CURRICULUM VITAE Glen Meeden

January 2019

I. Biographical Data

A. <u>Education:</u>

PhD 1968 (Mathematical Statistics), University of IllinoisMA 1964 (Mathematics), University of IllinoisBA 1962 (Mathematics), Eastern College

B. Employment:

Professor, Department of Theoretical Statistics, University of Minnesota, 1989-present.

Professor, Department of Statistics, Iowa State University, 1968–1989.
ASA/BLS/NSF Senior Research Fellow, Bureau of Labor Statistics, 1989.
Visiting Professor, Department of Statistics, Florida State University, 1976–1977.

II. <u>Service</u>

A. <u>Professional Societies</u>

Institute of Mathematical Statistics American Statistical Association

B. <u>Professional Activities</u>

Associate Book Review Editor, Journal of the American Statistical Association, 1980–1985

Associate Editor, The American Statistician, 1984–1987

Member of the Visiting Lecture Program in Statistics, 1984–1989

Institute of Mathematical Statistics Committee on Special Papers, 1985– 1988

Institute of Mathematical Statistics, Program Chair for Annual Meeting, 1989

Associate Editor Journal of statistical planning and inference, 2001-2006.
American Statistical Association, Program Chair for the Bayesian section for the Annual Meeting, 2002

III. <u>Professional Honors</u>

Institute of Mathematical Statistics—Elected Fellow 1984 American Statistical Association—Elected Fellow 1986 International Statistical Institute—Elected 1990

IV. <u>Publications</u>

A. <u>Books:</u>

Ghosh, M. and Meeden, G. (1997). Bayesian methods for finite population sampling. Chapman & Hall.

B. <u>Refereed Publications:</u>

- 1. Meeden, G. (1970). Best tests for testing hypotheses about a random parameter with unknown distribution. Annals of Mathematical Statistics 41, 2, 585–591.
- Meeden, G. (1971). Finding best tests approximately, for testing hypotheses about a random parameter. Annals of Mathematical Statistics 42, 4, 1452–1454.
- Meeden, G. (1972). Some admissible empirical Bayes procedures. Annals of Mathematical Statistics 43, 1, 96–101.
- 4. Meeden, G. (1972). Bayes estimation of the mixing distribution, the discrete case. Annals of Mathematical Statistics 43, 6, 96–100.
- 5. Meeden, G. (1974). Choosing a prior for a binomial testing problem with incomplete knowledge. *Journal of the American Statistical Association* **69**, 740–743.
- Arnold, C. and Meeden, G. (1975). Characterizations of distributions by sets of moments of order statistics. Annals of Statistics 3, 3, 754– 758.
- Groeneveld, R.A. and Meeden, G. (1975). Seven game series in sports. Mathematics Magazine 48, 2, 187–192.
- Ghosh, M. and Meeden, G. (1975). How many tosses of the coin? Sankhya A 37, 4, 523–529.
- 9. Meeden, G. (1976). A special property of linear estimates of the normal mean. Annals of Statistics 4, 3, 649–650.
- Meeden, G. and Ghosh, M. (1976). Nonparametric minimax estimation of the mean. *Calcutta Statistical Association Bulletin* 25, 169– 173.
- 11. Arnold, B.C. and Meeden, G. (1976). A characterization of the uniform distribution based on summation modulo one, with application to fractional backlogs. *Australian Journal of Statistics* **18**, 3, 173–175.
- Ghosh, M. and Meeden, G. (1977). On the non-attainability of Chebyshev bounds. The American Statistician **31**, 1, 35–36.
- Ghosh, M. and Meeden, G. (1977). Admissibility of linear estimators in the one parameter exponential family. Annals of Statistics 5, 4, 772–777.
- Isaacson, D. and Meeden, G. (1977). Approximate behavior of the posterior distribution for a large observation. Annals of Statistics 5, 5, 899–908.

- Groeneveld, R.A. and Meeden, G. (1977). The mode, median, mean inequality. The American Statistician 31, 3, 120–121.
- Ghosh, M. and Meeden, G. (1978). Admissibility of the MLE of the normal integer mean. Sankhya B 40, 1–2, 1–10.
- Meeden, G. (1979). Comparing probability appraisers. Journal of the American Statistical Association 74, 299–302.
- Arnold, B.C. and Meeden, G. (1979). The admissibility of a preliminary test estimator when the loss incorporates a complexity cost. Journal of the American Statistical Association 74, 872–874.
- Meeden, G. (1981). Betting against a Bayes' Bookie. Journal of the American Statistical Association 76, 202–204.
- Ghosh, M. and Meeden, G. (1981). Admissibility in finite problems. Annals of Statistics 9, 4, 846–852.
- Groeneveld, R. and Meeden, G. (1982). Properties of a family of location parameters for skewed distributions. *Scandinavian Journal of Statistics* 9, 237–240.
- 22. Ghosh, M. and Meeden, G. (1983). Choosing between experiments: applications to finite population sampling. Annals of Statistics 7, 1, 296–305.
- 23. Ghosh, M. and Meeden, G. (1984). On the admissibility and uniform admissibility of ratio type estimates. Proceedings of the Indian Statistics Institute Golden Jubilee International Conference on Statistics: Applications and New Direction 378–390.
- Meeden, G. and Vardeman, S. (1983). Admissible estimators in finite population sampling employing various types of prior information. *Journal of Statistical Planning and Inference* 7, 4, 329–341.
- 25. Ghosh, M. and Meeden, G. (1983). Estimation of the variance in finite population sampling. Sankhya B 45, 3, 362–375.
- Meeden, G. and Noorbaloochi, S. (1983). Unbiasedness as the dual of being Bayes. Journal of the American Statistical Association 78, 619–623.
- Meeden, G. and Vardeman, S. (1983). Admissible estimators of the population total using trimming and Winsorization. *Statistics and Probability Letters* 1, 317–321.
- Meeden, G. and Vardeman, S. (1983). Calibration, sufficiency and domination considerations for Bayesian probability assessors. *Journal* of the American Statistical Association 78, 808–816.
- Meeden, G. and Vardeman, S. (1984). Admissible estimators for the total of a stratified population that employ prior information. Annals of Statistics 12, 2, 675–684.
- 30. Ghosh, M. and Meeden, G. (1984). A new Bayesian analysis of a

random effects model. Journal of the Royal Statistical Society B 46, 3, 474–482.

- Groeneveld, R. and Meeden, G. (1984). Measures of skewness. The Statistician 33, 391–399.
- Isaacson, D. and Meeden, G. (1984). Better priors for Bayesian bettors. The Australian Journal of Statistics 26, 3, 263–271.
- 33. Ghosh, M., Meeden, G. and Vardeman, S. (1985). Some admissible non-parametric and related finite population sampling estimators. Annals of Statistics 13, 2, 811–817.
- Meeden, G. and Vardeman, S. (1985). Bayes and admissible set estimation. Journal of the American Statistical Association 80, 465–471.
- Meeden, G. (1986). Sufficiency and partitions of the class of all possible distributions. The American Statistician 40, 1, 42–44.
- Ghosh, M. and Meeden, G. (1986). Empirical Bayes estimation in finite population sampling. *Journal of the Journal of the American Statistical Association* 81, 4, 1058–1062.
- Mazloum, R. and Meeden, G. (1987). Using the stepwise Bayes technique to choose between experiments. Annals of Statistics 15, 1, 269–277.
- Meeden, G. (1987). Estimation when using a statistic which is not sufficient. The American Statistician 41, 2, 135–136.
- Gentle, J. and Meeden, G. (1987). Computing some Bayes estimates for the mean of a normal distribution. *Communications in Statistics* 16, 8, 2443–2458.
- Ghosh, M., Meeden, G., Srinivasan, C. and Vardeman, S. (1989). The admissibility of the Kaplan-Meier estimator. Annals of Statistics 17, 4, 1509–1531.
- 41. Meeden, G. (1989). The admissibility of the maximum likelihood estimator for estimating a transition matrix. Sankhya **51**, 1, 37–44.
- 42. Ghosh, M. Low, L. and Meeden, G. (1989). A hierarchical Bayes analysis of cross-classification models. *Bayesian and Likelihood Methods* in Statistics and Econometrics, eds. S. Geisser, J.S. Hodges, S.J. Press and A. Zellner. North Holland, New York, 277–301.
- Meeden, G. (1990). Admissible contour credible sets. Statistics and Decisions 8, 1–10.
- 44. Meeden, G. and Vardeman, S. (1991). A noninformative Bayesian approach to interval estimation in finite population sampling. *Journal of the American Statistical Association* **86**, 416, 972–980.
- Meeden, G. (1992). An elicitation procedure using piecewise conjugate priors. Bayesian Analysis in Statistics and Econometrics (Prem K. Goel and N.S. Iyengar, eds.) 195–206, Lecture Notes in Statistics 75, New York: Springer-Verlag.

- 46. Meeden, G. (1992). Basu's contributions to the foundations of sample survey. Current Issues in Statistical Inference (M. Ghosh and P.K. Pathak, eds.) pp. 178–186, IMS Lecture Notes Monograph Series 17.
- Meeden, G. (1992). The admissibility of the linear interpolation estimator of the population total. Annals of Statistics 20, 1, 510–522.
- Meeden, G. and Mingoti, S. (1992). Estimating the total number of distinct species using presence and absence data. *Biometrics* 48, 863– 875.
- Meeden, G. (1993). Noninformative nonparametric Bayesian estimation of quantiles. Statistics and Probability Letters 16, 103–109.
- 50. Li, Seung-Chun and Meeden, G. (1994). A minimal complete class theorem for decision problems where the parameter space contains only finitely many points. *Metrika* **41**, 227-232.
- Kim, Byung Hwee and Meeden, G. (1994). Admissible estimation in an one parameter nonregular family of absolutely continous distributions. *Commun. Statist.-Theory Meth.* 23, 2993-3001.
- Meeden, G. (1995). Median estimation using auxiliary information. Survey Methodology 21, 71-77.
- 53. Meeden, G. and Bryan, M. (1995). An approach to the problem of nonresponse in sample survey using the Polya posterior. Bayesian analysis in statistics and econometrics: Essays in honor of Arnold Zellner, (D. Berry, K. Chaloner and J. Geweke, eds.) 423-431, Wiley, New York.
- 54. He, K. and Meeden, G. (1997). Selecting the number of bins in a histogram: A decision theoretic approach. *Journal of Statistical Planning* and Inference **61**, 49-59.
- Meeden, G., Geyer, C., Lang, J. and Funo, E. (1998). The admissibility of the maximum likelihood estimator for decomposable log-linear interaction models for contingency tables. *Commun. Statist.-Theory Meth.* 27, 473-494.
- 56. Nelson, D. and Meeden, G. (1998) Using prior information about population quantiles in finite population sampling. Sankhya Series A. 60, 426-445.
- 57. Meeden, G. (1999). Interval estimators for the population mean for skewed distributions with a small sample size. *Journal of Applied Statistics* **26**, 81-96.
- Meeden, G. (1999). A noninformative Bayesian approach for twostaged cluster sampling. Sankhya Series A. 61, 133-144.
- 59. Meeden G. (2000). A decision theoretic approach to imputation in finite population sampling. *Journal of the American Statistical Association* **95**, 586-595.

- 60. Meeden, G. and Vardeman, S. (2000). A simple hidden Markov model for Gayesian modeling with time dependent data. *Communications in Statistics:Theory and Methods* **29** 1801-1826.
- 61. Fernandez-Cantelli, E. and Meeden, G. (2003) The effect of the award system on game strategy in soccer *Chance.*, **16**, 23-29.
- 62. Meeden, G. (2003) A noninformative Bayesian approach to small area estimation. Survey Methodology **29**, 19-24.
- 63. Lazar, R. and Meeden, G. (2003) Exploring imprecise probability assessments based on linear constraints. *ISIPTA '03 : Proceedings of the Third International Symposium on Imprecise Probabilites and Their Applications* eds. J-M Bernard, T. Seidenfeld and M. Zaffalon. Carleton Scientific, 360-371.
- 64. Meeden, G. (2003) A Bayesian solution for a statistical auditing problem. Journal of the American Statistical Association **98**, 735-740.
- 65. Meeden, G. (2005) A noninformative Bayesian approach to domain estimation. Journal of Statistical planning and Inference. **129**, 85-92.
- 66. Geyer, C., Lazar, R. and Meeden, G. (2005). Computing the Joint Range of a Set of Expections. Proceedings of the Fourth International Symposium on Imprecise Probabilities and Their Applications. Available at

http://www.sipta.org/isipta05/proceedings/papers/s063.pdf

- Geyer, C., and Meeden, G. (2005) Fuzzy and Randomized Confidence Intervals and P-values (with discussion). *Statistical Science* 20, 358-387.
- 68. Nelson, D., and Meeden, G. (2006) Noninformative nonparametric finite population quantile estimation. *Journal of Statistical planning and Inference* **136**, 53-67.
- Meeden, G. and Sargent, D. (2007) Some Bayesian methods for two auditing problems. Communications in Statistics: Theory and Methods. 36, Issue 15, 2741-2760.
- Meeden, G. (2008) Fuzzy Set Representation of a Prior Distribution, in Pushing the Limits of Contemporary Statistics: Contributions in Honor of Jayanta K. Ghosh; Bertrand Clarke and Subhashis Ghosal, eds. Institute of Mathematical Statistics. Collections 2008, Vol. 3, 82-88.
- Lazar, R., Meeden, G. and Nelson, D. (2008) A noninformative Bayesian approach to finite population sampling using auxiliary variables. *Survey Methodology*, 34, 51-64.
- 72. Groenveld, R. and Meeden, G. (2009) Improved Skewness Measures, Metron-International Journal of Statistics, 67, 325-327.
- 73. Holland, M., Meeden, G. and Gray, B. (2010) A finite population

Bayes procedure for censored categorical abundance data, *Journal of the Indian Agricultural Statistical Society*, **64**, 171-175.

- Meeden, G. and Noorbaloochi, S. (2010) Ordered designs and Bayesian inference in survey sampling, Sankhya, 72, 119-135.
- 75. Brown, S. and Meeden G. (2012) A Nonparametric Bayesian Method for Estimating a Response Function, in *Contemporary Developments* in Bayesian Analysis and Statistical Decision Theory: A Festschrift for William E. Strawderman; , Dominique Fourdrinier, Eric Marchand and Andrew L. Rukhin, eds. in Institute of Mathematical Statistics Collections, Vol. 8, 190-199.
- 76. Meeden, G. (2012) A Bayesian justification for random sampling in sample survey, in *Pakistan Journal of Statistics and Operation Re*search (Statistics in the Twenty-First Century: Special Volume in honour of Dr. Mir Masoom)Vol. 8. No. 3, 353-357,
- 77. Meeden G. and Coventry M. (2013) University of Minnesota School of Statistics, in Strength in Numbers: The Rising of Academic Statistics Departments in the U.S.;, Alan Agresti and Xiao-Li Meng, eds. Springer, 491-428.
- Geyer, G. and Meeden, G. (2013) Asymptotics for Constrained Dirichlet Distributions, in *Bayesian Analysis*, Vol. 8, 89-110.
- Strief, J. and Meeden, G. (2013) Objective Stepwise Bayes Weights in Survey Sampling, Survey Methodology, Vol 39, 1-27.
- Meeden, G. and Noorbaloochi, S. (2013) Hypotheses testing as a fuzzy set estimation problem, *Communications in Statistics: Theory and Methods.* Vol 42, 1806-1820
- 81. Meeden, G. and Lee, B. (2014) More efficient inferences using ranking information obtained from judgment sampling, *Journal of Survey Statistics and Methodology* Vol 2, 38-57.
- 82. Qu, Y., Meeden G. and Zhang, B. (2014) An objective stepwise Bayes approach to small area estimation, *Journal of Statistical Computation and Simulation* Volume 85, Issue 7, May 2015, pages 1474-1494.
- 83. Dong, H. and Meeden, G. (2016) Constructing Synthetic Samples, Journal of Official Statistics Volume 37, Issue 1, pages 113-127.
- 84. Meeden, G. and Almquist, Z. and Geyer, C. (2016) Better adjusted weights for respondents in skewed populations, *Proceedings of the 2016 International Methodology Symposium organized by Statistics Canada*
- Noorbaloochi, S. and Meeden, G. (2017) On being Bayes and unbiasedness, Sankhya A, 18 May, pages 1-16.
- Zimmerman, P. and Meeden, G. (2018) A noninformative Bayesian approach for selecting a good post-stratification *Electronic Journal of Statistics* Vol. 12, No. 2, pages 2515-2536.

V. $\underline{\text{Grants}}$

- 1980–82 NSF Grant MCS-8005485
- 1982–84 NSF Grant MCS-8202116
- 1984–86 NSF Grant DMS-8401740
- 1987 Contract with Boeing Military Airplane Company
- 1989 NSF Grant DMS-8902580
- 1990–91 NSF Grant DMS-8911548
- 1992–94 NSF Grant SES-9201718
- 1994–97 NSF Grant DMS 9401191
- 1999–01 NSF Grant DMS-9971331
- 2004–07 NSF Grant DMS-0406169