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HANI DOSS

Department of Statistics
University of Florida
P.O. Box 118545
Gainesville, FL 32611-8545

Phone: (352) 273-2991
Fax: (352) 392-5175
Email: doss@stat.ufl.edu
Web: <http://www.stat.ufl.edu/~doss>

PERSONAL INFORMATION

Birthdate: September 21, 1955.

Married; three children.

EDUCATION

B.S. in Mathematics, SUNY at Stony Brook (Highest Honors), June 1976.

M.S. in Mathematics, Stanford University, June 1978.

Ph.D. in Statistics, Stanford University, June 1982.

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

9/82 – 8/87	Assistant Professor, Department of Statistics, Florida State University.
9/87 – 8/92	Associate Professor, Department of Statistics, Florida State University.
9/92 – 8/94	Professor, Department of Statistics, Florida State University.
9/94 – 8/05	Professor of Statistics and Biostatistics, Department of Statistics, Ohio State University.
Summers 83–87	Research Associate in Office of Naval Research Neural Sciences Learning and Memory Program, Stanford University.
Summers 83–09	Member of National Security Agency Statistical Advisory Group, Department of Statistics, Stanford University. Wrote about three technical memos per year on statistical problems of interest to the NSA.
1996–2005	Associate Director, Center for Biostatistics, Ohio State University.
Fall 2003	Visiting Professor, Department of Statistics, Yale University.
9/05 – present	Professor, Department of Statistics, University of Florida.

FIELDS OF INTEREST

Markov chain Monte Carlo, non/semi-parametric Bayesian methods, Bayesian methods in biostatistics.

SERVICE TO PROFESSION

Associate Editor, *Journal of the American Statistical Association*, 1992–1994.

Organized Joint Ohio State University, Cleveland Clinic Foundation, Case Western Reserve University Annual Biostatistics Symposium in 1998 and 2003.

Associate Editor, *Statistica Sinica*, August 2005 –

Associate Editor, *JRSS-B*, August 2008 –

Organizer and Program Chair, Workshop on “Bayesian Model Selection and Objective Methods,” University of Florida, January 2008.

HONORS

Fellow of the Institute of Mathematical Statistics.

MAIN COMMITTEE WORK, 1982–1994 (FSU)

Chair of Curriculum Committee, 1988.

Chair of Qualifying Exam Committee, 1989, 1990, 1992.

Chair of Faculty Recruiting Committee, 1991, 1994.

Chair of Faculty Evaluation and Merit Increase Committee, 1994.

Member of Committee for Search of Chairman of Statistics Department, 1990.

Chair of Committee for Search of Chairman of Statistics Department, 1993.

MAIN COMMITTEE WORK, 1994–1999 (OSU)

Chaired Qualifying Exam Committee, 1994, 1995.

Organizer for the Statistics/Biostatistics Seminar Series, 1995–6, 1997–8, 1998–9.

I was a member of a core group of four people (the Biostatistics Center Planning Committee) who worked to create a Biostatistics Center at OSU, from 1995 to 1997. Among the results of our work:

- In 1996, funding for three years of operation for the Center was obtained from various sources at OSU.
- In 1996, we wrote an Academic Enrichment Proposal to the Ohio Board of Regents to obtain continuing funding (\$61,000/year) to pay for part of the salary of the Director of the Center. We also requested a one-time sum (\$43,000) for start-up funds for the director. This proposal was funded in full.

Member of Search Committee for Director of Biostatistics Center (1997–8).

Member, Promotion and Tenure Committee of College of Mathematical and Physical Sciences, 1998–9.

Member, Committee for Search of Chair of Statistics Department, 1999.

MAIN COMMITTEE WORK, 2005–PRESENT

Member of Chair Search Committee, 2005.

Chair, Computer Advisory Committee, 2006–present.

Member, Executive Committee, 2007–present.

Member, Faculty Search Committee, Department of Biostatistics, School of Public Health, 2007.

Co-Chair, Faculty Search Committee, Department of Statistics, 2008.

Member, Faculty Search Committee, Department of Statistics, 2009.

REFEREED PAPERS

Doss, H. and Sellke, T. (1982). The tails of probabilities chosen from a Dirichlet prior. *The Annals of Statistics* **10** 1302–1305.

Doss, H. (1984). Bayesian estimation in the symmetric location problem. *Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete* **68** 127–147.

Doss, H. (1985). Bayesian nonparametric estimation of the median; Part I: Computation of the estimates. *The Annals of Statistics* **13** 1432–1444.

Doss, H. (1985). Bayesian nonparametric estimation of the median; Part II: Asymptotic properties of the estimates. *The Annals of Statistics* **13** 1445–1464.

Doss, H. (1986). Discussion of “On the consistency of Bayes estimates” by P. Diaconis and D. Freedman. *The Annals of Statistics* **14** 45–47.

Doss, H. and Sethuraman, J. (1989). The price of bias reduction when there is no unbiased estimate. *The Annals of Statistics* **17** 440–442.

Doss, H. (1989). On estimating the dependence between two point processes. *The Annals of Statistics* **17** 749–763.

Doss, H., Freitag, S., and Proschan, F. (1989). Estimating jointly system and component reliabilities using a mutual censorship approach. *The Annals of Statistics* **17** 764–782.

Doss, H. and Gill, R.D. (1992). An elementary approach to weak convergence for quantile processes, with applications to censored survival data. *The Journal of the American Statistical Association* **87** 869–877.

Li, G. and Doss, H. (1993). Generalized Pearson-Fisher chi-square goodness-of-fit tests, with applications to models with life history data. *The Annals of Statistics* **21** 772–797.

Antoine, R., Doss, H., and Hollander, M. (1993). On identifiability in the autopsy model of reliability theory. *Journal of Applied Probability* **30** 913–930.

Burr, D. and Doss, H. (1993). Confidence bands for the median survival time as a function of the covariates in the Cox model. *The Journal of the American Statistical Association* **88** 1330–1340.

- Doss, H. (1994). Bayesian estimation for censored data: An experiment in sensitivity analysis. *Proceedings of the Fifth Purdue Symposium on Statistical Decision Theory and Related Topics* 171–181.
- Doss, H. and Chiang, Y.C. (1994). Choosing the resampling scheme when bootstrapping: A case study in reliability. *The Journal of the American Statistical Association* **89** 298–308.
- Doss, H. (1994). Discussion of “Markov chains for exploring posterior distributions” by Luke Tierney. *The Annals of Statistics* **22** 1728–1734.
- Doss, H. (1994). Bayesian nonparametric estimation for incomplete data via successive substitution sampling. *The Annals of Statistics* **22** 1763–1786.
- Li, G. and Doss, H. (1995). An approach to nonparametric regression for life history data using local linear fitting. *The Annals of Statistics* **23** 787–823.
- Athreya, K.B., Doss, H., and Sethuraman, J. (1996). On the convergence of the Markov chain simulation method. *The Annals of Statistics* **24** 69–100.
- Doss, H., Huffer, F., and Lawson, K. (1997). Bayesian nonparametric estimation via Gibbs sampling for coherent systems with redundancy. *The Annals of Statistics* **25** 1109–1139.
- Doss, H. and Narasimhan, B. (1998). Dynamic display of changing posterior in Bayesian survival analysis. In *Practical Nonparametric and Semiparametric Bayesian Statistics*, D. Dey, P. Mueller, and D. Sinha, eds., 63–87, Springer-Verlag, New York.
- Doss, H. and Narasimhan, B. (1999). Dynamic display of changing posterior in Bayesian survival analysis: The software. *The Journal of Statistical Software* **4**(3).
- Li, S., Pearl, D.K., and Doss, H. (2000). Phylogenetic tree construction using Markov chain Monte Carlo. *The Journal of the American Statistical Association* **95** 493–508.
- Burr, D., Doss, H., Goldschmidt-Clermont, P., and Cooke, G. (2003). A meta-analysis of studies on the association of the platelet PLA polymorphism of Glycoprotein IIIa and risk of coronary heart disease. *Statistics in Medicine* **22** 1741–1760.
- Doss, H. and Huffer, F. (2003). Monte Carlo methods for Bayesian analysis of survival data using mixtures of Dirichlet process priors. *The Journal of Computational and Graphical Statistics* **12** 282–307.
- Doss, H. (2003). Discussion of “A theory of statistical models for Monte Carlo integration” by A. Kong, P. McCullagh, X.-L. Meng, D. Nicolae, and Z. Tan. *Journal of the Royal Statistical Society, Series B* **65** 610–611.
- Burr, D. and Doss, H. (2005). A Bayesian semi-parametric model for random effects meta-analysis. *The Journal of the American Statistical Association* **100** 242–251.
- Liu, Y., Shen, X. and Doss, H. (2005). Multicategory ψ -learning and support vector machines: computational tools. *The Journal of Computational and Graphical Statistics* **14** 219–236.
- Harris, R., Beebe-Donk, J., Doss, H., and Burr, D. (2005). Aspirin, Ibuprofen and other non-steroidal anti-inflammatory drugs in cancer prevention: A critical review of non-selective COX-2 blockade. *Oncology Reports* **13** 559–584.

Schwartzbaum, J., Ahlbom, A., Malmer, B., Lonn, S., Brookes, A., Doss, H., Debinski, W., Henriksson, R., and Feychting, M. (2005). Polymorphisms associated with asthma are inversely related to risk of glioblastoma multiforme. *Cancer Research* **65** 6459–6465. For an exchange of letters on this paper see the same journal, **66** 2878–2879, 2006.

Doss, H. (2007). Some thoughts on future directions in Bayesian model selection. *Statistica Sinica* **17** 413–421.

Doss, H. (2008). Quantifying information loss in survival studies. *Statistical Science* **23** 313–317. (This is a discussion of “Quantifying the fraction of missing information for hypothesis testing in statistical and genetic studies” by D. Nicolae, X.-L. Meng, and A. Kong.)

Doss, H. (2009). Estimation of large families of Bayes factors from Markov chain output. To appear in *Statistica Sinica*.

UNREFEREED OR MINIMALLY REFEREED PAPERS

Doss, H., Freitag, S., and Proschan, F. (1986). Assessing system reliability using censoring methodology. *Software System Design Methods*, NATO ASI Series, Volume F22, 423–438.

Antoine, R., Doss, H., and Hollander, M. (1993). A comparison of various estimators in reliability models involving mutual censorship of component lifelengths. *Proceedings of the Fourth International Research Conference on Reliability*, 1–19.

Athreya, K.B., Doss, H., and Sethuraman, J. (1993). Easy-to-apply results for establishing convergence of Markov chains in Bayesian analysis. *Proceedings of the Thirty-Eighth Conference on the Design of Experiments* held by the Army Research Office, 263–270.

Doss, H. and MacEachern, S.N. (1997). The Dirichlet process. *Encyclopaedia of Mathematics*, suppl. vol. I, M. Hazewinkel, ed., 224–225, Kluwer Academic Publishers, Dordrecht.

Suciu, G., Hoshaw-Woodard, S., Elliot, M., and Doss, H. (2001). Uninsured estimates by county: A review of options and issues. Report written under contract for the Ohio Department of Health.

INVITED TALKS AT CONFERENCES AND MEETINGS

Neural Sciences Learning and Memory Conference (workshop sponsored by the Office of Naval Research), Washington, D.C., February 1984. *The detection and identification of neuronal interactions*.

IMS Central Regional Meeting, Austin, Texas, March 1985. *Bayesian nonparametric estimation of the median*.

NSF Lecture Series on The Construction and Salient Properties of Nonparametric Priors, Pennsylvania State University, June 1985. *Using the Dirichlet prior to estimate the quantile of a distribution*.

NATO Advanced Study Institute Conference on Software Reliability, Grey College, University of Durham, England, August 1985. *Assessing system reliability using censoring methodology*.

IMS Central Regional Meeting, Purdue University, June 1986. *Bayesian nonparametric estimation in the symmetric location problem.*

Conference on Reliability and Quality, University of Missouri-Columbia, June 1986. *Estimating jointly system and component life distributions using a mutual censorship approach.*

International Mathematical Banach Center Conference on Selected Topics of Mathematical Statistics, Warsaw, Poland, March 1989. Two lectures: *Estimating the dependence between two point processes*, and *Estimating jointly system and component life distributions using a mutual censorship approach.*

Fourth International Research Conference on Reliability, University of Missouri, June 1991. *A comparison of various estimators in reliability models involving mutual censorship of component lifelengths.*

IMS Eastern Meeting, Cincinnati, Ohio, March 1992. Invited Discussant on Special Invited Paper “Statistical uses of successive substitution” by M. Schervish.

Fifth Purdue Symposium on Statistical Decision Theory and Related Topics, Purdue University, June 1992. *Successive substitution sampling in nonparametric Bayesian survival analysis.*

IMS Directions in Probability Workshop on Monte Carlo Markov Chains, Stanford, California, August 1993. *Bayesian nonparametric estimation for incomplete data via successive substitution sampling.*

Second International Workshop on Bayesian Robustness, Rimini, Italy, May 1995. *Bayesian Poisson regression using the Gibbs sampler: Sensitivity analysis through dynamic graphics.*

Fifty-First Meeting of the Seminar on Bayesian Inference in Econometrics and Statistics, Ohio State University, May 1997. *Dynamically varying prior and posterior in Bayesian nonparametric analysis of censored data.*

Joint Statistical Meetings, Anaheim, California, August 1997. *Monte Carlo methods for Bayesian analysis of censored data using mixtures of Dirichlet priors.*

ENAR/IMS Spring Meeting, Pittsburgh, Pennsylvania, March, 1998. *Reconstruction of phylogenetic trees via Markov chain Monte Carlo.*

International Conference in Reliability and Survival Analysis, Northern Illinois University, May 1998. *Dynamic visualization of changing prior and posterior in Bayesian nonparametric analysis of censored data.*

Joint Ohio State University, Cleveland Clinic Foundation, Case Western Reserve University Annual Biostatistics Symposium, Ohio State University, May 1998. *Dynamic visualization of changing prior and posterior in Bayesian nonparametric analysis of censored data.*

Computer Science and Statistics: 33rd Symposium on the Interface, Costa Mesa, California, June 2001. *Dynamic visualization of changing prior and posterior in Bayesian analysis.*

Bayesian Nonparametrics Summit, Ann Arbor, Michigan, July 2001. *Using MCMC output for dynamic visualization of changing prior and posterior in Bayesian analysis.*

Speaker, Annual Distinguished Statistician Lecture Series, Penn State, April 2002. *A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease.*

International Conference in Reliability and Survival Analysis, University of South Carolina, May 2003. *Monte Carlo methods for Bayesian analysis of survival data using mixtures of Dirichlet process priors.*

Invited Discussant, Session on “Machine Learning in Biostatistics,” Joint Statistical Meetings, San Francisco, California, August 2003.

Conference in Honor of Myles Hollander, Florida State University, April 2007. *Estimation of large families of Bayes factors from Markov chain output.*

Joint Statistical Meetings, Washington, DC, August 2009. *Estimation of large families of Bayes factors from Markov chain output.*

INVITED TALKS AT UNIVERSITIES

Stanford University, Statistics/Psychology Departments Joint Seminar Series on Neural Sciences, July 1984. *A statistical method for detecting and quantifying neuronal interactions.*

Carnegie-Mellon University, Department of Statistics, January 1985. *Estimating the dependence between two point processes.*

University of Florida, Department of Statistics, February 1985. *Estimating the dependence between two point processes.*

University of Michigan, Department of Statistics, February 1985. *Bayesian nonparametric estimation of quantiles.*

Johns Hopkins University, Department of Mathematical Sciences, February 1985. *Bayesian nonparametric estimation of quantiles.*

University of Chicago, Department of Statistics, March 1985. *Estimating the dependence between two point processes.*

University of Minnesota, Department of Statistics, March 1985. *Estimating the Dependence between two point processes.*

Stanford University, Department of Statistics, June 1985. *Estimating the dependence between two point processes.*

Stanford University, Statistics/Psychology Departments Joint Seminar Series on Neural Sciences, July 1985. *Relating the spike train of a neuron to its environment.*

Stanford University, Department of Statistics, July 1986. *Assessing system reliability using censoring methodology.*

University of Southern California, Department of Mathematics, January 1987. *Estimating the dependence between two point processes.*

Texas A&M University, Department of Statistics, September 1990. *A method for obtaining weak convergence results for quantile processes, with applications to censored survival data.*

University of Florida, Department of Statistics, October 1992. *Bayesian nonparametric estimation for incomplete data via successive substitution sampling.*

Purdue University, Department of Statistics, March 1995. *Bayesian Poisson regression using the Gibbs sampler: Sensitivity analysis through dynamic graphics.*

Michigan State University, Department of Statistics, November 1997. *Bayesian analysis of censored data using mixtures of Dirichlet priors.*

University of Chicago, Department of Statistics, April 2000. *Reconstruction of phylogenetic trees via Markov chain Monte Carlo.*

University of Connecticut, Department of Community Medicine and Health Care, March 2002. *A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease.*

Penn State University, Department of Health Evaluation Sciences, May 2002. *A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease.*

University of Pittsburgh, Department of Statistics, April 2003. *A Bayesian semi-parametric model for random effects meta-analysis.*

Harvard University, Department of Statistics, September 2003. *A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease.*

Yale University, Department of Statistics, October 2003. *A computing environment for visualization of posterior distributions obtained from MCMC output.*

University of Connecticut, Department of Statistics, November 2003. *A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease.*

University of Minnesota, Department of Statistics, December 2004. *A Bayesian semi-parametric model for random effects meta-analysis.*

University of Florida, Department of Statistics, January 2005. *A Bayesian semi-parametric model for random effects meta-analysis.*

Joint Florida State University / University of Florida Colloquium, held at Florida State, September 2005. *Estimation of large families of Bayes factors via Radon-Nikodym derivatives.*

SHORT COURSES

Survival Analysis [two-hour course]—March 1998, July 1998, May 1999, October 1999, May 2000 (for Biomedical Researchers at OSU); June 1999 (for the Ohio Department of Health).

Basic Biostatistics for Biomedical Researchers [10-hour course, taught jointly with Dennis Pearl]—May 1998, May 1999, October 1999, May 2000 (for Biomedical Researchers at OSU); June 1999 (four times, for the Ohio Department of Health).

Ph.D. STUDENTS GRADUATED

Steven Freitag, “Estimating jointly system and component reliabilities using a mutual censorship approach,” 1986 (joint direction with F. Proschan).

Yuang-Chin Chiang, “Choosing the resampling scheme when bootstrapping: A case study in reliability,” 1988. Chiang is currently on the faculty at the Institute of Statistics, National Tsing-Hua University, Taiwan.

Ji-Hyun Kim, “Conditional bootstrap methods for censored data,” 1990. Kim is currently on the faculty in the Department of Statistics, Soongsil University, Korea.

Robin Antoine, “On identifiability in the autopsy model of reliability theory,” 1991 (joint direction with M. Hollander). Antoine is currently on the faculty in the Department of Mathematics, University of West Indies, Trinidad.

Gang Li, “Generalized Pearson-Fisher chi-square goodness-of-fit tests, with applications to models with life history data,” 1992. Li is Professor, Department of Biostatistics, UCLA.

Kevin Lawson, “Bayesian nonparametric estimation via Gibbs sampling for coherent systems with redundancy,” (joint direction with F. Huffer); completed, 1994. Lawson is Director of Department of Biostatistics, Pharmaceutical Product Development, Inc., Austin, Texas.

Eugenia Buta, “Computational Methods in Bayesian Sensitivity Analysis” (ongoing).

GRANTS

Co-PI, Air Force Office of Scientific Research grant “Statistical Aspects of Reliability, Maintainability, and Availability”; October 1984 to September 1987 (PI’s Myles Hollander and Frank Proschan).

Co-PI, Air Force Office of Scientific Research grant “Statistical Aspects of Reliability, Maintainability, and Availability”; October 1987 to September 1990 (PI’s Myles Hollander and Frank Proschan).

PI, Air Force Office of Scientific Research grant “Statistical Inference for Coherent Systems from Partial Information, and in Resampling Techniques in Survival Analysis”; \$188,000 for three-year period September 1990 to September 1993.

PI, Air Force Office of Scientific Research grant “Statistical Inference for Coherent Systems from Partial Information and Markov Chain Monte Carlo Methods”; \$100,000 for two-year period November 1993 to December 1995 (first year at Florida State and second at Ohio State).

PI, Air Force Office of Scientific Research grant “Studies in Reliability Theory and Survival Analysis and in Markov Chain Monte Carlo Methods”; \$83,500 for two-year period May 1995 to April 1997.

PI, National Security Agency grant “Dynamic Visualization of Varying Prior and Posterior in Bayesian Analysis”; \$48,000 for period January 2003 to July 2005.

Co-PI, National Institutes of Health grant “Allergic Condition Biomarkers and Glioma Risk” (PI Judith Schwartzbaum); September 2003 to August 2005 (11% academic year support).

PI, National Science Foundation, “Bayesian Model Selection and Objective Methods” (workshop, 2008).

Co-PI, National Science Foundation grant “Development and Analysis of MCMC Algorithms and Computational Methods in Bayesian Sensitivity Analysis”; \$180,000 for three-year period July 2008 to June 2011 (PI James Hobert).