

Michael Proschan
Biostatistics Research Branch
National Institute of Allergy and Infectious Diseases
6700A Rockledge Drive, Room 5140
Bethesda, Maryland 20817

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EDUCATION

- Aug., 1989 Ph.D. in Statistics, Florida State University,
Tallahassee, Florida.
- March, 1982 Master Science in Statistics, Stanford
University, Stanford, California.
- June, 1980 Bachelor Science in Statistics/Mathematics
(double major), Florida State University.

HONORS

- 2005 Fellow of the American Statistical Association.
- 1998 NIH Merit Award for excellent teamwork of the
Project Office for the Dietary Approaches to Stop
Hypertension (DASH) trial.
- 1993 NIH Merit Award for exceptional performance of
statistical collaborations in clinical research
programs at NHLBI.
- 1984 Voted top first year theoretical statistics
graduate student at Florida State University.
- 1980 Graduated Summa Cum Laude from Florida State
University.
- 1978 Invited to join Phi-Beta-Kappa Honor Society as an
undergraduate at Florida State University.
- 1977-1980 Made the Dean's List every quarter as an
undergraduate at Florida State University.

PROFESSIONAL EXPERIENCE

Oct., 1989 *Mathematical Statistician*
-Present Office of Biostatistics Research
National Heart, Lung, and Blood Institute.

Fall, 1997, 1999,
2001, 2003, 2005 *Instructor*
Methodology in Clinical Trials
Foundation for the Advancement of Education in
the Sciences, a graduate school at the National
Institutes of Health. The course focuses on
statistical aspects of clinical trials, but covers
non-statistical issues as well.

July, 1983 *Statistics Teaching Assistant*
-Aug., 1989 Florida State University.

Sep., 1985 *Statistics Consultant*
-Dec., 1985 Florida State University Statistical Consulting
Center.

Dec., 1984 *Expert Witness in Statistics for the Defense*
The Florida State University vs. Sylvia Huegli.

Sep., 1982 *Instructor*
-Apr., 1983 Palm Beach Junior College, Palm Beach Gardens,
Florida.

May, 1982 *Engineering Statistician*
-May, 1983 Pratt/Whitney Aircraft, West Palm Beach, Florida.

Sep., 1980 *Statistics Teaching and Research Assistant*
-Apr., 1982 Stanford University.

June, 1980 *Mathematics Laboratory Assistant*
-Aug., 1980 Tallahassee Community College, Tallahassee,
Florida.

PUBLICATIONS (STATISTICAL)

1. Follmann, D. and **Proschan, M.** (2006). Cluster without fluster: The effect of correlated outcomes on inference in randomized clinical trials. Submitted.
2. **Proschan, M.** and Leifer, E. (2006). Comparison of two or more measurement techniques to a standard. Submitted.
3. **Proschan, M.** (2005). Encyclopedia of Biostatistics, 2nd edition, (P. Armitage and T. Colton, editors), Expectation, 1826-1830. Wiley, New York.
4. **Proschan, M.** (2005). Two-stage sample size re-estimation based on a nuisance parameter. *Journal of Biopharmaceutical Statistics* **15**, 559-574.
5. **Proschan, M.**, Leifer, E., and Liu, Q (2005). Adaptive Regression. *Journal of Biopharmaceutical statistics* **15**, 593-603.
6. **Proschan, M.** and Follmann, D. (2004). A permutation approach to the Behrens-Fisher problem. *Journal of the Korean Statistical Society* **33**, 79-97.
7. **Proschan, M.** Advances in Clinical Trial Biostatistics (N. Geller, editor) (2004), Chapter 4: Adaptive Two Stage Designs. Marcel Dekker, Inc., New York.
8. Stylianou, M., **Proschan, M.**, and Flournoy, N. (2003). Estimating the probability of toxicity at the target dose following an up-and-down design. *Statistics in Medicine* **22**, 535-543.
9. Follmann, D., **Proschan, M.**, and Leifer, E. (2003). Multiple outputation: Inference for complex clustered data by averaging analyses from independent data. *Biometrics* **59**, 420-429.
10. **Proschan, M.** (2002). The geometry of two-stage tests. *Statistica Sinica* **13**, 163-177.
11. **Proschan, M.**, Liu, Q., and Hunsberger, S. (2002). Practical mid-course sample size modification in clinical trials. *Controlled Clinical Trials* **24**, 4-15.
12. Liu, Q., **Proschan, M.**, and Pledger, G. (2002). The theory of adaptation. *Journal of the American Statistical Association* **97**, 1034-1041.
13. **Proschan, M.** and Waclawiw, M. (2001). Author's reply. *Controlled Clinical Trials* **22**, 550-552.

- Proschan, M.**, McMahon, R., Shih, J., Hunsberger, S., Geller, N., Knatterud, G., and Wittes, J. (2001). Sensitivity analysis using an imputation method for missing binary data in clinical trials. *Journal of Statistical Planning and Inference* **96**, 155-165.
15. **Proschan, M.** and Waclawiw, M. (2000). Practical guidelines for multiplicity adjustment in clinical trials. *Controlled Clinical Trials* **21**, 527-539.
 16. **Proschan, M.** and Wittes, J. (2000). An improved double sampling method based on the variance. *Biometrics* **56**, 1183-1187.
 17. **Proschan, M.** (2001). Author's reply. *Statistics in Medicine* **20**, 320-321.
 18. Wittes, J., Schabenberger, O., Zucker, D., Brittain, E., and **Proschan, M.** (1999). Internal pilot studies I: Type I error rate of the naive t-test. *Statistics in Medicine* **18**, 3481-3491.
 19. Follmann, D. and **Proschan, M.** (1999). A multivariate test for interaction for use in clinical trials. *Biometrics* **55**, 1151-1155.
 20. **Proschan, M.** (1999). Statistical methods for monitoring clinical trials. *Journal of Biopharmaceutical Statistics* **9**, 599-615.
 21. Follmann, D. and **Proschan, M.** (1999). A simple permutation-type method for testing circular uniformity with correlated angular measurements. *Biometrics* **55**, 782-791.
 22. **Proschan, M.** (1999). Properties of spending function boundaries. *Biometrika* **86**, 466-473.
 23. Follmann, D. and **Proschan, M.** (1999). Valid inference in random effects meta-analysis. *Biometrics* **55**, 732-737.
 24. **Proschan, M.** (1999). A multiple comparison procedure for three- and four-armed controlled clinical trials. *Statistics in Medicine* **18**, 787-798.
 25. Feldman, H., **Proschan, M.**, Murray, D., Goff, D., Stylianou, M., Dulberg, E., McGovern, P., Chan, W., Mann, N., Bittner, V. for the REACT study group (1998). Statistical design of REACT (Rapid Early Action for Coronary Treatment), a multi-site community trial with continual data collection. *Controlled Clinical Trials* **19**, 391-403.
 26. **Proschan, M.** and Presnell, B. (1998). Expect the unexpected from conditional expectation. *The American Statistician* **52**, 248-252.
 27. **Proschan, M.** and Follmann, D. (1997). A restricted test of circadian rhythm. *Journal of the American Statistical Association*, **92**, 717-724.

28. **Proschan, M.** (1997). Conditional power with Fisher's least significant difference procedure. *Biometrika*, **84**, 197-208.
29. Geller, N. and **Proschan M.** (1996). Meta-analysis of clinical trials: a consumer's guide. *Journal of Biopharmaceutical Statistics* **6**, 377-394.
30. **Proschan, M.** (1996). On the distribution of the unpaired t-statistic with paired data. *Statistics in Medicine* **15**, 1059-1063.
31. **Proschan, M.** and Hunsberger, S. (1995). Designed extension of studies based on conditional power. *Biometrics* **51**, 1315-1324.
32. **Proschan, M.** and Follmann, D. (1995). Multiple comparisons with control in a single experiment versus separate experiments; Why do we feel differently? *The American Statistician* **49**, 144-149.
33. Geller, N., **Proschan, M.**, and Follmann, D. (1995). Group sequential monitoring of multi-armed clinical trials. *Drug Information Journal* **29**, 705-713.
34. **Proschan, M.**, Follmann, D., and Geller, N. (1994). Monitoring multi-armed trials. *Statistics in Medicine* **13**, 1441-1452.
35. **Proschan, M.** (1994). Influence of selection bias on type 1 error rate under random permuted block designs. *Statistica Sinica* **4**, 219-231.
36. McMahon, R., **Proschan, M.**, Geller, N., Stone, P. and Sopko, G. (1994). Sample size calculation for clinical trials in which entry criteria and outcomes are counts of events. *Statistics in Medicine* **13**, 859-870.
37. Follmann, D. and **Proschan, M.** (1994). The effect of estimation and biasing strategies on selection bias in clinical trials with permuted blocks. *Journal of Statistical Planning and Inference* **39**, 1-17.
38. Follmann, D., **Proschan, M.**, and Geller, N. (1994). Monitoring pairwise comparisons in multi-armed clinical trials. *Biometrics* **50**, 325-336.
39. **Proschan, M.**, Follmann, D., and Waclawiw, M. (1992). Effects of assumption violations on type 1 error rate in group sequential monitoring. *Biometrics* **48**, 1131-1143.
40. **Proschan, M.** and Leysieffer, F. (1992). A partial ordering of rank densities. *Journal of Multivariate Analysis* **40**, 84-93.

41. **Proschan, M.** (1991). A note on Blackwell and Hodges (1957) and Diaconis and Graham (1981). *Annals of Statistics* **19**, 1106-1108.
42. Boland, P. and **Proschan, M.** (1990). The use of statistical evidence in allegations of exam cheating. *Chance* **3**, 10-14.
43. **Proschan, M.** (1989). Contributions to the theory of arrangement increasing functions. Ph.D. dissertation.

OTHERS

44. Davis, B.R., Piller, L.B., Cutler, J.A., Furberg, C., Dunn, K., Franklin, S., Goff, D., Leenen, F., Mohiuddin, S., Papademetriou, V., **Proschan, M.**, Ellsworth, A., Golden, J., Colon, P., Crow, R. for the ALLHAT Collaborative Research Group. The role of diuretics in the prevention of heart failure: The Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). Submitted.
45. Jatoi, I. and **Proschan, M.** (2005). Randomized trials of breast conserving therapy versus mastectomy for primary breast cancer: A pooled analysis of updated results. *The American Journal of Clinical Oncology* **28**, 289-294.
46. Hallstrom, A., Ornato, J., Weisfeldt, M., Travers, A., Christenson, J., McBurnie, M., Zalenski, R., Becker, L., Schron, E., and **Proschan, M.** (2004). Public-access defibrillation and survival after out-of-hospital cardiac arrest. *The New England Journal of Medicine* **351**, 637-646.
47. Svetkey, L., Simons-Morton, D., **Proschan, M.**, Sacks, F., Conlin, P., Harsha, D., Moore, T. (2004). Effect of the Dietary Approaches to Stop Hypertension diet and reduced sodium intake on bp control. *Journal of Clinical Hypertension* **6**, 373-381.
48. Domanski, M. and **Proschan, M.** (2004). The metabolic syndrome. *Journal of the American College of Cardiology* **43**, 1396-1398.
49. Obarzanek, E., **Proschan, M.**, Vollmer, W., Moore, T., Sacks, F., Appel, L., Svetkey, L., Most-Windhauser, M., Cutler, J. (2003). Individual blood pressure responses to changes in salt intake: Results from the DASH-Sodium trial. *Hypertension* **42**, 459-467.
50. Svetkey, L., Harsha, D., Vollmer, W., Stevens, V., Obarzanek, E., Elmer, P., Lin, P., Champagne, C., Simons-Morton, D., Aickin, M., **Proschan, M.**, and Appel, L. (2003). Premier: A clinical trial of comprehensive lifestyle modification for blood pressure control: Rationale, design, and baseline characteristics. *Annals of Epidemiology* **13**, 462-471.
51. Lin, P., **Proschan, M.**, Bray, G., Fernandez, C., Hoben, K., Windhauser, M., Karanja, N., Obarzanek, E. (2003). Estimation of energy requirements in a controlled feeding trial. *American Journal of Clinical Nutrition* **77**, 639-645.
52. Vollmer, W., Appel, L., Svetkey, L., Moore, T., Vogt, T., Conlin, P., **Proschan, M.**, and Harsha, D. (2002). Comparing random zero and ambulatory blood pressure monitoring in clinical trials. *Journal of Human Hypertension* (in press).
53. The ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group (2002). Major outcomes in high-risk hypertensive patients randomized to angiotensin-

converting enzyme inhibitor or calcium channel blocker vs diuretic: The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *JAMA* **288**, 2981-2997.

54. The ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group (2002). Major Outcomes in moderately hypercholesterolemic, hypertensive patients randomized to pravastatin vs usual care: The Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT-LLT). *JAMA* **288**, 2998-3007.

Waters, D., Alderman, E., Hsia, J., Howard, B., Cobb, F., Rogers, W., Ouyang, P., Thompson, P., Tardif, J., Higginson, L., Bittner, V., Steffes, M., Gordon, D., **Proschan, M.**, Younes, N., Verter, J. Effects of hormone replacement therapy and antioxidant vitamin supplements on coronary atherosclerosis in postmenopausal women: A randomized controlled trial. *JAMA* **288**, 2432-2440.

56. Hsia, J., Alderman, E., Verter, J., Rogers, W., Thompson, P., Howard, B., Cobb, F., Ouyang, P., Tardif, J., Higginson, L., Bittner, V., Barofsky, I., Steffes, M., Gordon, D., **Proschan, M.**, Younes, N., Waters, D. (2002). Women's Angiographic Vitamin and Estrogen Trial: Design and Methods. *Controlled Clinical Trials* **23**, 708-727.

57. Sacks, F., Svetkey, L., Vollmer, W., Appel, L., Bray, G., Harsha, D., Obarzanek, E., Conlin, P., Miller, E., Simons-Morton, D., Karanja, N., Lin, P., Other authors: Aickin, M., Most-Windhauser, M., Moore, T., **Proschan, M.**, Cutler, J., Windhauser, M., Moore, T., and Cutler, J. (2001). Effects on blood pressure of reduced dietary sodium and the Dietary Approaches to Stop Hypertension (DASH) diet. DASH-Sodium Collaborative Research Group. *The New England Journal of Medicine* **344**, 3-10.

58. Grimm, R., Margolis, K., Papademetriou, V., Cushman, W., Ford, C., Bettencourt, J., Alderman, M., Basile, J., Black, H., DeQuattro, V., Eckfeldt, J., Hawkins, C., Perry, H., **Proschan, M.** (2000). Baseline characteristics of the 42,448 high risk hypertensive patients enrolled in the Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *Hypertension* **37**, 19-27.
59. Obarzanek, E., Sacks, F., Vollmer, W., Bray, G., Miller, E., Lin, P., Karanja, N., Windhauser, M., Moore, T., Swain, J., Bales, C., and **Proschan, M.** on behalf of the DASH Research Group (2000). Effects on blood lipids of a blood pressure-lowering diet: the Dietary Approaches to Stop Hypertension (DASH) trial. *The American Journal of Clinical Nutrition* **74**, 80-89.
60. Luepker, R., Raczynski, J., Osganian, S., Goldberg, R., Finnegan, J., Hedges, J., Goff, D., Eisenberg, M., Zapka, J., Feldman, H., Labarthe, D., McGovern, P., Cornell, C., **Proschan, M.**, Simons-Morton, D., (2000). Effect of a community intervention on patient delay and emergency medical service use in acute coronary heart disease: The Rapid Early Action for Coronary Treatment (REACT) Trial. *Journal of the American Medical Association* **284**, 60-67.
61. Svetkey, L., Sacks, F., Obarzanek, E., Vollmer, W., Appel, L., Lin, P., Karanja, N., Harsha, D., Bray, G., Aickin, M., **Proschan, M.**, Windhauser, M., Swain, J., McCarron, P., Rhodes, D., Laws, R. (1999). The DASH diet, sodium intake and blood pressure trial(DASH-sodium): Rationale and design. *Journal of the American Dietetic Association* (Supplement) **99**, s96-s104.
62. Friedman, L. and **Proschan, M.** (1998). P-value interpretation and alpha allocation in clinical trials (Editorial). *Annals of Epidemiology* **8**, 349-350.
63. Simons-Morton, D., Goff, D., Osganian, S., Goldberg, R., Raczynski, J., Finnegan, J., Zapka, J., Eisenberg, M., **Proschan, M.**, Feldman, H., Hedges, J., and Luepker, R.(1998). Rapid Early Action for Coronary Treatment (REACT): Rationale, design, and baseline characteristics. *Academic Emergency Medicine* **5**, 726-738.
64. Sharaf, B., Bourassa, M., McMahan, R., Pepine, C., Chaitman, B., Williams, D., Miele, N., Davies, R., **Proschan, M.**, Conti, C. for the ACIP investigators (1998). Clinical and detailed angiographic findings in patients with ambulatory electrocardiographic ischemia without critical coronary narrowing: Results from the Asymptomatic Cardiac Ischemia Pilot (ACIP) study. *Clinical Cardiology* **21**, 86-92.
65. Carney, R., Becker, L., Ketterer, M., Knatterud, G., Krantz, D., Freedland, K., Lindholm, L., McMahan, R., **Proschan, M.**, Raczynski, J., Sheps, D. (1998). Reproducibility of mental stress-induced myocardial ischemia in the Psychophysiological Investigations of Myocardial Ischemia (PIMI). *Psychosomatic Medicine* **60**, 64-70.

66. **Proschan, M.**, Davis, B., Cutler, J., Ford, C., Furberg, C., Grimm, R., Oparil, S. (1997). ALLHAT and calcium channel blockers. *American Journal of Hypertension* **10**, 142-143.
67. Stone, P., Chaitman, B., McMahon, R., Andrews, T., MacCallum, G., Sharaf, B., Frishman, W., Deanfield, J., Sopko, G., Pratt, C., Goldberg, A., Rogers, W., Hill, J., **Proschan, M.**, Pepine, C., Bourassa, M., Conti, C. (1996). Asymptomatic Cardiac Ischemia Pilot (ACIP) Study: Relationship between exercise-induced and ambulatory ischemia in patients with stable coronary disease. *Circulation*, **94**, 1537-1544.
68. Mulcahy, D., Dakak, N., Zalos, G., Andrews, N., **Proschan, M.**, Waclawiw, M., Schenke, B., and Quyyumi, A. (1996). Patterns and behavior of transient myocardial ischemia in stable coronary disease are the same in both sexes: a comparative study. *Journal of the American College of Cardiology* **27**(7), 1629-1636.
69. Davis, B., Cutler, J., Gordon, D., Furberg, C., Wright, J., Cushman, W., Grimm, R., LaRosa, J., Whelton, P., Perry, H., Alderman, M., Ford, C., Oparil, S., Francis, C., **Proschan, M.**, Pressel, S., Black, H., Hawkins, C. (1996). Rationale and design for the Antihypertensive and Lipid Lowering treatment to prevent Heart Attack Trial (ALLHAT). *American Journal of Hypertension* **9**, 342-360.
- Sacks, F., Obarzanek, E., Windhauser, M., Svetkey, L., Vollmer, W., McCullough, M., Karanja, N., Lin, P., Steele, P., **Proschan, M.**, Evans, M., Appel, L., Bray, G., Vogt, T., Moore, T. (1995). Rationale and design of the Dietary Approaches to Stop Hypertension Trial (DASH): A multicenter controlled feeding study of dietary patterns to lower blood pressure. *Annals of Epidemiology* **5**, 108-118.
71. Spirito, P., Pelliccia, A., **Proschan, M.**, Granata, M., Spataro, A., Bellone, P., Caselli, G., Biffi, A., Vecchio, C., Maron, B. (1994). Morphology of the athlete's heart assessed by echocardiography in 947 elite athletes representing 27 sports. *The American Journal of Cardiology* **74**, 802-806.
- Pepine, C., Geller, N., Knatterud, G., Bourassa, M., Chaitman, B., Davies, R., Day, P., Deanfield, J., Goldberg, A., McMahon, R., Miller, H., Ouyang, P., Pratt, C., **Proschan, M.**, Rogers, W., Selwyn, A., Sharaf, B., Sopko, G., Stone, P., Conti, R (1994). The Asymptomatic Cardiac Ischemia Pilot (ACIP) study: Design of a randomized clinical trial, baseline data and implications for a long term outcome trial. *Journal of the American College of Cardiology* **24**, 1-10.
- Mautner, S., Mautner, G., Froehlich, J., Feuerstein, I., **Proschan, M.**, Roberts, W., Doppman, J. (1994). Coronary artery disease: Prediction with in vitro electron beam CT. *Radiology* **192**, 625-630.

74. Mautner, G., Mautner, S., Froehlich, J., Feuerstein, I., **Proschan, M.**, Roberts, W., Doppman, J. (1994). Coronary artery calcification: Assessment with electron beam CT and histomorphometric correlation. *Radiology* **192**, 619-623.
75. Maron, B., Kogan, J., **Proschan, M.**, Hecht, G., and Roberts, W. (1994). Circadian variability in the occurrence of sudden cardiac death in patients with hypertrophic cardiomyopathy. *Journal of the American College of Cardiology* **23**, 1405-1409.
76. Arabia, F., Stewart, S., Nast, E., Talbot, T., **Proschan, M.**, Clark, R. (1994). Errors in pressure-gradient measurement in prosthetic aortic valves due to pressure recovery-type, size, and flow rate effects in vitro. *Echocardiography* **11**, 425-436.
77. Peters, R., Zoble, R., Liebson, P., Pawitan, Y., Brooks, M., and **Proschan, M.** (1993). Identification of a secondary peak in myocardial infarction onset 11-12 hours after awakening: The Cardiac Arrhythmia Suppression Trial (CAST) experience. *Journal of the American College of Cardiology* **22**, 998-1003.
78. Mautner, S., Klues, H., Mautner, G., **Proschan, M.**, Roberts, W., and Maron, B. (1993). Comparison of mitral valve dimensions in adults with valvular aortic stenosis, pure aortic regurgitation, and hypertrophic cardiomyopathy. *The American Journal of Cardiology* **71**, 949-953.
79. Klues, H., Dollar, A., **Proschan, M.**, Spirito, P., Roberts, W., and Maron, B. (1993). Echocardiographic assessment of mitral valve size in obstructive hypertrophic cardiomyopathy: Anatomic validation from valve specimen. *Circulation* **88**, 548-555.
80. Friedman, L., Bristow, J., Hallstrom, A., Schron, E., **Proschan, M.**, Verter, J., DeMets, D., Fisch, C., Nies, A., Ruskin, J., Strauss, H., Walters, L. (1993). Data monitoring in the Cardiac Arrhythmia Suppression Trial. *The Online Journal of Current Clinical Trials*, **1993**.
81. Stewart, S., Nast, E., Arabia, F., Talbot, T. **Proschan, M.**, Clark, R. (1991). Errors in pressure gradient measurement by continuous wave Doppler: type, size, and age effects in bioprosthetic aortic valves. *Journal of the American College of Cardiology* **18**, 769-779.
82. Pelliccia, A., Maron, B., Spataro, A., **Proschan, M.**, Spirito, P. (1991). The upper limit of physiologic cardiac hypertrophy in highly trained elite athletes. *New England Journal of Medicine* **5**, 295-301.

RECENT INVITED PRESENTATIONS

March 2005. 9-hour short course: Monitoring Clinical Trials, Meeting of the Eastern North American Region of the Biometric Society, Austin, Texas.

July/August 2001-2005. Summer Training Institute on Randomized Clinical Trials for Behavioral Interventions, Warrenton, Virginia.

November 2004. Brown vs. The Board of Data Monitoring. FDA, Gaithersburg, Maryland.

March 2004. Adaptive Regression. Workshop on the Design and Analysis of Clinical Trials Incorporating Treatment Selection, Reading, England.

December 2003. 12 hour short course: Monitoring Clinical Trials. Biopharmaceutical Applied Statistics Symposium, Savannah, Georgia.

September 2002. A Conservative, Adaptive Sample Size Method for Clinical Trials. International Society for Clinical Biostatistics, Dijon, France.

October 2002. Clinical Trials: An Introduction for Investigators in Child Neurology: Basic Study Design. 31st Annual Meeting of the Child Neurology Society, Washington, D.C.

August 2002. Practical Mid-Course Sample Size Modification in Clinical Trials. American Statistical Association Meeting, New York.

April 2001. Mid-Course Sample Size Modification Based on Treatment Effect in Clinical Trials. Harvard University, Boston, Massachusetts.

September 2000. Statistical Methods for Monitoring Clinical Trials. FDA Workshop on Current Advances In Interim Analysis And Design Modifications, Rockville, Maryland.

February 2000. Two-Stage Procedures To Adaptively Modify Sample Size in Clinical Trials. Conference On Medical Statistics, Oberwolfach Institute, Oberwolfach, Germany.

January 2000. Adaptive Designs In Clinical Trials, The University of Florida, Gainesville, Florida.

COMMITTEES

November 16, 2005. Consultant for the FDA's Cardiovascular and Renal Drugs Advisory Committee considering a new drug application (NDA).

June 15, 2005. Consultant for the FDA's Cardiovascular and Renal Drugs Advisory Committee concerning class labeling of antihypertensive drugs.

June 6, 2005. Consultant for the FDA's Pulmonary and Allergy Drugs Advisory Committee considering a new drug application (NDA).

March 4, 2005. Consultant for the FDA's Oncologic Drugs Advisory Committee Meeting.

March 6, 2003, Consultant for the FDA's Gastrointestinal Drugs Advisory Committee considering a new drug application (NDA).

March 4, 2003, Consultant for the FDA's Anti-infective Drugs Advisory Committee considering a new drug application (NDA).

2002 Scientific Committee for the 2002 International Society for Clinical Biostatistics Conference in Dijon, France.

2000-2006, Consultant for the Association for the Advancement of Medical Instrumentation. My role is to help develop criteria for determining the accuracy of automatic blood pressure machines in measuring systolic blood pressure.

1999-2001, Consultant for the Adult Treatment Panel III of the National Cholesterol Education Program. My role is to conduct meta-analyses of the effects of cholesterol lowering on overall and specific types of mortality and other endpoints in clinical trials.

1997-2000 Member, Dissertation Committee for Mario Stylianou in pursuit of his Ph.D. in Statistics, American University.

2003-2004 Member, Dissertation Committee for Chuke Nwachuku in pursuit of his Doctor of Public Health, George Washington University.

CLINICAL TRIAL EXPERIENCE AT NHLBI

Action to Control Cardiovascular Risk in Diabetes (ACCORD).

Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT).

Asymptomatic Cardiac Ischemia Pilot study (ACIP).

Cardiac Arrhythmia Suppression Trial II (CAST II).

Dietary Approaches to Stop Hypertension (DASH).

Dietary Approaches to Stop Hypertension-Sodium (DASH-Sodium)

Dietary Effects of Lipoproteins and Thrombogenic Activity (DELTA)

Estrogen and Graft Atherosclerosis Research Trial (EAGAR).

Evaluation Study of Congestive Heart Failure and Pulmonary Artery Catheterization Effectiveness (ESCAPE)

Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT).

Home AED Trial (HAT)

Multicenter Unsustained Tachycardia Trial (MUSTT).

Open Artery Trial (OAT).

Premier: A trial comparing the blood pressure lowering effects of two multi-component lifestyle intervention arms, one of which includes the DASH diet, to an advice only arm.

Psychophysiological Investigation of Myocardial Ischemia (PIMI).

Public Access Defibrillation (PAD) Trial.

Rapid Early Action for Coronary Treatment (REACT).

Weight Loss Maintenance Trial

Women's Angiographic Vitamin and Estrogen (WAVE) Trial.

ACTIVITIES IN STATISTICAL SOCIETIES

Former member of the Biometric Society's Regional Advisory Board for the Eastern North American Region.

Member of the American Statistical Association.

Member of the International Society for Clinical Biostatistics.

OTHER

National Master, United States Chess Federation.

Cub Scout Den Leader, Pack 468, Webelos.