

Jason A. Osborne
Associate Professor
Department of Statistics
North Carolina State University
osborne@stat.ncsu.edu
www4.stat.ncsu.edu/~osborne/

EDUCATION

- Ph.D. Statistics, 1997, Northwestern University, Evanston, IL.
- M.S. Statistics, 1994, Northwestern University, Evanston, IL.
- B.S. Mathematics (Honors), 1991, University of California at Santa Barbara, CA.

PROFESSIONAL AND RESEARCH EXPERIENCE

2006-: Associate Professor, Dept. of Statistics, North Carolina State University.
2001-2006: Assistant Professor, Dept. of Statistics, North Carolina State University.
2003-: Science Team Member, ArrayXpress, Raleigh, NC.
1997-2001: Assistant Professor, Dept. of Discrete & Statistical Science, Auburn University.

TEACHING

- Undergraduate:
 - Introductory statistics for social sciences
 - Mathematical statistics I, II
 - Nonparametrics
- Graduate:
 - Experimental statistics for biological sciences I, II
 - Applied stochastic processes
 - Multivariate analysis
 - Survival analysis
 - Design and Analysis of Microarray Experiments
- Other
 - Summer Institute in Statistical Genetics, NCSU:
Regression and ANOVA Module: 2003,2004,2005.

REFEREED JOURNAL PUBLICATIONS

1. Lasordo, T., Guerdat, T.C., and Osborne, J.A., "An evaluation of commercially available biological filters for recirculating aquaculture systems," accepted, *Aquacultural Engineering*.
2. McNett, J., Hunt, W.F., and Osborne, J.A., "Establishing Stormwater BMP Evaluation Metrics Based upon Ambient Water Quality Associated with Benthic Macro-Invertebrate Populations," accepted, *Journal of Environmental Engineering*, 2009.
3. Marcellin-Little, D.J., Chanoit, G., Singha, N., and Osborne, J.A., "Radiographic Assessment of the Medial Aspect of the Humeral Condyle in Dogs with Osteochondritis Dissecans," accepted *American Journal of Veterinary Research*, 2009.
4. Marcellin-Little, D.J., Liska, W., Doyle, N. and Osborne, J.A., "Total Hip Replacement in three cats: surgical technique, short term outcome and comparison to femoral head osteotomy," accepted, *Veterinary and Comparative Orthopaedics and Traumatology*, 2009.
5. Kathariou, S. Azizoglu, R. and Osborne, J.A., "Role of Growth Temperature on Freeze-Thaw Tolerance of *Listeria*" (accepted, *Applied and Environmental Microbiology*).
6. Osborne, J.A. and Grift, T.E. (2009) "M-estimation of Boolean models for particle flow experiments," *Journal of the Royal Statistical Society Series C-Applied Statistics*, (to appear).
7. Purser, M.F, Buckner, G. and Osborne, J.A., "Evaluation of a shape memory alloy reinforced annuloplasty band for minimally invasive mitral valve repair," accepted, *The Annals of Thoracic Surgery*, 2009.
8. Cerda-Gonzalez, S., Olby, N.J., Broadstone, R., McCullough, S. and Osborne, J.A., "Characteristics of cerebrospinal fluid flow in Cavalier King Charles spaniels analyzed using phase velocity contrast CMRI," accepted, *Veterinary Radiology & Ultrasound*, 2009.
9. Torbati, D., Totapally, B.R., Raszynski, A., Osborne, J., van Zyl, L., Kalomiris, S. and Wolfsdorf, J. "Age and Sex Differences in Brain Gene Expression in Neonatal Rats," *Neuropediatrics*, 39:219-225 (2008).
10. Youngsteadt, E., Baca, J.A., Osborne, J. and Schal, C. "Species-specific seed dispersals in an obligate ant-plant mutualism," *PLoS ONE* 4(2):e4335, 2009.
11. Bean, E., Chanoit, G., Jernigan, S., Bolotin, G., Osborne, J. and Buckner, G., "Evaluation of a New Atrial Retractor for Minimally Invasive Mitral Valve Repair in a Porcine Model," accepted *The Journal of Thoracic and Cardiovascular Surgery*, 2008.
12. Cerda-Gonzalez, S., Olby, N.J., McCullough, S., Pease, A.P., Broadstone, R., Osborne, J.A., "Morphology of the Caudal Fossa in Cavalier King Charles Spaniels," accepted, *Veterinary Radiology & Ultrasound*, 2008.
13. Adomas, A., Heller, G., Olson, A., Osborne, J., Karlsson, M., Nahalkova, J., van Zyl, L., Sederoff, R., Stenlid, J., Finlay, R. and Asiegbu, F.O. (2008), "Comparative analysis of transcript abundance in *Pinus sylvestris* after challenge with a saprotrophic, pathogenic or mutualistic fungus," *Tree Physiology*, 28: 885-897.

14. Heller G., Adomas A., Li, G. Osborne, J. van Zyl, L., Sederoff, R. Finlay, R.D., Stenlid, J., Asiegbu, F.O. (2008), "Transcriptional analysis of *Pinus sylvestris* roots challenged with the ectomycorrhizal fungus *Laccaria bicolor*," *BMC Plant Biology*, 8:19.
15. Sumanasinghe, R.D., Osborne, J.A., and Lobo, E.G. (2008), "Mesenchymal stem cell seeded collagen matrices for bone repair: Effects of uniaxial cyclic tensile strain, cell density and media conditions on matrix contraction *in vitro*," (accepted *Journal of Biomedical Materials Research: Part A*.)
16. Adomas, A., Heller, G., Li, G., Olson, A., Chu, T., Osborne, J., Craig, D., Van Zyl, L., Wolfinger, R., Sederoff, R., Dean, R., Stenlid, J., Finlay, R. and Asiegbu, F. (2007), "Transcript profiling of conifer pathosystem: response of *Pinus sylvestris* root tissues to pathogen (*Heterobasidion annosum*) invasion", *Tree Physiology* 27, 1441-1458.
17. Parker, J., Oviedo, E., Clack, B.A., Clemente-Hernandez, S., Osborne, J., Remus, J.C., Kettunen, H., Makivuokko, J. and Pierson, E.M. (2007), "Enzymes as Feed Additive to Aid in Responses Against *Eimeria* spp in *Coccidia* Vaccinated Broilers Fed Corn-Soybean Meal Diets with Different Protein Levels" , *Poultry Science*, 86(4):643-653.
18. Fain, G.B., Grey, T.L., Gilliam, C.H., Tilt, K.M., Wehtje, G.R. and J.A. Osborne (2007) "Polymeric resins adsorb and release oryzalin in response to pH and irrigation," *Weed Science*, 55(2):157-163.
19. Silverstein, R.A., Chen, Y., Sharma-Shivappa, R.R., Boyette, M.D. and J. A. Osborne, (2007), "A Comparison of Chemical Pretreatment Methods for Converting Cotton Stalks to Ethanol" (2007), *Bioresource Technology*, 98:3000-3011.
20. Burchell, M.R., Skaggs, R.W., Lee, C.R., Broome, S., Chescheir, G.M. and Osborne, J.A. (2007), "The Role of Substrate Organic Matter in Improving Nitrate removal efficiency in Surface-Flow Constructed Wetlands," *Journal of Environmental Quality*, 36:194-207.
21. Payne, J.B., Osborne, J.A., Jenkins, P.K. and Sheldon, B.W. (2006), "Modeling the Growth and Death Kinetics of *Salmonella* in Poultry Litter as a Function of pH and Water Activity", *Poultry Science* 86(1): 191-201.
22. Myburg, H., Morse, A.M., Amerson, H.V., Kubisiak, T.L., Huber, D., Osborne, J.A., Garcia, S.A., Nelson, C.D., Davis, J.M., Covert, S.F., and L. van Zyl (2006), "Differential gene expression in loblolly pine (*Pinus taeda* L.) challenged with the fusiform rust fungus, *Cronartium quercuum* f.sp. *fusiforme*," *Physiological and Molecular Plant Pathology*, 68:79-91.
23. Cannon, J.L., Papafragkou, E., Park, G., Osborne, J., Jaykus, L. and J. Vinjè (2006) "Surrogates for the study of norovirus stability and inactivation in the environment: A comparison of murine norovirus and feline calicivirus," *Journal of Food Protection*, 69(11):2761-2765.
24. Li, G., Osborne, J. and F. Asiegbu (2006), "A microarray expression analysis of novel cDNAs vital for growth initiation and primary metabolism during development of *Heterobasidion parviporum* conidiospores. *Environmental Microbiology* 8:1340-1350.

25. Keener, K.M., McAvoy, K.C., Foegeding, J.B., Curtis, P.A., Anderson, K.E and J.A. Osborne (2006), "Effect of Testing Temperature on Internal Egg Quality Measurements," *Poultry Science*, 85:550-555.
26. Zakaria, A.H., Plumstead, P.W., Romero-Sanchez, H., Leksrisompong, N., Osborne, J.A. and J. Brake (2005) "Oviposition pattern, egg weight, fertility and hatchability of young and old broiler breeders," *Poultry Science*, 84(9):1505-9.
27. Shimps, E.L., Rice, J.A. and J.A. Osborne (2005) "Hypoxia tolerance in two juvenile estuary-dependent fisheries," *Journal of Experimental Marine Biology and Ecology*, 325:146-162.
28. Breidt, F., Hayes, J.S., Osborne, J.A., and R.F. McFeeters (2005) "Determination of 5-log pathogen reduction times for heat-processed, acidified vegetable brines," *Journal of Food Protection*, 68(2):305-310.
29. Young, N.D., Sanders, T.H., Drake, M.A., Osborne, J.A. and G.V. Civille (2005) "Descriptive analysis and US consumer acceptability of peanuts from different origins," *Food Quality and Preference*, 16(1):37-43
30. Bashor, M.P., Curtis, P.A., Keener, K.M., Sheldon, B.W., Kathariou, S. and J.A. Osborne (2004) "Effects of carcass washers on *Campylobacter* contamination in large broiler processing plants," *Poultry Science*, 83(7):1232-1239.
31. Henry, T.B., Grizzle, J.M. Johnston, C.E. and Osborne, J.A. (2004) "Susceptibility of ten fish species to electroshock-induced mortality," *Transactions of the American Fisheries Society*, 133(3):649-654.
32. Osborne, J. (2003) "Markov chains for the RISK board game revisited," *Mathematics Magazine*, 76(2):129-135.
33. Rohrbach, R.P., Mainland, C.M. and Osborne, J.A. (2003) "Effects of Sunlight or Shade on Maturity and Optical Density in Blueberries," *Small Fruits Review*, 3(1/2).
34. Feng, Y., Motta, A.C., Reeves, D.W., Burmester, C.H., van Santen, E., Osborne, J.A. (2003) "Soil microbial communities under conventional-till and no-till continuous cotton systems," *Soil Biology & Biochemistry*, 35(12):1693-1703.
35. Kellison, G.T., Eggleston, D.B., Taylor, J.C. Burke, J.S. and Osborne, J.A. (2003) "Pilot evaluation of summer flounder stock enhancement potential using experimental ecology," *Marine Ecology Progress Series*, 250: 263-278.
36. Fain G.B., Gilliam, C.H., Wehtje, G.R., Grey, T.L., Osborne, J.A. and K.M. Tilt. (2003). "Evaluation of experimental extended delivery granular pre-emergence herbicide formulations for direct application to nursery containers. *Journal of Environmental Horticulture* 21:1-5.
37. Osborne, J.A., and Severini, T.A. (2002), "The Lorenz curve for model assessment in exponential order statistic models," *Journal of Statistical Computation and Simulation*, 72(1):87-98.

38. Osborne, J. and Simonne, E. (2002) "Data collection and statistical topics for the preparation and review of manuscripts submitted to the 'Variety Testing and Evaluation' category of *HortTechnology*," *HortTechnology*, 12(4):567-583.
39. Sartin, J., Dyer, C., Matteri, R., Buxton, D., Buonomo, F., Shores, M., Osborne, J.A., Braden, T. and Steele, B. (2001), "Effect of intracerebroventricular orexin-B on food intake in sheep," *Journal of Animal Science*, 79:1573-1577.
40. Harris, C.E., Simonne, E.H., Merritt, L., Osborne, Eakes, D.J., Causey, M.K., Owen, J. and Osborne, J. (2001), "Reducing White-tailed deer damage to ornamental plants with organic and commercially-available products," *Journal of Environmental Horticulture*, 19(3):153-157.
41. Osborne, J.A., and Severini, T.A. (2000), "Inference for exponential order statistic models based on an integrated likelihood function," *Journal of the American Statistical Association*, 95(452):1220-1128.
42. Phillips, W. and Osborne, J.A. (2000), "Survey of alternative and nonprescription therapy use," *American Journal of Health-System Pharmacy*, 57(14):1361-1362.
43. Jungblut, P.R., Osborne, J.A., Quigg, R.J., McNeal, M.A., Clauser, J., Muster, A.J. and McPherson, D.D. (2000) "Echocardiographic Doppler evaluation of left ventricular diastolic filling in older, highly trained male endurance athletes," *Echocardiography*, 17(1):7-16.
44. Storey, B.G., Kirk, M.A., Osborne, J.A., Marks, L.D., Kostic, P., and Veal, B.W. (1996), "Structural features of defect cascades in YBa(2) Cu(3) O(x) as a function of oxygen stoichiometry," *Philosophical Magazine A*, 1996, 74(3):617-628.

CONFERENCE PUBLICATIONS - REFEREED

1. Brglez, F. and Osborne, J.A. "Performance Testing of Combinatorial Solvers with Isomorph Class Instances," *Workshop on Experimental Computer Science*, 2007.
2. Williams, L., Layman, L., Osborne, J. and Katira, N., (2006) "Examining the Compatibility of Student Pair Programmers," *Proceedings of IEEE Agile 2006 Conference, Educator's Symposium, to appear*.
3. Osborne, J.A. (2006), "Estimating the False Discovery Rate using SAS," *Proceedings of 31st Annual SAS Users Group International Conference*.
4. Srikanth, H., Williams, L. and Osborne, J. (2005) "System Test Case Prioritization of New and Regression Test Cases," *International Symposium on Empirical Software Engineering* (accepted).
5. Nagappan, N., Williams, L., Osborne, J., Vouk, M. and Abrahamsson, P., (2005) "Providing Test Quality Feedback Using Static Source Code and Automatic Test Suite Metrics," *Proceedings of the 16th IEEE International Symposium on Software Reliability Engineering*, pp. 85-94.
6. Layman, L., Williams, L., Osborne, J., L. Berenson, S. Slaten, K and Vouk, M. (2005), "How and Why Collaborative Software Development Impacts the Software Engineering Course," *Proceedings of Frontiers in Education*, pp. T4C-9 - T4C-14.
7. Katira, N. Williams, L. and Osborne, J.A. (2005), "Towards increasing the compatibility of student pair programmers," *27th International Conference on Software Engineering, Education and Training Tract*, St. Louis, Missouri, pp. 625-626.
8. Nagappan, N. Williams, L., Vouk, M. and Osborne, J.A. (2005), "Early estimation of software quality using in-process testing metrics: a case study" *27th International Conference on Software Engineering, St. Louis, Missouri*, 30(4):1-7.
9. Nagappan, N., William, L, Vouk, M. and Osborne, J. (2004), "Using In-Process Testing Metrics to Estimate Software Reliability: A Feasibility Study," *FastAbstract in supplementary proceedings, International Symposium on Software Reliability Engineering (ISSRE 2004)*, pp. 21-22.

OTHER - UNREFEREED PUBLICATIONS

1. Osborne, J.A. and Barker, C.A., (2007) "Estimating the False Discovery Rate using SAS and JMP," *Annual Conference Proceedings of the Southeast SAS User's Group*, Paper SA09.
2. Sumanasinghe, R.D., Osborne, J.A. and Lobo, E.G., (2006) "Collagen Matrix Contraction by Mesenchymal Stem Cells under Chemical and Mechanical Stimulation," (Abstract submitted to BMES Annual Fall Meeting).
3. Solomon, L., Fekybelu, S., Smith, C., Osborne, J.A. and Myburg, A.A. (2005), "Microarray Analysis of Within and Between-Tree Variation in Wood-forming Tissues of *Eucalyptus*," *International Union of Forest Research Organizations Tree Biotechnology Meeting* (Abstract).

4. Torbati, D., Totapally, B.R., Raszynski, A., Gil, S. Bertrand, S, Osborne, J.A., Kalomiris, S. and Wolfsdorf, J. (2005), "Brain gene expression following prenatal global hypoxia-ischemia in neonatal rats," *European Society of Pediatric Research* (Abstract).
5. Osborne, J.A., and Grift, T.E. (2003), "A simple linear Boolean model for mass flow," *Proceedings of the Joint Statistical Meetings of the ASA*.
6. Feng, Y. Motta, A.C., Burmester, C.H. Reeves, D.W., van Santen, E. and Osborne, J.A. (2002) "Effects of tillage systems on soil microbial community structure under a continuous cotton cropping system," *Proceedings of the 25th Annual Southern Conservation Tillage conference for Sustainable Agriculture*, pp. 222-226.
7. Harris, C.E., Simonne, E., Meritt, L., Codreanu, P. and Osborne, J. (2000), "Current products provide inadequate protection from White-tailed deer feeding damage to 'Beauregard' sweetpotato," *Proceedings of the Florida State Horticultural Society* 113:216-218.
8. Jungblut, P.R., Osborne, J.A., MacNeil, M.A., Clausen, J.W., McPherson, D.D., Quigg, R.J., and Muster, A.J., (1996) "Does exercise improve left ventricular diastolic filling in elite older male endurance athletes?" *Circulation* 94:I-681.

MANUSCRIPTS IN PREPARATION OR UNDER REVIEW

1. Chanoit, G., Singhani, N.N., Marcellin-Little, D.J., and Osborne, J.A., "Radiographic Assessment of the Medial Aspect of the Humeral Condyle in Dogs with Osteochondritis," (submitted to American Journal of Veterinary Research, 2009.)
2. Barker, C. Stefanski, L. A. and Osborne, J.A., "The Orthogonal Interactions Model for Unreplicated Factorial Experiments," submitted to *Biometrika*, 2009.
3. Torbati, D., Balagangadhar, R., Raszynski, A., van Zyl, L., Osborne, J.A., and Wolfsdorf, J. "Brain Gene Expression During Short and Long-term Hyperoxia in Neonatal Rats," submitted to *Brain Research: Developmental Brain Research*.
4. Adomas, A., Heller, G., Li, G., Olson, A., Chu, T., Osborne, J., Craig, D., van Zyl, L., Wolfinger, R., Sederoff, R., Dean, R.A. Stenlid, J., Finlay, R., Asiegbu, F.O. "Transcript profiling of interaction events in *Pinus sylvestris* following infection with a conifer pathogen *Heterobasidion annosum*, (submitted to *New Phytologist*).
5. Torbati, D. Totapally, B.R., Raszynski, A., Osborne, J.A., van Zyl, L., Kalomiris, S. and Wolfsdorf, J., "Age and sex related differences in the brain differential gene expression in neonatal rats," (in preparation).
6. Sumanasinghe, R.D., Osborne, J.A., and Loba, E.G., "Mesenchymal stem cell seeded collagen matrices for bone repair: Effects of uniaxial cyclic tensile strain, cell density and media conditions on nuclear morphology and orientation *in vitro*," (in preparation).
7. Layman, L., Cornwell, T. Williams, L. and J. Osborne, "Personality Profiles and Learning Styles of Advanced Undergraduate Computer Science Students," NCSU CSC Technical Report, TR-2005-40, (2005).

8. Nagappan, N., Williams, L., Vouk, M. and Osborne, J. (2004), "Initial Results of Using In-Process Testing Metrics to Estimate Software Reliability," *Technical Report TR-2004-5, Department of Computer Science, NCSU*.
9. Torbati, D. Balagangadhar, R.T., Osborne, J.A., van Zyl, L., Kalomiris, S. and A. Raszynski "Brain differential gene expression following 72 hours of graded hyperoxia in neonatal rats," (in preparation).
10. Westerman, P.W., Ogejo, J.A. and Osborne, J.A. "Centrifuge Solids/Liquid Separation of Swine Flushed Manure and Lagoon Sludge," (submitted).
11. Layman, L., Williams, L. Cornwell, T., and J. Osborne "Personality Profiles and Learning Styles of Advanced Undergraduate Computer Science Students," (submitted to *IEEE Transactions on Education*).
12. Srikanth, H., Williams, L. and J. Osborne "Towards the Prioritization of System Test Cases," (submitted to *Journal of Software Testing, Verification and Reliability*).
13. Nagappan, N., Williams, L., Vouk, M. and J.A. Osborne "Using In-Process Testing Metrics to Estimate Post-Release Field Quality" submitted to *IEEE Transactions on Dependable and Secure Computing*.

PRESENTATIONS

1. "Estimation of the False Discovery Rate using SAS and JMP," Southeastern SAS User's Group, Hilton Head, SC, November, 2007.
2. "Conjugate Hierarchical Modeling of the Error Variance in Tests for Differential Gene Expression"
 - Joint Statistical Meetings, Salt Lake City, UT, August, 2007,
 - NCSU, Dept. of Statistics Seminar, September, 2006.
3. "Estimation of the False Discovery Rate"
 - USSES Conference, Lexington, KY, June, 2006.
 - Coffee Talk, Bioinformatics Research Center, September, 2005
4. "Tools and Topics for Analysis of Microarray Data"
 - USSES Conference, Blowing Rock, NC, June, 2005.
 - U.S. Census Bureau, July, 2005.
5. "A simple linear boolean model for assessing mass flow,"
 - Joint Statistical Meetings of the American Statistical Association, New York, NY.
 - U.S. Army Conference on Applied Statistics, Raleigh, NC.
6. "Statistical issues in variety trials," Invited, Annual Intl. Conference of the American Society for Horticultural Science, Sacramento, CA.
7. "Exponential Order Statistic Models," Invited Talk,
 - Department of Statistics, University of Georgia, Athens, GA.
 - Department of Mathematical and Computer Science, Loyola University Chicago, IL.

8. “The Sample Lorenz Curve for Goodness-of-fit in the Exponential Order Statistic Model,”
Invited Talk,
 - Department of Biostatistics, University of Minnesota, Summer, 1998.
 - Spring Meeting of the Alabama Chapter of the ASA, 1999.
9. “Survival Analysis with SAS”, Seminar, Auburn University, Auburn, AL.
10. “Nonparametrics with SAS”, Seminars, Auburn University, Auburn, AL.

FUNDING

- “Collaboration through Agile Software Development Practices: Improving the Preparation for and Success of Minorities, the Disabled and Woman in IT Careers” awarded by NSF, 2003, total amount is \$680,000, over two years, serving as senior personnel.
 - Additional support (\$4800) for summer research experience for undergraduate in statistics, summer, 2005.
 - Supplement support in the amount of \$118,728 extending the grant until June 30, 2008.
- “A hypothesis for the chemical basis for sourness perception in acid solution and foods,” awarded by NRI, May, 2003, serving as paid statistical consultant, PIs are R. McFeeters, M. Drake, Dept. of Food Science, NCSU, total amount is \$104,000. Some research support for graduate student in statistics, summer, 2004.
- “*In-Vitro* Model for Injury Induced Cartilage Degeneration,” awarded 2002, by Whitaker Foundation for Biomedical Engineering Grant Program; serving as statistical consultant, Principal Investigator is P. Mente, Dept. of Bio. and Ag. Engineering, NCSU, total amount is \$201,561 over three years.
- “Reliable Evaluation and Design of Combinatorial Algorithms,” submitted in February, 2004, to NSF, Information Technology Research solicitation, co-PI with F. Brglez, M. Stallman, Dept. of Computer Science, NCSU, total amount is \$2,062,000.
- “Micro and Macrofluidics for Differentiating hMSCs,” a bioengineering research grant proposal submitted to NIH with E. Loba, total amount is \$1,773,654.

STATISTICAL CONSULTING

- Internal consulting within NCSU (more than 100 appointments every year):
 - Statistical Liason for departments within the NCSU College of Agriculture and Life Sciences:
 - * Poultry Science, Biological and Agricultural Engineering, Food Science
- Funded internal statistical consulting within the university:
 - Forest Biotechnology, Computer Science, Food Science, Horticulture
- Unfunded consulting within the University
 - Biomedical Engineering, Forestry, Toxicology, Genetics, Veterinary Medicine, Computer Engineering
- Serving as science team member for ArrayXpress, a microarray service company. Duties include designing and analyzing gene expression experiments.

EDITORIAL ACTIVITIES

- Referee:
 - *Bioinformatics*
 - *Biometrics*
 - *Genome Biology*
 - *IEEE Transactions on Reliability*
 - *Journal of Economic Inequality*
 - *Journal of Sequential Analysis*
 - *Journal of the American Statistical Association*
 - *Pharmacogenomics*
- Book reviewer:
 - Duxbury
 - SAS Institute

MEMBERSHIP OF PROFESSIONAL SOCIETIES

- American Statistical Association, Institute of Mathematical Statistics.

ACTUARIAL EXAMS PASSED

- Society of Actuaries Exams 100,110,120

OTHER ACTIVITIES

- Squash
 - Competed in national tournament, 1998 (Champion), 2002 (Semifinalist), 2003
 - Helped organize squash community at NCSU; salvaged two wide (20') courts in old Carmichael Gym from being retooled as storage closets.
- Running (Chicago Marathon, 1993.)
- Badminton (Advisor, team member, NCSU club team.)
- Juggling (can juggle six balls!)