentifrices, modeling mercury levels around solid waste plants, assessing predictors of prostate cancer, microarray analysis of soy isoflavones, reviews of Consumer Product Safety Commission study on arsenic risk from pressure-treated lumber in playgrounds.
3. *Journal Referee:* Served as referee for the following journals: *Annals of Statistics*, *Annals of the Institute of Statistical Mathematics*, *Biometrics*, *Communication in Statistics*, *International*

Statistics Review, Journal of the American Statistical Association, Journal of Multivariate Analysis, SIAM Review, Technometrics.

4. *Editorial Service:* Executive Editor, *Statistical Science*, 2002-2004, Theory and Methods Editor, *Journal of the American Statistical Association*, 1996-1999, Associate Editor for the *Journal of the American Statistical Association*, 1980-88 and 1993-1994, Associate Editor of Book Reviews of *the Journal of the American Statistical Association*, 1985-1989, Associate Editor of *The American Statistician* 1987-1992, Associate Editor of *Environmental Toxicology and Chemistry*, 1990-1993, Editor of *Statistical Science* 1992-1994 and 1999-2001.

Professional Societies

American Statistical Association
Canadian Statistical Society
International Statistical Institute

Institute of Mathematical Statistics
Royal Statistical Society

Professional Service

Advisory Board of SAMSI (Statistics and Mathematical Sciences Institute)
Selection Committee for DeGroot Prize
Advisory Board for National Institute of Statistical Sciences
Member, Science and Outreach Advisory Committee, USDA/IFAFS Grant for Allele Discovery for Economic Pine Traits (ADEPT)
Member of the Board on Mathematical Sciences, *National Research Council*, 1998-2002
Chair, Section on Statistics and the Environment, American Statistical Association, 1997
Member, Council of the Institute of Mathematical Statistics 1995-1998
Biometrics Section representative to the Board of Directors of the American Statistical Association, 1984-1986.
Chairman, Committee on Restructuring of the Constitution of the American Statistical Association, 1987-1989.
External Examiner in Statistics, University of the West Indies, Queen's University (Ontario).
Organizer of the Cornell Workshop on Conditional Inference, June, 1991; UF Winter Workshop on Monte Carlo Methods, Jan 2001; UF Winter Workshop on Imaging, Clustering and Classification, Jan. 2002; UF Winter Workshop on Functional Data Analysis, Jan. 2003,

University Service

Chair, Department of Statistics, IFAS
Chair, Department of Statistics, College of Medicine
Participated in University Bioinformatics Initiative. Chaired a committee to develop a Graduate Program in Bioinformatics. Completed October 2001.
Provost's COI Monitoring Committee
Graduate Admissions Chairman, Fields of Statistics and Biometry. 1985-1992
Director of Graduate Studies, Fields of Statistics and Biometry, 1998-2000.
University Promotion and Tenure Committee
Undergraduate Advisor

Books

- Statistical Inference*. Wadsworth/Brooks Cole, 1990. (With R.L. Berger.)
- Variance Components*. John Wiley and Sons, Inc., 1992. (With S.R. Searle and C.E. McCulloch.)
- Theory of Point Estimation, Second Edition* Springer-Verlag, 1998. (With E. L. Lehmann.)
- Monte Carlo Statistical Methods*. Springer-Verlag, 1999. (with C. Robert)
- Statistical Inference, Second Edition*. Duxbury, 2001. (With R.L. Berger.)
- Monte Carlo Statistical Methods, Second Edition*. Springer-Verlag, 2004. (with C. Robert)

Books Edited

- Statistical Design: Theory and Practice*. Proceeding of a Conference in Honor of W.T. Federer. Cornell University, 1986. (With C.E. McCulloch, S.J. Schwager, and S.R. Searle.)
- Statistics: A Guide to the Unknown, Fourth Edition* (with Roxy Peck and others)

Publications - Statistics

1. Minimax Estimation of a Normal Mean with Arbitrary Quadratic Loss and Unknown Covariance Matrix. *Ann. Stat.* **5**, 763-771, 1977. (With J. Berger, M.E. Bock, L. Brown, and L. Gleser.)
2. Minimax Ridge Regression Estimation. *Ann. Statist.* **8**, 1036-1056, 1980.
3. Confidence Bands for Linear Regression with Restricted Predictor Variables. *JASA* **75**, 862-868, 1980. (With W.E. Strawderman.)
4. Estimating a Bounded Normal Mean. *Ann. Statist.* **9**, 870-878, 1981. (With W.E. Strawderman.)
5. Minimax Confidence Sets for the Mean of a Multivariate Normal Distribution. *Ann. Statist.* **10**, 868-881, 1982. (With J.T. Hwang.)
6. Limit Expressions for the Risk of James-Stein Estimators. *The Canadian Journal of Statist.* **10**, 305-309, 1982. (With J.T. Hwang.)
7. Leverage and Regression Through the Origin. *The American Statist.* **37**, 147-152, 1983.
8. Empirical Bayes Confidence Sets for the Mean of a Multivariate Distribution. *Journal of the American Statistical Association* **78**, 688-697, 1983. (With J.T. Hwang.)
9. Improved Set Estimators for a Multivariate Normal Mean. *Statistics and Decisions*, Supplement Issue No. 1, 3-16, 1984. (With J.T. Hwang.)
10. The Existence of the First Negative Moment. *The American Statist.* **39**, 60-62, 1985. (With W.W. Piegorisch.)

11. An Introduction to Empirical Bayes Data Analysis. *The American Statist.* **39**, 83-87, 1985.
12. Matrix Conditioning and Minimax Ridge Regression Estimation. *Journal of the American Statistical Association* **80**, 753-758, 1985.
13. Stabilizing Binomial n Estimators. *Journal of the American Statistical Association*, **81**, 172-175, 1986.
14. Confidence Sets and the Stein Effect, Special Issue on Stein Estimation. *Communications in Statistics* **15**, 2043-2064, 1986. (With J.T. Hwang.)
15. Refining Binomial Confidence Intervals. *Canadian Journal of Statist.*, **14**, 113-129, 1986.
16. Employing Vague Prior Information in the Construction of Confidence Sets. *Journal of Multivariate Analysis* **21**, 79-104, 1987. (With J.T. Hwang.)
17. Conditional Properties of Interval Estimators of the Normal Variance. *Annals of Statistics* **15**, 1372-1388, 1987. (With J. Maatta.)
18. Conditionally Acceptable Recentered Set Estimators. *Annals of Statistics* **15**, 1363-1371, 1987.
19. Confidence Bands for Logistic Regression with Restricted Predictor Variables. *Biometrics* **44**, 739-750, 1988. (With W.W. Piegorsch.)
20. De meilleures régions de confiance pour les distributions à symétrie sphérique. *Statistique*, 233-236, 1989. (With C. Robert.)
21. Refining Poisson Confidence Intervals. *Canadian Journal of Statistics* **17**, 45-58, 1989. (With C. Robert.)
22. The Early Use of Matrix Diagonal Increments in Statistical Problems. *SIAM Review* **31**, 428-434, 1989. (With W.W. Piegorsch.)
23. Estimators with Nondecreasing Risk: Application of a Chi-Squared Identity. *Statistics and Probability Letters* **10**, 107-109, 1989.
24. Improved Confidence Sets in Spherically Symmetric Distributions. *The Journal of Multivariate Analysis* **32**, 84-94, 1990. (With C. Robert.)
25. The Relevance Density Method for Multi-Topic Queries in Information Retrieval. (With Y. Kane-Esrig, L.A. Streeter, and S. Dumais.) *P. Comp. Sc. St.* **23**, 407-410, 1991.
26. Evaluating Confidence Sets Using Loss Functions. *Statistical Sinica* **1**, 159-173, 1991. (With J.T. Hwang.)
27. Improved Invariant Confidence Intervals for a Normal Variance. *Ann. of Stat.* **19**, 1991. (With C. Goutis.)

28. Conditional Inference from Confidence Sets, in *Current Issues in Statistical Inference: Essays in Honor of D. Basu*. (Ghosh and Pathak, eds.) IMS Monograph Series 1992, 1-12.
29. Improving the EM Algorithm. Computer Science and Statistics. *Proceedings of the 23rd Conference on the Interface*. (With D. Lansky.)
30. Estimation of Accuracy in Testing. *Ann. Stat.* **20**, 1992. (With J.T. Hwang, C. Robert, M.T. Wells, and R.H. Farrell.)
31. Increasing the Confidence in Student's t. *Ann. Stat.* **20**, 1992. (With C. Goutis.)
32. Explaining the Gibbs Sampler. *American Statistician* **46**, 1992. (With E.I. George.)
33. Deriving Generalized Means as Least Squares and Maximum Likelihood Estimates. *American Statistician* **46**, 279-282, 1992. (With R.L. Berger.)
34. Illustrating Empirical Bayes Methods. *Chemolab* **16**, 107-125, 1992.
35. A Paradox in Decision-Theoretic Set Estimation. *Statistica Sinica* **3**, 141-155, 1993. (With J.T. Gene Hwang and C. Robert.)
36. Loss Functions for Set Estimation. *Proceedings of the Fifth Purdue Symposium on Decision Theory and Related Topics*. (With J.T. Gene Hwang and C. Robert.)
37. Improved Confidence Statements for the Usual Multivariate Normal Confidence Set. *Proceedings of the Fifth Purdue Symposium on Decision Theory and Related Topics*. (With C. Robert.)
38. An Empirical Bayes Confidence Report. *Statistica Sinica* **4**, 617-638, 1994. (With E.I. George.)
39. Estimation with Selected Binomial Information. *Journal of the American Statistical Association* **89**, 1080-1090, 1994. (With R.L. Berger.)
40. Distance weighted loss functions for testing and confidence set estimation. *Theorie Estadistica* **3**, 163-182, 1994. (With C. Robert.)
41. Evaluating the Efficiency of Blocking without Assuming Compound Symmetry. *Journal of Statistical Planning and Inference* **38**, 237-248, 1994. (With M.L. Samuels and G.P. McCabe.)
42. On Estimating Several Binomial N's. *Sankhyā* **56**, 115-120, 1994. (With W.E. Strawderman.)
43. Optimal Confidence Sets, Bioequivalence, and the Limaçon of Pascal. *Journal of the American Statistical Association* **90**, 508-515, 1995. (With J.T.G. Hwang and L.D. Brown.)
44. Improved Invariant Set Estimation for General Scale Families. *J. Statist Plann. Inference* **44**, 327-340, 1995. (With C. Goutis.)
45. Nonparametric Empirical Bayes Growth Curve Analysis. *Journal of the American Statistical Association* **90**, 508-515, 1995. (With N.S. Altman.)

46. Frequentist Post-Data Inference. *International Statistical Institute Review*, **63**, 325-344, 1995. (With C. Goutis.)
47. Recycling Rejected Values in Accept-Reject Estimators (with Christian Robert). *C.R. Acad. Sci. Paris* **321**, 1621-1626, 1995.
48. Convergence of Posterior Odds (1995). *J. Statist Plan. Inf.* **55** 331-344 (with R. Levine).
49. Rao-Blackwellization of Sampling Schemes. (With C. Robert.) *Biometrika* **83**, 81-94, 1996
50. Comparing p-values to Neyman-Pearson tests. (With M.T. Wells.) *Bayesian Analysis in Statistics and Economics: Essays in Honor of Arnold Zellner* (D.A. Berry, K.M. Chaloner and J.K. Geweke, eds.), 507-514, 1996.
51. The effect of improper priors on Gibbs sampling in hierarchical linear models (1996). *Journal of the American Statistical Association* **91** 1461-1473. (With J. Hobert.)
52. Practical Small Sample Asymptotics for Regression Problems. *Journal of the American Statistical Association*, **91**, 643-654, 1996. (With R.L. Strawderman and M.T. Wells.)
53. Une Implémentation de Théorème de Rao-Blackwell en Simulation avec Reject (with Christian Robert). *C.R. Acad. Sci. Paris I*, 571-576, (1996).
54. Assessing Evidence in Multiple Hypotheses (1996). (With C. Goutis and M. Wells.) *J. Amer. Statist. Assoc.* **91**, 1268-1277.
55. Empirical Bayes Estimation for Logistic Regression and Extended Parametric Regression Models (1996). *Journal of Agricultural, Biological and Graphical Statistics.* **1**, 231-247. (with W. Piegorsch)
56. Relationships Between Post-data Accuracy Measures (1997). *Ann. Inst. Statist. Math.* **49** 711-726. (with C. Goutis.)
57. An Application of Gibbs Sampling to Estimation in Meta Analysis: Accounting for Publication Bias. *Journal of Educational and Behavioral Statistics* **22**, 141-154. (1997) (with Richard Cleary).
58. Frequentist Post-Data Inference (1997). *International Statistical Institute Review* . (With C. Goutis.)
59. Post-Processing Accept-Reject Samples: Recycling and Rescaling. (1998). *J. Comp. Graph. Statist.* **7** 139-157. (with C. P. Robert)
60. Functional compatibility, Markov chains, and Gibbs sampling with improper posteriors. (1998). *J. Comp. Graph. Statist.* **7** 42-60. (With J. Hobert.)
61. Explaining the Saddlepoint Approximation. (1999) . *The American Statistician*. (with C. Goutis)

62. Eberly, Lynn E. , and Casella, George (1999), ``Bayesian estimation of the number of unseen studies in a meta-analysis'', *Journal of Official Statistics*, 15 , 477-494
63. Correlation in a Bayesian Framework. (2000). (with A. DasGupta, M. Delampady, C. Genest, H. Rubin, and W. E. Strawderman). *Canadian Journal of Statistics* **28** 675-687.
64. Implementations of the Monte Carlo EM Algorithm. (2001). *Journal of Computational and Graphical Statistics* **10** 422-439. (with R. Levine)
65. Predictive Environmental Risk Analysis (with YS Joo) (2001). *Envirometrics* **12** 647-658
66. A new approach to default priors and robust Bayes methodology (2001) (with M. Delampady, A. DasGupta, H. Rubin & W. E. Strawderman). *Canadian Journal of Statistics* **29** 437-450..
67. The Existence of the First Negative Moment Revisited (with A. Khuri). (2001). *The American Statistician* **56** 44-47
68. Explaining the Perfect Sampler (with M. Lavine and C. Robert). (2001). *The American Statistician* **55** 299-305.
69. Empirical Bayes Gibbs Sampling. (2001). *Biostatistics* **2** 485-500.
70. Conditional Inference Following Group Sequential Testing. (2002) *Biometrical Journal*. (With P. Ohman-Strickland)
71. Perfect Slice Samplers for Mixtures of Distributions (with C. Robert, K. Mengersen and D. M. Titterton) *Journal of the Royal Statistical Society* **64** 777-790 (2002)
72. Estimated Saddlepoint Approximations (2002). *Canadian Journal of Statistics* **30** 97-108. (with P. Ohman)
73. Implementing Matching Priors for Frequentist Inference (with R. Levine). (2003). *Biometrika* **90**, 127-137.
74. Booth, J.G., Casella, G., Friedl, H., and Hobert, J. (2003). Negative Binomial Loglinear Mixed Models. *Statistical Modelling* **3** 179-191.
75. Eberly, Lynn E. , and Casella, George (2003), ``Estimating Bayesian credible intervals'', *Journal of Statistical Planning and Inference*, 112 (1-2) , 115-132
76. Casella, G. Robert, C. P., and Wells, M.T. (2004). Generalized Accept-Reject Sampling. In *A Festschrift for Herman Rubin*. Beachwood, Ohio: IMS Monograph Series Volume 45, 342-347.
77. Gill, J. and Casella, G. (2004). Dynamic Tempered Transitions for Exploring Multimodal Posterior Distributions. *Political Analysis* **12** 425-443
78. Casella, G. Robert, C. P., and Wells, M.T. (2004). Generalized Accept-Reject Sampling. *Festschrift for Herman Rubin*, Institute of Mathematical Statistics Monograph Series, 45, 342-347

79. Casella, G. Robert, C. P., and Wells, M.T. (2004). Latent Variables, Mixture Models, and Partitioned Importance Sampling. *Statistical Methodology* 1 1-18.
80. Casella, G. and Moreno, E. Intrinsic Meta-Analysis of Contingency Tables. (2005) *Statistics in Medicine* 24, 583-604
81. Moreno, E, Casella, G, and Garcia-Ferrar, A. (2005). An Objective Baysain Analysis of the Changepoint Problem. *Stochastic Enviornmental Research and Risk Assessment* 19 191-204
82. Moreno, E., Torres, F, and Casella, G. (2005). Testing Equality of Regression Coefficients in Heteroscedastic Normal Regression Models. *J. Statist. Plann. Inf* 131, 117-134
83. Casella, G. and Moreno, E. (2006) Objective Bayes Variable Selection. *Journal of the American Statistical Association* **101** 157-167
84. Hitchcock, D, Booth, J. and Casella, G. (2006) Pre-Processing of Functional Data for Cluster Analysis. *Journal of the American Statistical Association* **101** 211-222
85. Levine, R. and Casella, G. (2006). Optimizing Random Scan Gibbs Samplers. To appear in *Journal of Multivariate Analysis*.
86. Hitchcock, D, Booth, J. and Casella, G. (2006) The Effect of Pre-Smoothing of Functional Data on Cluster Analysis. *Journal of Computational and Graphical Statistics*. To appear.

Publications with Discussion – Statistics

1. Reconciling Bayesian and Frequentist Evidence in the One-Sided Testing Problem. *Journal of the American Statistical Association* **82**, 106-111, 1987, with discussion. (With R.L. Berger.)
2. Conditionally Acceptable Frequentist Solutions. *Statistical Decision Theory and Related Topics, IV*, Vol. I, 73-111, 1988, with discussion. S.S. Gupta and J.O. Berger, eds. Springer-Verlag, New York.
3. Developments in Decision-Theoretic Variance Estimation, with discussion. *Statistical Science* **5**, 90-120, 1990. (With J.M. Maatta.)
4. Interpreting Blocks and Random Factors (with discussion). *Journal of the American Statistical Association* **86**, 798-821, 1991. (With M.L. Samuels, G.P. McCabe.)
5. Statistical Theory and Computational Algorithms (with Discussion). (1996) *Theorie Estimatca*. **5**, 249-344.
6. F. J. Giron, E. Moreno and G. Casella (2006). Objective Bayesian analysis of multiple changepoint models (with discussion). To appear in *Bayesian Statistics 9*, Oxford Press.

Publications – Statistical Genetics and Genomics

1. A Maximum Likelihood-Based Method for Mining Major Genes Affecting a Quantitative Trait (with R. Wu, B. Li and S.S. Wu). (2001) *Biometrics* **57** 764-768
2. A Multivalent Pairing Model of Linkage Analysis in Autotetraploids (with R. Wu, Z-B Zheng, C-X Ma, M. C. K. Yang, and S.S. Wu). (2001). *Genetics* **159** 1339-1350.
3. Bliss, S., R. J. Todhunter, R. Quaas, G. Casella, R. L. Wu, G. Lust, A. J. Williams, S. Hamilton, N. L. Dykes, A. Yeager, R. O. Gilbert, N. I. Burton-Wurster and G. M. Acland, 2002 Quantitative genetics of traits associated with canine hip dysplasia in a canine pedigree constructed by mating dysplastic Labrador Retrievers with unaffected Greyhounds. *American Journal of Veterinary Research* **63**: 1029-1035.
4. Ma, C.-X., G. Casella, Z.-J. Shen, T. C. Osborn and R. L. Wu, 2002 A unified framework for mapping quantitative trait loci in bivalent tetraploids using single-dose restriction fragments: A case study from alfalfa. *Genome Research* **12**: 1974-1981.
5. Ma, C. X., G. Casella, and R. L. Wu, 2002 Functional mapping of quantitative trait loci underlying the character process: A theoretical framework. *Genetics* **161**: 1751-1762.
6. Wu, R. L., X.-Y. Lou, C.-X. Ma, X. L. Wang, B. A. Larkins and G. Casella, 2002 An improved genetic model generates high-resolution mapping of QTL for protein quality in maize endosperm. *Proceedings of the National Academy of Sciences of the United States of America* **99**: 11281–11286.
7. Wu, R. L., C.-X. Ma and G. Casella, (2002) Joint linkage and linkage disequilibrium mapping of quantitative trait loci in natural populations. *Genetics* **160**: 779-792.
8. Wu, R. L., C.-X. Ma and G. Casella, 2002 A bivalent polyploid model for linkage analysis in outcrossing tetraploid species. *Theoretical Population Biology* **62**: 129–151.
9. Wu, R. L., C. X. Ma, M. Chang, R. C. Littell, S. S. Wu, M. Huang, M. Wang and G. Casella, 2002 A logistic mixture model for detecting major genes governing growth trajectories. *Genetical Research* **79**:235-245.
10. Wu, R. L., C.-X. Ma, M. Gallo-Meagher, R. C. Littell and G. Casella, 2002 Statistical methods for dissecting triploid endosperm traits using molecular markers: An autogamous model. *Genetics* **162**: 875-892.
11. Wu, R. L., C. X. Ma, R. C. Littell and G. Casella, 2002 A statistical model for the genetic origin of allometric scaling laws in biology. *Journal of Theoretical Biology* **217**: 275-287.
12. Wu, R. L., C.-X. Ma, J. Zhu and G. Casella, (2002) Mapping epigenetic quantitative trait loci (QTL) altering a developmental trajectory. *Genome* **45**: 28-33.

13. Wu, S. S., C. X. Ma, R. L. Wu and G. Casella, 2002 A hierarchical statistical model for estimating population properties of quantitative genes. *BMC Genetics* 3:1-7
14. Lou, X.-Y., R. J. Todhunter, M. Lin, Q. Lu, T. Liu, Z. H. Wang, S. Bliss, G. Casella, A. C. Acland, G. Lust and R. L. Wu, 2003 The extent and distribution of linkage disequilibrium in canine. *Mammalian Genome* 14: 555-564.
15. Lou, X.-Y., G. Casella, R. C. Littell, M. K. C. Yang, J. A. Johnson and R. L. Wu, 2003 A haplotype-based algorithm for multilocus linkage disequilibrium mapping of quantitative trait loci with epistasis in natural populations. *Genetics* 163: 1533-1548.
16. Ma, C. X., G. Casella, R. C. Littell, K. A. I. Khuri and R. L. Wu, 2003 Exponential mapping of quantitative traits governing allometric relationships in organisms. *Journal of Mathematical Biology* 47: 313-324
17. Todhunter, R. J., Y. T. Grohn, S. P. Bliss, A. Wilfand, A. J. Williams, M. Vernier-Singer, N. I. Burton-Wurster, N. L. Dykes, R. Wu, G. Casella, G. M. Acland and G. Lust, 2003 Multiple radiographic predictors of hip cartilage lesions in 8-month-old dogs. *American Journal of Veterinary Research* 64: 1472-1478.
18. Todhunter, R. J., S. P. Bliss, G. Casella, R. Wu, G. Lust, N. I. Burton-Wurster, A. J. Williams, R. O. Gilbert, and G. M. Acland, 2003 Genetic structure of susceptibility traits for hip dysplasia and microsatellite informativeness of an outcrossed canine pedigree. *Journal of Heredity* 94: 39-48.
19. Wu, R. L., C.-X. Ma, Y.-X. Lou and G. Casella, 2003 Molecular dissection of allometry, ontogeny and plasticity: A genomic view of developmental biology. *BioScience* 53: 1041-1047.
20. Wu, R. L., C.-X. Ma, W. Zhao and G. Casella, 2003 Functional mapping of quantitative trait loci underlying growth rates: A parametric model. *Physiological Genomics* 14: 241-249.
21. Todhunter, R.J., Casella, G., Bliss, S.P., Lust, G., Williams, A.J., Hamilton, S., Dykes, N.L., Yeager, A., Gilbert, R.O., Burton-Wurster, N., Mellersh, C.C., and Acland, G.M. 2003. Power of a Labrador Retriever-Greyhound pedigree for linkage analysis of hip dysplasia and osteoarthritis. *Am. J. Vet. Res.* 64:418-424.
22. Wu, R. L., C. X. Ma, M. C. K. Yang, M. Chang, R. C. Littell, U. Santra, S. S. Wu, T. M. Yin, M. Huang, M. Wang and G. Casella, 2003 Quantitative trait loci for growth in *Populus*. *Genetical Research* 81: 51-64.
23. Cui, Y. H., G. Casella and R. L. Wu, 2004 Mapping quantitative trait locus interactions from the maternal and offspring genomes. *Genetics* 167: 1017-1026
Liu, T., J. A. Johnson, G. Casella and R. L. Wu, 2004 Sequencing complex diseases with HapMap. *Genetics* 168: 503-511.
24. Ma, C.-X., M. Lin, G. Casella, R. C. Littell, T. M. Yin and R. L. Wu, 2004 A statistical model for mapping growth trajectories using dominant markers. *Theoretical and Applied Genetics* 108: 699-705.
25. Wu, R. L., C.-X. Ma and G. Casella, 2004 A bivalent polyploid model for mapping quantitative trait loci in outcrossing tetraploids. *Genetics* 166: 581-595

26. Wu, R. L., C. X. Ma and G. Casella, 2004 A mixed polyploid model for linkage analysis in tetraploids. *Journal of Computational Biology* 11: 562–580
27. Wu, R. L., C.-X. Ma, M. Lin and G. Casella, 2004 A general framework for analyzing the genetic architecture of developmental characteristics. *Genetics* **166**: 1541-1551. (Summarized in *Nature Reviews Genetics* **5**, 247 (2004))
28. Wu, R. L., C.-X. Ma, M. Lin, Z. H. Wang and G. Casella, 2004 Functional mapping of growth quantitative trait loci using a transform-both-sides logistic model. *Biometrics* 60: 729-738
29. Zhao, W., R. L. Wu, C.-X. Ma and G. Casella, 2004 A fast algorithm for functional mapping of complex traits. *Genetics* 167: 2133–2137.
30. Wu, R. L., C.-X. Ma, J. S. Wu, W. Fang and G. Casella, 2004 Population genetics of heterosis: Effects of Hardy-Weinberg disequilibrium. *Silvae Genetica* 53: 1-6.
31. Wu, R. L., C.-X. Ma and G. Casella, 2004 A bivalent polyploid model for mapping quantitative trait loci in outcrossing tetraploids. *Genetics* 166: 581–595.
32. Ma, C.-X., R. L. Wu and G. Casella, 2004 FunMap: Functional mapping of complex traits. *Bioinformatics* 20: 1808–1811
33. Lou, X.-Y., G. Casella, R. J. Todhunter, M. K. C. Yang and Wu, R. L., 2005 A general statistical framework for unifying interval and linkage disequilibrium mapping: Towards high-resolution mapping of quantitative traits. *Journal of American Statistical Association* 100: 158-171
34. Wu, R. And Casella, G. (2005) Statistical Genetics: Associating Genotypic Differences with Measurable Outcomes. In *Statistics: A Guide to the Unknown*, Monterey: Duxbury.
35. Wu, R. L., M. Lin, S. G. Terra, C. J. Pepine, S. P. McGorray, D. Johnson, G. Casella and J. A. Johnson, 2005 Genetic variants for human obesity as revealed by linkage disequilibrium mapping. *Pharmacogenomics Journal*.
36. .
37. Zhao, W., Y. Q. Chen, G. Casella, J. M. Cheverud and R. L Wu, 2005. A nonstationary model for functional mapping of complex traits. *Bioinformatics* 21 2469-2477.
38. Todhunter, R.J., Grohn, Y.T., Bliss, S.P., Wilfand, A., Williams, A.J., Vernier-Singer, M., Burton-Wurster, N., Dykes, N.L., Wu, R., Casella, G., Acland, G.M., and Lust, G. 2003. Evaluation of multiple radiographic predictors of cartilage lesions in the hip joints of eight-month-old dogs. *Am. J. Vet. Res.* 64:1472-1478
39. Todhunter, R.J., Mateescu, R., Lust, G., Burton-Wurster, N., Dykes, N.L, Bliss, S.P., Williams, A.J., Vernier-Singer, M., Corey, E., Harjes, C., Quaas, R.L., Zhang, Z., Gilbert, R.O., Volkman, D., Casella, G., Wu, R., and Acland, G.M. 2005. Quantitative Trait Loci for hip dysplasia in a crossbreed canine pedigree. *Mamm. Genome* 16:720-730.

Publications - Other Fields

1. Actinomycetes of a Salt Marsh. In *Proc. Symp. Fed. fur Microbiol.*, 1979. Springer-Verlag, Publisher. (With J.C. Hunter and D.E. Eveleigh.)
2. Modeling Microbial Processes: Glycolate in the New York Bight Area. In *Proc. Amer. Soc. Limnology and Oceanography*, June 1980. (With H.M. Edenborn and C.D. Litchfield.)
3. Tomato Fruit Color as Influenced by Temperature and Humidity. In *Proc. 77th Ann. Meet. Amer. Soc. Hort. Sci.*, 1979. (With R.W. Fisher and H. Daun.)
4. Spatial Variations in Morbidity and Their Relationship with Community Characteristics in Central Health Districts. *Social Science and Medicine: Medical Geography* **14D**, 387-396, 1982. (With W.M. Gesler, C. Todd, C. Evans, J. Pittman, and H. Andrews.)
5. Within-Month Variability in Use of Soup Kitchens in New York State. *The American Journal of Public Health* **78**, 1298-1301, 1988. (With F.E. Thompson, D.L. Taren, E. Anderson, J.K.J. Lambert, C.C. Campbell, E.A. Frongillo, and D. Spicer.)
6. Infection, Diarrhea, and Growth Rates of Young Children Following the Installation of Village Water Supplies in Lesotho. *Proceedings of the International Symposium of Water-Related Health Issues* (C.L. Tate, ed.). American Water Resources Assoc., TPS-87-3, Bethesda, MD 20814, 1987. (With S.A. Esrey, J.P. Habicht, M.D. Miliotis, A.H. Kidd, J. Collett, V. Qheku, and M.C. Latham.)
7. Length of Productive Life of Dairy Cows: I. Justification of a Weibull Model. *Journal of Dairy Science* **71**, 3061-3070, 1988. (With V. Ducrocq, R.L. Quaas, and E.J. Pollak.)
8. Length of Productive Life of Dairy Cows: II. Variance Component Estimation and Sire Evaluation *Journal of Dairy Science* **71**, 3071-3079, 1988. (With V. Ducrocq, R.L. Quaas, and E.J. Pollak.)
9. Drinking Water Source, Diarrheal Morbidity, and Child Growth in Villages with Both Traditional and Improved Water Supplies in Rural Lesotho, Southern 1988. *American Journal of Public Health* **78**, 1451-1455. Africa (With S.S. Esrey, J.-P. Habicht, M.C. Latham, and D.G. Sisler.)
10. The Use of Residuals for Longitudinal Data Analysis: The Example of Child Growth. *American Journal of Epidemiology* **131**, 365-372, 1990, (With S.A. Esrey and J.-P. Habicht.)
11. Estimation de composante genetique de la variance pour la duree de vie productive des vaches laitieres a partir d'un modele mixte de Weibull. *Proceedings, XXI Journes de Statistique* **I**, 85-89, 1989. (With V. Ducrocq, R.L. Quaas, and E.J. Pollack.)
12. Overdispersion in clinical mastitis data from diary herds: a negative binomial approach. *Preventive Veterinary Medicine* **10**, (1991) 239-245. (With Y.H. Schukken and J. van den Broek.)
13. Empirical Methods for the Estimation of the Mixing Probabilities for Socially Structured Populations from a Single Survey Sample. *Mathematical Population Studies* **3**, 199-225, 1992. (With S.P. Blythe and C. Castillo-Chavez.)

14. The Complementary Effect of Latrines and Increased Water Usage on Growth of Infants in Rural Lesotho. *American Journal of Epidemiology* **135**, (6), 659-666, 1992.
15. Duration of Intracranial Pressure Monitoring Does Not Predict Risk of Infectious Complications. *Neurosurgery* **33**, (3), 424-431, 1993. (With J.A. Winfield, P. Rosenthal, and R.K. Kantner.)
16. Illustrating Frequentist and Bayesian Statistics in Oceanography. (1993). SOEST Special Publication, Proceedings of the Hawaiian Winter Workshop, University of Hawaii at Manoa, 229-240.
17. Gibbs Sampling with a Maternal Effects Model (with C.P. van Tassell and E.J. Pollack). To appear in the *Journal of Animal Science*.
18. A Bayesian Analysis of Mixed Survival Models (1996) *Genetics, Selection and Evolution* **28** 505-529. (with V. DuCrocq).
19. The application of event-time regression techniques to the study of dairy cow interval-to-conception. *Preventive Veterinary Medicine* **26**, 263-274, 1996. (With J.L. Harman and Y.T. Gröhn.)
20. Event-time analysis of the effect of 60-day milk production on dairy cow interval-to-conception. *Amer. J. Vet. Res.* **57**, 634-639. (With J.L. Harman, Y.T. Gröhn, H.N. Erb.)
21. Effects of Selection on Estimates of Variance Components Using Gibbs Sampling and Restricted Maximum Likelihood. *Journal of Dairy Science* **78**, 678-692, 1995. (with C.P. Van Tassell and E.J. Pollack.)
22. Distribution of Mating Types of *Sphaerotheca fuliginea* in the United States (1996). *Plant Disease* **80** 1098 –1102. (With M.T. McGrath, H. Staniszewska, and N. Shishkoff.).
23. Fungicide Sensitivity of *Sphaerotheca fuliginea* in the United States (1996). *Plant Disease* **80** 697 –703. (With M.T. McGrath, H. Staniszewska, and N. Shishkoff.).
24. Variation in the Volume of Zebra Finch Song Control is Heritable: Developmental and Evolutionary Implications (2000). (with D. C. Airey, H. Castillo-Juarez, E. J. Pollak and T. J. DeVoogd). *Proceedings of the Royal Society: Biological Sciences. Series B*, 267: 2099-2104.
25. Bliss, S., R. J. Todhunter, R. Quaas, G. Casella, R. L. Wu, G. Lust, A. J. Williams, S. Hamilton, N. L. Dykes, A. Yeager, R. O. Gilbert, N. I. Burton-Wurster and G. M. Acland, 2002 Inheritance of traits associated with canine hip dysplasia in a Labrador Retriever-Greyhound pedigree. (2002). *The American Journal of Veterinary Research* 631029-1035.
26. Iczkowski, K. A., Jones, G. A., Casella, G. , Mishler, B. A., Qian, J. and Bostwick, D, G. (2002). Variation in Tissue Sampled by Sextant Biopsy Influences Prostate Cancer Detection Rate. *Urology* **59**: 698–703
27. Borgert, C.J., Findley, K. C., Ulloa, S. and Casella, G. (2006). Dietary Supplements and Drug Interactions: Should Flawed Study Designs and Biased Adverse Event Reporting Affect Regulation and Medical Causation? *Health Perspectives*. Harris Martin.

Reviews, Comments and Other Articles

1. Review of "Estimation in Truncated Parameter Spaces," by J.J.A. Moore. *Journal of the American Statistical Association* **81**, 859, 1986.
2. Review of "Exploring Data Tables, Trends, and Shapes," D.C. Hoaglin, F. Mosteller, and J.W. Tukey (eds.). *Journal of the American Statistical Association* **8**, 348, 1987.
3. Review of "Foundations of Statistical Inference," in *Advances in the Statistical Sciences*, Vol. II. I.B. MacNeil and G.J. Umprey (eds.). *Journal of the American Statistical Association* **83**, 567, 1988.
4. Review of "Statistical Information and Likelihood: Collected Papers of D. Basu," J.K. Ghosh (ed.). *Journal of the American Statistical Association* **84**, 844-845, 1989.
5. Review of "Encyclopedia of Statistical Sciences," S. Kotz, N.L. Johnson, and C. Read (eds.) *Journal of the American Statistical Association* **84**, 830-834, 1989. (Co-authored with *Journal of the American Statistical Association* editorial board.)
6. Discussion of "Interim Analyses: The Repeated Confidence Interval Approach," by C. Jennison and B.W. Turnbull. *Journal of the Royal Statistical Society, Series B* (51), 343, 1989.
7. Discussion of "Testing Precise Hypotheses." *Statistical Science* **2**, 344-347, 1987. (With R.L. Berger.)
8. Discussion of "An Ancillarity Paradox which Appears in Multiple Linear Regression," by L.D. Brown. *The Annals of Statistics* **18**, 471-538, 1990.
9. Discussion of "On the Problem of Interaction in the Analysis of Variance" by Vaclav Fabian. *Journal of the American Statistical Association* **86**, 372-373, 1991. (With J.T. Hwang.)
10. Discussion of the paper by Wasserman (1992) in *Bayesian Statistics 4*, J. M. Bernardo, J. O. Berger, A. P. Dawid and A. F. M. Smith, eds. Oxford University Press. (with M. T. Wells)
11. Discussion of the paper by Hodges (1992) in *Bayesian Statistics 4*, J. M. Bernardo, J. O. Berger, A. P. Dawid and A. F. M. Smith, eds. Oxford University Press.
12. Illustrating Frequentist and Bayesian Methods in Oceanography in *Statistical Methods in Physical Oceanography. Proceedings of the Hawaiian Winter Workshop*, January 1993, SOEST Special Publication (Peter Müller and Diane Henderson, Editors), 229-240, 1993.
13. Implementing the Markov Chain and Inferring about the Restored Sequence-Discussion of the paper by Churchill. *Case Studies in Bayesian Analysis II*, (C. Gatsonis, N.D. Singpurwalla, R. Kass and J. Hodges, Editors.) (With C. Robert.), 126-138, 1995.
14. Alternative Aspects of Conditional Inference. A Discussion of the paper by N. Reid. *Statistical Science*, **10**, 179-184 (1995). (With T. J. DiCiccio and M.T. Wells.)

15. The Ghosh-Pratt Identity. The *Encyclopedia of Statistical Sciences*.
16. Shrinkage Estimation: Three articles. *The Encyclopedia of Biostatistics*.
17. Comment on “Quantifying and Using Expert Opinion for Variable Selection Problems in Regression” by Garthwaite and Dickey (1997) . *Chemolab* **35**, 37-40, 1997 (with J. Hobert)
18. How to Get a Job in Academia. *Stats Magazine*, Spring 1998.
19. Shrinkage. *The Encyclopedia of Envirometrics*. (2000)
20. Discussion of “Causal Inference without Counterfactuals” by A. P. Dawid. (with S. Schwartz) (2000). *Journal of the American Statistical Association*
21. “Hypothesis Testing”. *The Encyclopedia of Behaviorial and Social Statistics* (with Roger Berger) (2000)
22. “Confidence Intervals”. *The Encyclopedia of Behaviorial and Social Statistics* (with Roger Berger) (2000)
23. Discussion of “Interval Estimation for a Binomial Parameter” by L. D. Brown, T. T. Cai and A. DasGupta. (2001). *Statistical Science* 16 120-122.
24. Editorial. *Statistical Science*. (2002)
25. Discussion of “Setting Confidence Intervals for Bounded Parameters” by M. Mandelkern. (2002). *Statistical Science* 17 159-161
26. Casella, G. Wu, R, Wu, S, and Weidman, S. (2002). Making Sense of Complexity: Summary of the Workshop on Dynamical Modeling of Complex Biological Systems. Washington, DC: National Academy Press.
27. Casella, G. (2004). Commentary on the article by Mayo. In *The Nature of Scientific Evidence*, M. Taper and S. Lele, Editors. Chicage: University of Chicago Press.
28. Casella, G. (2004). Review of “All of Statistics” by Larry Wasserman. *Biometrics*.
29. Casella, G. (2005). Random Numbers and Monte Carlo Methods. Accepted to be a chapter for the NIST Digital Library.
30. Casella, G and Bergert, R. (2005) Discussion of “Fuzzy Confidence Sets” by Geyer and Meeden. *Statistical Science*
31. Casella, G. (2005). Discussion of “Intrinsic Credible Regions: An Objective Bayesian Approach to Interval Estimation” by Jose M. Bernardo. *Theor. Estadistica* to appear.
32. Casella, G. Discussion of “On Frequentist and Bayesian Hypothesis Testing” by E. Moreno and F. J. Giron. *Statistics and Operations Research Transactions* to appear

Special Invited Presentations

1. 1998 Myra Samuels Memorial Biostatistics Lecture, Purdue University, April 1998 "Random Cows, Random Corn and Random Effects Models"
2. 1998 Snedecor Statistics Lecture, Department of Statistics, Iowa state University, December 1998 "Data Driven Gibbs Sampling"
3. Special Invited Presentation, Italian Statistical Society, Trieste, Italy, October 2000 "Algorithms, Approximations, and Inference"
4. "*Algunas cuestiones estadísticas en Bioinformática*", Escuela Superior de Ciencias Experimentales y Tecnología, Universidad Rey Juan Carlos, Madrid, November 8, 2002 (as part of the *Semana de las Ciencias* in Spain)
5. Ralph Bradley Memorial Lecture, "Objective Bayes Variable Selection", University of Georgia, April 2003

Selected Meeting Presentations

1. "Bayes, Empirical Bayes, and Conditional Frequency Approaches to Statistical Inference." Panel discussion presented at the Spring Regional Meeting, Biometric Society and American Statistical Association, March 1983. (J.O. Berger and C.N. Norris, co-panelists.)
2. "Conditional Properties of James-Stein Estimators." The Conference on Bayesian Inference, Rutgers University, October 1984.
3. "Reconciling Bayesian and Frequentist Evidence." Conference on Bayesian Inference, Mexico City, January 1986.
4. "Conditionally Acceptable Frequentist Solutions." The Purdue Symposium on Decision Theory and Related Topics, June 1986.
5. "Empirical Bayes Crop Prediction," The Biometric Society Spring Regional Meeting, March 1988.
6. "Uses of Frequency Calculations in Bayesian Robustness." Panel Discussion with D. Draper, C. Morris, and H. Rubin. Workshop on Bayesian Robustness, W. Lafayette, Indiana, March, 1989.
7. "Noninformative Robust Priors." Invited discussion of Professor L. Wasserman's presentation, Fourth Valencia International Meeting on Bayesian Statistics, Peniscola, Spain, April 15-20, 1991.
8. "Methods for Post-Data Inference." Purdue University Workshop on Decision Theory and Conditional Inference, West Lafayette, Indiana, July 22-26, 1991.

9. "Estimation of Accuracy in Testing and Set Estimation." Statistische Entscheidungstheorie (Conference on Statistical Decision Theory), Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, October 27-November 2, 1991.
10. "Meta-Analysis Fundamentals." Procter and Gamble Statistics Symposium, Cincinnati, Ohio, October 1992.
11. "Illustrating Empirical Bayes Methods." Tutorial presented at the Applied Statistics Conference, Atlantic City, N.J., December 1992.
12. "Bayesian and Frequentist Methods in Oceanography." Aha Hulikoa Hawaiian Winter Workshop on Probability Concepts in Physical Oceanography, University of Hawaii at Manoa, January 1993.
13. "Implementation and Inference in DNA Sequence Accuracy." Workshop on Case Studies in Bayesian Statistics, Carnegie Mellon University, Pittsburgh, Pennsylvania, October 1993.
14. "Graduate Training in Environmental Statistics." Annual Meeting of the International Envirometrics Society, Burlington, Ontario, Canada, August 1994.
15. "The Bayesian/Frequentist Compromise." Discussion of the papers by Das Gupta and George, Annual Meeting of the American Statistical Association, Toronto, Ontario, Canada, August 1994.
16. "Estimation with Selected Binomial Information." Annual Meeting of the American Statistical Association, Toronto, Ontario, Canada, August 1994.
17. "The Future of Environmental Statistics" Annual Meeting of the American Statistical Association, Anaheim, CA, August 1997.
18. "A Personal History of MCMC" Monte Carlo in the New Millenium, University of Florida, January 2001. Also presented at the Northern Florida ASA Chapter Meeting, February, 2001.
19. "Gibbs, MCMC and Importance Sampling" Invited Presentation at the NIST Mathematical and Computational Sciences Division and Statistical Engineering Division Symposium, April, 2001.
20. Making Sense of Complexity: Report on a Workshop on Dymnamic Modelling of Complex Biological Systems. National Research Council Chairs Colloquim, Washingto DC, November 2001.
21. "How to Successfully Publish in Statistical Journals", New Researchers Conference, Institute of Mathematical Statistics, Atlanta GA August 2001.
22. "Discussion of Bayes and Minimax Estimation by W. Strawderman", Joint Statistical Meetings, Atlanta GA August 2001.
23. One Day Short Course, "Monte Carlo Statistical Methods", Ninth Biannual CDC Symposium, Atlanta, GA, January 2002
24. "Objective Bayes Variable Selection", ", Workshop on Objective Bayesian Methods, Granada, Spain, December 2002. Also presented at the Ninth Biannual CDC Symposium,

Atlanta, GA, January 2002; the Department of Statistics, University of Florida, January 2002, and University Carlos III, Madrid, October 10, 2002.

25. "Introducción para las métodos estadística de Monte Carlo". University of Malaga, Nov 11, 2002. Also presented at the University of Murcia, Nov 28, 2002 (in Spanish)
26. "Intrinsic Priors for Contingency Tables" Presented at the Conference in Honor of Leon J. Gleser, Pittsburgh, PA May 2006

Selected Seminars

1. "Stabilizing Binomial n Estimators," Department of Statistics, North Carolina State University, February 1985, and Biometry Department, NIEHS, March 1985.
2. "Conditional Problems with Frequentist Procedures," Department of Statistics, University of North Carolina at Chapel Hill, April 1985.
3. "Modeling Ichthyoplankton Entrainment in the Hudson River," Department of Statistics, North Carolina State University, May 1985.
4. "Empirical Bayes Data Analysis," Two-day short course given to the Division of Computer Resources and Technology, National Institutes of Health, Bethesda, MD. November 1985.
5. "Reconciliation of Evidence," Department of Statistics, Penn State University, October 1986.
6. "Post-Data Confidence Statements," Bell Labs, Morristown, NJ, October 1986.
7. "Coherent Frequentist Post-Data Inference," Queens University, Department of Mathematics, Kingston, Ontario, March 1987.
8. "Refining Discrete Confidence Intervals," Department of Statistics, Purdue University, April 1987, Ohio State University, October 1987, Bowling Green State University, October 1987, University of Missouri at Columbia, November 1987, University of Chicago, January 1988.
9. "Loss Functions for Set Estimators," Institute of Statistics, Duke University, January 1989, Statistics Seminar, McGill University, May 1989.
10. "Estimating Acceptance Probabilities," Cornell University, September 1989; Carleton University, October 1989; Johns Hopkins University, April 1990.
11. "Estimation of Accuracy," Cornell University, July 1990; University of Toronto, September 1990; Colorado State University, October 1990; Ohio State University, October 1990; University of Buffalo, November 1990.
12. "Reconciliation, Coherence, and p -values," University of Rouen, France, April 1991.
13. "Estimation of Accuracy in Testing and Set Estimation," Cornell University, October 1991; Carnegie-Mellon University, October 1991.

14. "Optimal Confidence Sets, Bioequivalence, and the Limaçon of Pascal," University of South Carolina, October 1992; University of Texas-Austin, Southern Methodist University, and Texas A&M University, April 1993; Duke University and University of North Carolina-Chapel Hill, November 1993.
15. "Estimation with Selected Binomial Information." Purdue University, April 1994; University of Michigan, April 1994; Université du Montréal, January 1995; University of North Carolina, March 1995.
16. "Statistical theory and Computational Algorithms." University of Granada, Spain, October 1996; CREST-INSEE, Paris, October 1996, University of Chicago, March 1996, University of Manitoba, March 1996, Florida State University, November 1995.
17. "Gibbs Sampling and the Linear Mixed Model". Institut National de la Recherche Agronomique, Jouy-en-Josas, France. (Presented in French) October 1996.
18. "Data-Driven Gibbs Sampling" University of Florida January 1998; SUNY Binghamton March 1998, Cornell University March 1998.
19. "Discussion of "Methods for Analysis of Categorical Data", June 1999 Conference on the Interface, Chicago
20. "Empirical Bayes Gibbs Sampling", December 1999, University of California, Davis
21. "Algorithms, Approximations and Inference", February 2000, University of Florida.
22. "Design of Microarray Experiments", presented in the ICBR Workshop on Microarray analysis, December 2001 and February 2002
23. "Objective Bayesian Analysis of Contingency Tables", presented at University of Florida, October 2004 and University of Pennsylvania, November 2004
24. "Clustering Functional Data" presented at the Department of Biostatistics, Harvard University, May 2005
25. "Intrinsic Priors for Contingency Tables" presented at the University of Granada and the University of Malaga (Spain) July 2006

Theses Directed

1. Piegorsch, Walter W. "On the Estimation of the Join Point in Bilinear Segmented Regression." (Master's Thesis, completed May 1982.)
2. Breau, Patricia. "Optimal Designs for Segmented Polynomial Regression." (Master's Thesis, completed May 1983.)
3. Cecce, Margaret. "Estimating a Bounded Regression Line." (Master's Thesis, completed May 1983.)

4. Maatta, Jon. "Limiting the Risk of Regression Coefficient Estimates." (Master's Thesis, completed August 1983.)
5. Piegorsch, Walter W. "Admissibility and Optimality of Regression Confidence Bands." (Ph.D. Thesis, completed May 1984.)
6. Berry, Calvin. "Estimation of a Common Mean." (Ph.D Thesis, completed May 1985.)
7. Maatta, Jon. "Conditional Properties of Interval Estimators of the Normal Variance." (Ph.D. Thesis, completed May 1985.)
8. Zanelli, Marta. "Empirical Bayes Methods in Mixed Linear Models." (Ph.D. Thesis, completed August 1985.)
9. Cecce, Margaret. "A Conditional Approach to Two-Stage Selection." (Ph.D. Thesis, completed December 1985.)
10. Frongillo, Edward. "Estimation of Nonlinear Growth Curves with Autocorrelated Errors." (Master`s Thesis, completed May 1987.)
11. Lansky, David. "Confidence Intervals for p-Values." (Master's Thesis, completed August 1988.)
12. Strang, Laura. "Statistics of Dendrochronological Cross-Dating." (Master's Thesis, completed December 1988.)
13. Goutis, Costas. "Invariant Confidence Intervals for a Normal Variance." (Ph.D. Thesis, completed May 1989.)
14. Barnard, John. "Sets of Regression Predictors with Positive Regression Sum of Squares." (Undergraduate Honors Thesis, completed May 1990.)
15. Kane-Esrig, Yana. "Information Retrieval and Estimation with Auxiliary Information." (Ph.D. Thesis, completed August 1990.)
16. Lansky, David. "Acceleration, Convergence, and Invariance Properties of the EM Algorithm." (Ph.D. Thesis, completed May 1991.)
17. Frongillo, Edward. "Combining Information Using Hierarchical Models." (Ph.D. Thesis, completed August 1991.)
18. Umbach, David. "Methodologies for Testing Distributional Form." (Ph.D. Thesis, completed May 1992.)
19. Cleary, Richard. "Selection Bias and Meta-Analytic Inference." (Ph.D. Thesis, completed January 1993.)
20. Levine, Richard. "Limiting Posterior Odds Ratios." (Master's Thesis, completed January 1994.)
21. Eberly, Lynn. "Estimating the Unseen Studies in Meta-Analyses." (Master's Thesis completed January 1994.)

22. Hobert, James. "Gibbs Sampling with Improper Priors." (Ph.D. Thesis, completed August 1994.)
23. Ohman, Pamela. "Conditional Properties of Sequential Confidence Intervals." (Master's Thesis, completed May 1995.)
24. Levine, Richard. "Post-Processing Random Variables." (Ph.D. Thesis, completed August 1996.)
25. Slack, Rebecca. "Optimizing Convergence Rates and Variances in Gibbs Sampling Modeling Maternal Depletion and Repletion." (Master's Thesis, completed August 1996.)
25. Eberly, Lynn. "Combining Confidence Intervals." (Ph.D. Thesis, completed May 1997.)
26. Jou, Ying-Ming. "Saddlepoint Approximations of Variance." (Master's Thesis completed May 1997.)
27. Ohman, Pamela. "Estimated Saddlepoint Approximations." (Ph.D. Thesis, completed May 1997.)
28. Scherrer, J. Andrew. "Estimation in Capture-Recapture Models with Gibbs Sampling." (Master's Thesis, completed May 1997)
29. Guo, Fang Fang. "Covariance in the Metropolis-Hastings Algorithm" (Master's Thesis completed August 1998.)
30. Tong, Derek. "Fisher Information in Proportional Hazard Models. Undergraduate Honor's Thesis, May 1999.
31. Joo, Yong Sung "Predictive Environmental Risk Analysis" (Master's Thesis completed May 2000.)
32. Fink, Daniel "An Adaptive Optimal Importance Sampler" (Master's Thesis completed August 2000.)
33. Santana, Damaris "A Monte Carlo EM Algorithm for the State Space Model" (Master's Thesis completed May 2001.)
34. Joo, Yong Sung "Infinite-Dimensional Model Selection" (PhD Thesis completed May 2003.)
35. Hitchcock, David. "Markov chain clustering methods "" (PhD Thesis completed May 2004.)
36. Yang, Jie. "Nonparametric Functional Mapping of QTL". (PhD Thesis expected completion May 2006.)
37. Santana, Damaris. "A Genome-wide Gibbs Sampler for QTL analysis." (PhD Thesis expected completion August 2005.)
38. Yuehua Cui,. "Functional mapping model for programmed cell death in organisms" (PhD Thesis completed August 2005). Jointly directed with Rongling Wu.
39. Jessica Zhen Li. "Association Mapping with Missing Data". (PhD Thesis expected completion August 2007.)

Courses Developed and Taught

Biometry 101: *Introduction to Biometry I.* Introductory freshman survey course covering mathematical and statistical modeling in biology. Covers mathematical topics such as Markov chains, differential and integral calculus, probability models, curve fitting, and applies these techniques to forestry models, population growth, pharmacokinetics, and other biological problems using real data sets. There is extensive use of the symbolic manipulation program Mathematica. This course represents a unique, interdisciplinary introduction to mathematics and statistics for the life sciences. A recent initiative of the National Research Council is to foster the development of such courses, and Biometry 101 is being used as an example in the development of similar courses with emphasis in the physical and engineering sciences.

Biometry 102: *Introduction to Biometry II.* This is the second semester of Biometry 101. The mathematical and statistical concepts are treated in more detail, and a number of case studies are examined in detail. These include studies about comparing growth rates in different insect populations, examining chemical kinetic models, and testing for quantitative trait loci in genetic studies. Mathematical and statistical topics include eigenanalysis, Taylor series, variance component analysis, regression, and simulation.

Statistics 604: *Applied Experimental Design.* In the College of Agriculture and Life Sciences there is a great need for a course that addresses applied questions in the design of statistical experiments. This course, a second-year (graduate) methods course in Applied Experimental Design, was developed to answer those needs. Some theory and much real-data implementation of advanced designs are covered (split-plot, incomplete blocks, fractional factorials, crossovers, and covariance analysis). Textbooks used include those by Mead; Lentner and Bishop; and Kuehl.

Statistics 672: *Environmental Statistics.* To accompany the training program leading to a Ph. D. in Environmental Statistics, this course is taught every semester. It is a combination of methodology, applications and case studies relating to the environment. The students form working groups (2-4 per semester) and undertake projects ranging from data analysis of existing data, to consulting on ongoing projects, to contributing to statistical methodology. The course serves both as a focal point for the training program, and a means for involving students in long-term projects with faculty in environmental sciences. When the training grant was submitted for competitive renewal (which it won) the review committee commented that “*Through the Statistics 672 seminar series, faculty and students have collaborated on nine projects which have resulted in working papers of immediate impact on recognized environmental problems. The program is a model for how to apply statistics, within an interdisciplinary context, to real-world environmental health concerns.*”

Statistics 694a: *Theory of Point Estimation.* To help develop the revision of the 1983 text, *Theory of Point Estimation* by E. L. Lehmann, this course was taught in Spring 1994. The 1994-1995 academic year was spent writing the second edition, and in Spring 1996 a course based on the second edition was taught.

Statistics 694b: *Monte Carlo Statistical Methods.* This course was taught for the first time in the Fall of 1998. It examines a variety of computationally intensive statistical methods that have proven to be extremely useful in obtaining solutions to complex statistical problems. The course develops the underlying theory in detail, and applies the methodology to real problems. The course

was taught from notes for a text that was published by Springer-Verlag in 1999, *Monte Carlo Statistical Methods* by C. P. Robert and George Casella.

Statistics 605: *Advanced Regression Techniques*. This course was mainly concerned with the application of empirical Bayes methods in applied regression problems. Some development of the theory was done, and the effect of the new techniques, and their effect on resulting inference, was examined.

Statistics 697: *Special Topics in Statistical Confidence*. This was a special topics course at the level of Lehmann's *Testing Statistical Hypotheses*. Topics included confidence set estimation, methodologies of inference (frequentist, Bayes and likelihood), estimation of accuracy, saddlepoint and sampling-based methods.

STA 6934: *Monte Carlo Methods*. Further development of Statistics 694b. The course lectures are now on PowerPoint slides, so the students have a copy of all the lecture notes in front of them. There has been much computing integrated into the lectures, programs in R and WinBugs are run interactively during class. All program and lectures are available on the web.

PMCB: *Bioinformatics and Genomics*. This course was developed with John Davis of the School of Forestry. It is in "journal club" format, where every week there is a presentation of a current paper (usually from PNAS or Science) that addresses a problem in bioinformatics or genomics. Often the statistical methods are closely examined and a reanalysis of the data is performed.

STA 6178: *Statistical Genetics*, with Prof. Rongling Wu. Have developed much new material applying Monte Carlo methods to problems in statistical genetics. This is a one semester course that teaches basic statistical genetics, then moves to more contemporary topics such as linkage analysis, QTL mapping, and microarray analysis. The course also introduces more sophisticated statistical concepts such as likelihood estimation, simultaneous testing, and Bayesian methods. Statistical computing algorithms are also introduced and used, in particular the EM algorithm and the Gibbs sampler.

Methodes de Monte Carlo : Developed a Spanish-language version of the course "Monte Carlo Statistical Methods", given at the University of Granada, Spain, in Fall 2002.

