09/2009

BRUCE W. TURNBULL

BIOGRAPHICAL

Office Address: Department of Statistical Science, and
School of Operations Research & Industrial Engineering
227 Rhodes Hall
Cornell University
Ithaca, NY 14853-3801
(607) 255-9131, FAX (607) 255-9129
e-mail: bwt2@cornell.edu

EDUCATION

Degrees

1967	B.A. Cambridge University (Trinity College - Mathematics)
1970	M.S. Cornell University (Operations Research)
1971	Ph.D. Cornell University (Statistics and Applied Probability)
1973	M.A. Oxford University

EMPLOYMENT

Current Position:

7/84 - present	Professor, Department of Statistical Science, and Professor, School of Operations Research and Industrial Engineering, Cornell University.

Previous Employment:

3/00 -1/02	Chair, Department of Statistical Science, Cornell University.
7/95 - 8/97	Director of Statistics Center, Cornell University
7/87 - 8/88	Acting Director, School of Operations Research and Industrial Engineering, Cornell University
7/83 - 6/86	Associate Director, School of OR&IE, Cornell University
1/76 - 7/84	Assistant then (from 7/78) Associate Professor, School of OR&IE, Cornell University
9/72 - 12/75	Lecturer in Statistics, Mathematical Institute, Oxford. Fellow and Tutor in Mathematics, Jesus College, Oxford
9/71 - 9/72	Assistant Professor, Stanford University. Joint appointment in Department of Statistics and Department of Community and Preventive Medicine (Biostatistics)

TEMPORARY POSITIONS

1/81-2/81 Statistical Laboratory, Macquarie University, Sydney, Australia. and CSIRO, Division of Mathematics and Statistics, Canberra, Sydney and Melbourne, Australia

6/77-8/77, 7/78, 8/80 Mathematics and Statistics Research Department and Biology Division, Oak Ridge National Laboratory.

9/85 China National Center for Preventive Medicine, Beijing, PRC

CLINICAL TRIALS — government and academic

1984-2000 Member, Executive Committee: Randomized Phase III Trial for Nutritional Prevention of Cancer (NPC) with Selenium. Arizona Cancer Center, Tucson AZ.

1993-2003 Member: External Advisory Committee: Women's Intervention Nutrition Study (WINS), American Health Foundation, New York.

1994-2000 Member: Data and Safety Monitoring Committee, Vaccine and Prevention Research Trials, Division of AIDS, NIAID, NIH.

2001-2006 Member: Data and Safety Monitoring Committee, 'Clinical Outcomes using Revascularization and Aggressive Drug Evaluation" (COURAGE), Cooperative Studies Program, Dept of Veterans Affairs.

2003-2006 Member: Data and Safety Monitoring Committee, ARDSnet, NHLBI, NIH.

Currently Member: External Data Monitoring Committee for

"Robotic Assisted Upper-Limb Neurorehabilitation in Stroke Patients", Cooperative Studies Program, Dept of Veterans Affairs;

National Lung Screening Trial NCI, NIH;

"Asthma Patient Education in the Emergency Room", Hospital for Special Surgery, New York.

CLINICAL TRIALS — industry

Various pharma industry trials.

SHORT COURSES

1. Group Sequential Methods for Clinical Trials Given at

   Spring Meeting, ENAR Chicago (3/00)
   Society for Clinical Trials, Montreal (4/00)
   International Biometric Society, Berkeley (7/00)
   Genentech, Inc., S. San Francisco, (7/00)
   Takeda Pharmaceuticals, Lincolnshire, IL (11/04)

2. Interim Analyses and Other Multiplicity Problems in Pharmaceutical Trials (with A. Tamhane). Given at various locations (1988-1990)

3. Statistical Analysis of Reliability and Failure Data. Given at various locations (1989-1990) for U.S. Army Research Office.

WORKSHOP CONSULTANT

(i) Institute for Energy Analysis. "Workshop on Evaluation of Environmental Biological Hazards and Competing Risks." Oak Ridge, Tennessee, September 1977

(ii) Society of Toxicology and National Center for Toxicological Research. "Biological and Statistical Implications of the ED_{01} Study and Related Data Bases." Mount Sterling, Ohio, September 1981

(iii) National Institute of Statistical Sciences. "Statistical Issues in Environmental Modeling and Monitoring." Research Triangle Park, NC, December 1991

(iv) National Science Foundation. "Quality Engineering Workshop", Tucson, AZ, January 1993.

(v) American Association of Neurological Surgeons and Congress of Neurological Surgeons. "Head Injury Clinical Trials Design Symposium." Washington, DC, April 1994.

(vi) Oberwolfach Conference on Medical Statistics. "Mathematical Models for Diagnosis and Prognosis", Mathematisches Forschungsinstitut Oberwolfach, Germany, February 1997.

(vii) Centre de Researches Mathematiques. "Workshop on Event History Analysis", Montreal, Canada, May 1998.

PROFESSIONAL ACTIVITIES

Honors: Fellow, American Statistical Association (elected 1985)
George W. Snedecor Memorial Award for the best publication in Biometry for 1978. Presented at Joint Statistical Meetings (American Statistical Association, Institute of Mathematical Statistics, Biometric Society), Washington, D.C., August 14, 1979

Associate Editor: *The American Statistician*, 1980-85
Technometrics, 1983-1987
Statistics in Medicine, 1994–2006.
Lifetime Data Analysis, 1999–2004.

Book series editor: Chapman & Hall/CRC Biostatistics series 2007–.

Chair: Biometrics Section, American Statistical Association, 1994.

Program Chairman: Biometric Society (ENAR). Annual National Joint Statistical Meetings, Las Vegas, Nevada, August 1985

American Statistical Association Representative to COPSS Snedecor Award Committee, 1995-1998.

Chairman: Advisory Board of the Biometric Society (ENAR), 1986-88 (Member 1980-82)

Member: Board of Directors, National Institute of Statistical Sciences 1991-3

Member:	Technical Reports Peer Review Subcommittee, Board of Scientific Counsellors, National Toxicology Program, 1984-86.
Speaker:	Visiting Lecturer Program, sponsored by Committee of Presidents of Statistical Societies, 1984-86.
Affiliations:	American Statistical Association The Biometric Society Institute of Mathematical Statistics Royal Statistical Society Institute for Operations Research and the Management Sciences

Reviewer for NIH, EPA, NSF, Research Council of Canada

Referee for *Annals of Statistics, Biometrics, Biometrika, Journal of the American Statistical Association, Journal of Applied Probability,* and other professional journals

RESEARCH GRANTS AND CONTRACTS

9/77-2/79	Co-Principal Investigator (with T.J. Santner), National Science Foundation (NSF) Grant No. ENG75-10487 A02. "Statistical Procedures for Analyzing Data from Reliability and Life Testing of Engineering Systems" ($29,400)
12/77	National Research Council Travel Grant to attend 4lst Session of International Statistical Institute, New Delhi, India ($1,400)
2/78-1/81	Principal Investigator, HEW Public Health Service Grant No. R23 E01714. "Statistical Methods for Environmental Health Studies" ($150,000)–"Young Environmental Health Scientist Award"
8/78-1/80	Co-Principal Investigator (with L.W. Schruben) NSF Equipment Grant No. ENG78-10437. "Equipment for Remote Computer Access" ($17,325)
2/81-1/95	Principal Investigator, DHSS Public Health Service Grant No. R01 GM28364 "Statistical Methods for Health Studies"
8/88-6/97	Co-Investigator, DHSS Public Health Service Grant No. R01 CA49764 "Clinical Trial for Prevention of Non-Melanoma Skin Cancer" (Principal Investigators Dr. Larry Clark, Dr. James Marshall)
9/93-2/97	Principal Investigator, DHHS Public Health Service Grant No. R01 CA61120 "Longitudinal Statistics for Biomarkers of Cancer"
2/95-12/09	Principal Investigator, DHSS Public Health Service Grant No. R01 CA66218 "Statistical Methods for Cancer Research"

UNIVERSITY COURSES TAUGHT

Applied Statistical Methods; Basic Engineering Probability and Statistics; Statistical Principles; Mathematical Statistics; Multiple Regression and Analysis of Variance; Analysis of Reliability and Life Data; Survival Analysis; Experimental Design; Sequential Analysis; Decision Theory; Statistical Quality Control; Analysis of Longitudinal Data.

PUBLICATIONS

Book

Jennison, C. and Turnbull, B.W. (2000). *Group Sequential Methods with Applications to Clinical Trials*. Chapman and Hall/CRC, Boca Raton and London, pp.390. ISBN 0-8493-0316-8. (http://www.crcpress.com/catalog/C0316.htm)

Articles

1. Bechhofer, R.E. and Turnbull, B.W. (1971). "Optimal allocation of observations when comparing several treatments with a control, III: Globally best one-sided intervals for unequal variances," p. 41-78, *Statistical Decision Theory and Related Topics*, Eds: S.S. Gupta and J. Yackel, Academic Press, New York.

2. Turnbull, B.W. (1972). "Chebyshev-like inequalities for dam models" *Journal of Applied Probability*, Vol. 9, p. 617-629.

3. Turnbull, B.W. (1973). "Inequalities for branching processes," *Annals of Probability*, Vol. 1, p. 457-474.

4. Turnbull, B.W. (1973). "Inequalities for multitype branching processes," *Annals of Probability*, Vol. 1, p. 475-479.

5. Turnbull, B.W. (1974). "Nonparametric estimation of a survivorship function with doubly censored data," *Journal of the American Statistical Association*, Vol. 69, p. 169-173.

6. Turnbull, B.W., Brown, B.W., and Hu, M. (1974). "Survivorship analysis of heart transplant data," *Journal of the American Statistical Association*, Vol. 69, p. 74-80.

7. Turnbull, B.W. (1974). "An inequality for the total flow in a dam with non-Markovian inputs," *Advances in Applied Probability*, Vol. 6, p. 218-219.

8. Turnbull, B.W. (1976). "Multiple decision rules for comparing several populations with a fixed known standard," *Communications in Statistics*, Vol. A5, No. 13, p. 1225-1244. Amendment, Vol. A9 (1980) No. 6, p. 673.

9. Turnbull, B.W. (1976). "The empirical distribution function with arbitrarily grouped, censored and truncated data," *Journal of the Royal Statistical Society*, Series B, Vol. 38, No. 3, p. 290-295.

10. Bechhofer, R.E., Santner, T.J. and Turnbull, B.W. (1977). "Selecting the largest interaction in a two factor experiment," p. 1-18, *Statistical Decision Theory and Related Topics II,* Eds.: S.S. Gupta and D.S. Moore, Academic Press, New York.

11. Turnbull, B.W. (1977). "A note on the nonparametric analysis of the Stollmack-Harris recidivism data." *Operations Research*, Vol. 25, No. 4, p. 706-708.

12. Turnbull, B.W. (1977). Contribution to discussion of the paper "Maximum likelihood from incomplete data via the EM algorithm," by Dempster, A.P., Laird, N.M. and Rubin, D.B., *Journal of the Royal Statistical Society*, Series B, Vol. 39, p. 34.

13. Bechhofer, R.E. and Turnbull, B.W. (1977). "On selecting the process with the largest fraction of conforming product," p. 568-573, *Proceedings of the 3lst Technical Conference of the American Society for Quality Control*, Philadelphia, May 1977.

14. Turnbull, B.W. and Weiss, L.I. (1978). "A likelihood rato statistic for testing goodness of fit with randomly censored data," *Biometrics*, Vol. 34, p. 367-375.

15. Bechhofer, R.E. and Turnbull, B.W. (1978). "Two (k+l)-decision selection procedures for comparing k normal means with a fixed known standard," *Journal of the American Statistical Association*, Vol. 73, No. 362, p. 385-392.

16. Turnbull, B.W. and Mitchell, T.J. (1978). "Exploratory analysis of disease prevalence data from survival/sacrifice experiments," *Biometrics*, Vol. 34, p. 555-570. (Received 1978 George W. Snedecor Memorial Award.)

17. Turnbull, B.W., Kaspi, H. and Smith R.L. (1978). "Sequential adaptive sampling rules for selecting the best of several normal populations." *Journal of Statistical Computation and Simulation*, Vol. 7, p. 133-150.

18. Mitchell, T.J. and Turnbull, B.W. (1979). "Log-linear models in the analysis of disease prevalence data from survival/sacrifice experiments," *Biometrics*, Vol. 35, p. 221-234.

19. Barton, R. and Turnbull, B.W. (1979). "A survey of covariance models for censored life data with application to recidivism analysis," *Communications in Statistics*, Special Issue on Covariance, Vol. A8, No. 8, p. 723-750.

20. Barton, R. and Turnbull, B.W. (1979). "Evaluation of recidivism data–use of failure rate regression models," *Evaluation Quarterly*, Vol. 3, No. 4, p. 629-641.

21. Turnbull, B.W. (1979). Contribution to the discussion of the paper "Bandit processes and dynamic allocation indices" by J.C. Gittins, *Journal of the Royal Statistical Society*, Series B, Vol. 41, p. 174.

22. Barton, R. and Turnbull, B.W. (1981). "A failure rate regression model for the study of recidivism," *Models in Quantitative Criminology*, Ed. J.A. Fox, Academic Press, New York, p. 81-101 .

23. Hayre, L.S. and Turnbull, B.W. (1981). "Sequential estimation in two-armed exponential clinical trials," *Biometrika*, Vol. 68, p. 411-416.

24. Hayre, L.S. and Turnbull, B.W. (1981). "Estimation of the odds ratio in the two-armed bandit problem," *Biometrika*, Vol. 68, p. 661-668.

25. Hayre, L.S. and Turnbull, B.W. (1981). "A class of simple approximate sequential tests for adaptive comparison of two treatments," *Communications in Statistics*, Vol. A10, No. 22, p. 2339-2360 .

26. Jennison, C., Johnstone, I.M. and Turnbull, B.W. (1982). "Asymptotically optimal procedures for sequential adaptive selection of the best of several normal means," p. 55-86. *Statistical Decision Theory and Related Topics, III*, Vol. 2, Ed. S.S. Gupta and J.O. Berger, Academic Press.

27. Jennison, C. and Turnbull, B.W. (1983). "Confidence intervals for a binomial parameter following a multi-stage test with application to MIL-STD 105D and medical trials," *Technometrics*, Vol. 25, p. 49-58.

28. Bergman, S.W. and Turnbull, B.W. (1983). "Efficient sequential designs for destructive life testing with application to animal serial sacrifice experiments," *Biometrika*, Vol. 70, p. 305-314.

29. Mitchell, T.J. and Turnbull, B.W. (1983). "A computer program package for analyzing disease prevalence data from survival/sacrifice experiments," *Computer Programs in Biomedicine*, Vol. 17, p. 45-64.

30. Cockerell, L., O'Donnell, R.W. Kriedemann, W.L., Amato, D. and Turnbull, B.W. (1984). "Effect of BCG immunotherapy on $\underline{\mathrm{N}}$ - methyl - $\underline{\mathrm{N}}$ - nitrosourea induced colon carcinogenesis in guinea pigs," *Journal of the National Cancer Institute*, Vol. 72, No. 3, p. 621-630.

31. Turnbull, B.W. and Mitchell, T.J. (1984). "Nonparametric estimation of the distribution of time to onset for specific diseases in survival/sacrifice experiments," *Biometrics*, Vol. 40, p. 41-50.

32. Jennison, C. and Turnbull, B.W. (1984). "Repeated confidence intervals for group sequential clinical trials," *Controlled Clinical Trials*, Vol. 5, p. 33-45.

33. Turnbull, B.W. and Weiss, L.I. (1984). "A class of sequential procedures for k-sample problems concerning normal means with unknown, unequal variances," in *Design of Experiments: Ranking and Selection*, Ed. T.J. Santner and A. Tamhane, Marcel Dekker (Chap. 16), p. 225-240.

34. Boudouris, J. and Turnbull, B.W. (1985). "Shock probation in Iowa," *Journal of Offender Counseling, Services and Rehabilitation*, Vol. 9, No. 4, p. 53-67.

35. Turnbull, B.W. (1985). A discussion of experimental design issues in long-term studies. *Proceedings of the Symposium on Long-Term Animal Carcinogenicity Studies.* American Statistical Association, Washington, D.C., p. 51-54.

36. Jennison, C. and Turnbull, B.W. (1985). "Repeated confidence intervals for median survival time," *Biometrika*, Vol. 72, p. 619-625.

37. Turnbull, B.W. and Hayter, A.J. (1985). "A forward stochastic approximation procedure for scheduling sacrifices in tumorigenicity studies," *Proceedings Biopharmaceutical Section, Annual Meeting of American Statistical Association*, Las Vegas, Nevada, August 1985, p. 131-136.

38. Clark, L.C., Graham, G.F., Bray, J., Turnbull, B.W., Hulka, B.S. and Shy, C.M. (1987). "Nonmelanoma skin cancer and plasma selenium: a prospective cohort study." *Selenium in Biology and Medicine*, Eds. G.F. Combs et al., AVI Publishing Co., (Van Nostrand Reinhold), New York, p. 1122-1134.

39. Jennison, C. and Turnbull, B.W. (1989). "Interim analyses: the repeated confidence interval approach." (with discussion) *Journal of Royal Statistical Society*, Ser. B. 51, 305-361.

40. Turnbull, B.W. (1989). "Discussion of 'Cancer near nuclear installations.' " *Journal of Royal Statistical Society*, Ser. A, 152 (3), 375-6.

41. Abu-Libdeh, H., Turnbull, Bruce W. and Clark, L.C. (1990). "Analysis of multi-type recurrent events in longitudinal studies: Application to a skin cancer prevention trial." *Biometrics*, 46 1017-1023.

42. Jennison, C. and Turnbull, B.W. (1990). Statistical approaches to interim monitoring of medical trials: A review and commentary. *Statistical Science* 5, 299-317.

43. Mitchell, T.J. and Turnbull, B.W. (1990). "Detection of associations between diseases in animal carcinogenicity experiments." *Biometrics* 46, 359-374.

44. Turnbull, B.W., Iwano, E.J., Burnett, W., Howe, H., and Clark, L.C. (1990). "Monitoring for clusters of disease: Application to leukemia incidence in upstate New York." *American Journal of Epidemiology* 132 (1) Supplement: S136-S143.

45. McShane, L.M. and Turnbull, B.W. (1991). "Probability limits on outgoing quality for continuous sampling plans." *Technometrics* 33, 393-404.

46. Jennison, C. and Turnbull, B.W. (1991). "Group sequential tests and repeated confidence intervals." *Handbook of Sequential Analysis*, Eds. B.K. Ghosh and P.K. Sen, Marcel Dekker, New York (Chap. 12, p. 283-311).

47. McShane, L.M., Clark, L.C., Combs, G.F. and Turnbull, B.W. (1991). "Reporting the accuracy of biochemical measurements for epidemiologic and nutrition studies." *American Journal of Clinical Nutrition* 53, 1354-1360.

48. Jennison, C. and Turnbull, B.W. (1991). "Exact calculations for sequential t, χ^2 and F tests." *Biometrika* 78, 133-141.

49. Turnbull, B.W. (1991). Contribution to the discussion of the paper "Some tools for functional data analysis," by Ramsey, J.O. and Dalzell, C.J., *Journal of the Royal Statistical Society*, Series B, Vol. 53, 563.

50. Jennison, C. and Turnbull, B.W. (1991). "A note on the asymptotic joint distribution of successive Mantel-Haenszel estimates of the odds ratio based on accumulating data." *Sequential Analysis* 10, 201-209.

51. Clark, L.C., Patterson, B.H., Weed, D.L. and Turnbull, B.W. (1991). "Design issues in cancer chemoprevention trials using micronutrients: application to skin cancer." *Cancer Bulletin* 43 (6), 519-524.

52. Waller, L. and Turnbull, B.W. (1992). "Probability plots with censored data." *American Statistician* 46 (1), 5-12.

53. McShane, L.M. and Turnbull, B.W. (1992). "Optimal checking procedures for monitoring laboratory analyses." *Statistics in Medicine* 11, 1343-1357.

54. Turnbull, B.W. (1992). "Multivariate failure time analysis." *Survival Analysis: State of the Art*, Eds. J.P. Klein and P.K. Goel, Kluwer Academic Publishers, Dordrecht/Boston/London, p. 407-414.

55. McShane, L.M. and Turnbull, B.W. (1992). "New performance measures for continuous sampling plans applied to finite production runs." *Journal of Quality Technology* 24, 153-161.

56. McShane, L.M., Clark, L.C., Combs,G.F. and Turnbull, B.W. (1992). Application of variance components methods to laboratory quality for biochemical measurements. *Proc. Biopharm. Sec.* Amer. Statist. Assoc., Washington, D.C. p.250-256.

57. Turnbull, B.W. and Waller, L.A. (1992). "Tests of disease clusters about putative sources of hazard, with applications." *Proceedings of XVIth International Biometric Conference*, Hamilton, New Zealand, 7-11, December 1992, pages 279-289.

58. Waller, L.A., Turnbull, B.W., Clark, L.C. and Nasca, P. (1992). "Chronic disease surveillance and testing of clustering of disease and exposure: Application to leukemia incidence and TCE-contaminated dumpsites in Upstate New York." *Environmetrics* 3, No. 3, 281-300.

59. Clark, L.C., Hixson, L.J., Combs, G.F., Petel, N., Reid, M.E., Turnbull, B.W. and Sampliner, R.E. (1993). "Plasma selenium concentration predicts the prevalence of colorectal neoplastic polyps." *Cancer Epidemiology Biomarkers and Prevention* 2, 41-46.

60. Jennison, C. and Turnbull, B.W. (1993). "One-sided sequential tests to establish equivalence between treatments with special reference to normal and binary responses. " *Multiple Comparisons, Selection, and Applications in Biometry*, Ed. Fred M. Hoppe. Marcel Dekker, New York (Chap. 18, p. 315-330).

61. Jennison, C. and Turnbull, B.W. (1993). "Sequential equivalence testing and repeated confidence intervals, with applications to normal and binary response. " *Biometrics* 49, 31-43.

62. Jennison, C. and Turnbull, B.W. (1993). "Group sequential tests for bivariate response: Interim analyses of clinical trials with both efficacy and safety endpoints." *Biometrics* 49, 741-752.

63. Waller, L.A. and Turnbull, B.W. (1993). "The effects of scale on tests for disease clustering." *Statistics in Medicine* (Special issue on "Statistics and Computing in Disease Clustering.") 12, 1869-1884.

64. Turnbull, B.W. (1993). Contribution to the discussion of the paper "From image deblurring to optimal investments: maximum likelihood solutions for positive linear inverse problems," by Vardi, Y. and Lee, D., *Journal of the Royal Statistical Society*, Series B, Vol. 55, No. 3, p.605.

65. Luo, X., Turnbull, B.W., Cai, H. and Clark, L.C. (1994). "Regression for censored survival data with lag effects." *Communications in Statistics Ser. A*. 23(12), 3417-3438.
(Presented at the Applied Change Point Conference, University of Maryland, March 17-18, 1993. Abstract *Journal of Applied Statistical Science* 1(4), 485.)

66. Waller, L.A., Turnbull, B.W., Clark, L.C. and Nasca, P. (1994). "Examining spatial patterns of disease incidence data to detect clusters in a rare disease: A case study." in *Case Studies in Biometry*, Eds. N. Lange, L.Ryan, L. Billard, D. Brillinger, L. Conquest and J. Greenhouse, Wiley, New York (Chap. 1), p. 3-23.

67. Natarajan, R., Turnbull, B.W., Slate, E.H., Wells, M.T., Clark, L.C. and Abu-Libdeh, H. (1994). "A computer program for the statistical analysis of repeated event data using a mixed effects regression model." *Computer Methods and Programs in Biomedicine* 42, 283-294.

68. Cronin, K., Slate, E.H., Turnbull, B.W. and Wells, M.T. (1994). Using the Gibbs sampler to detect changepoints: Application to PSA as a longitudinal marker of prostate cancer. *Computing Science and Statistics, Vol.26*, (Eds J. Sall and A. Lehman), Interface Foundation of North America, 314-318.

69. Turnbull, B.W. (1994). Contribution to the discussion of the paper "Bayesian approaches to randomized trials" by Spiegelhalter, D.J., Freedman, L.S. and Parmar, M.K.B. *Journal of the Royal Statistical Society*, Series A, Vol. 157, No. 3. p.397.

70. Clark L.C., Reid M.E., Combs G.F., Turnbull, B.W.et al. (1994) "Antioxidant status and the risk of mortality in the nutritional prevention of cancer trial cohort" FASEB J **8**(5) A810, March 18 1994.

71. Hsieh, F. and Turnbull, B.W. (1995). "A note on the local asymptotically minimax rate for estimating a crossing point in a diagnostic marker problem." *Statistics and Probability Letters* 24, 181-185.

72. Waller, L.A., Turnbull, B.W., Gustavsson, G., Hjalmars, U. and Andersson, B. (1995). "Detection and assessment of clusters of disease: An application to nuclear power plant facilities and childhood leukemia in Sweden." *Statistics in Medicine* 14(1), p.3-16.

73. Waller, L.A., Turnbull, B.W. and Hardin, J.M. (1995). On obtaining distribution functions by numerical inversion of characteristic functions with applications. *American Statistician*, 49(4), 346-356.

74. Turnbull, B.W. (1995). Contribution to the discussion of the paper "Sequential changepoint detection in quality control and dynamical systems" by Lai, T.L. *Journal of the Royal Statistical Society*, Series B, Vol. 57, 650.

75. Hsieh, F. and Turnbull, B.W. (1996). "Nonparametric methods for evaluating diagnostic tests." *Statistica Sinica*, 6, No.1, 47-62.

76. Natarajan, R., Turnbull, B.W., Slate, E.H., and Clark, L.C. (1996). "A computer program for sample size and power calculations in the design of multi-arm and factorial clinical trials with survival time endpoints." *Computer Methods and Programs in Biomedicine* 49, 137-147.

77. Slate, E.H., Natarajan, R., Turnbull, B.W., and Clark, L.C. (1996). "Design of factorial clinical trials." *Computing Science and Statistics, Vol.27*, (Eds. M.M. Meyer and J.L. Rosenberger), Interface Foundation of North America, p.400-404.

78. Hsieh, F. and Turnbull, B.W. (1996). "Nonparametric estimation of the receiver operating characteristic (ROC) curve." *Annals of Statistics.* 24 (1), 25-40.

79. Clark, L.C., Combs, G. F., Turnbull, B.W., Slate, E.H. . Chalker, D.K., Chow, J., Davis, L.S., Glover, R.A., Graham, G.F., Gross, E.G., Krongrad, A., Lesher, J.L., Park, H.K., Sanders, B.B., Smith, C.L., Taylor, J.R. and the Nutritional Prevention of Cancer Study Group. (1996). "Effects of selenium supplementation for cancer prevention in patients with carcinoma of the skin: A randomized clinical trial. " *Journal of the American Medical Association.* 276 (24), 1957-1963. (Editorial: p1984-5.)

80. Clark LC, Combs GF, Turnbull BW, et al. (1997) "Selenium supplementation and cancer rates - Reply." *Journal of the American Medical Association* 277: (11) 881.

81. Turnbull, B.W. (1997). "Group sequential tests". In *Encyclopedia of Statistical Sciences, Update Vol. 1*, (Ed. S. Kotz), Wiley, New York. p. 292-301.

82. Turnbull, B.W. (1997). "Stochastic curtailment". In *Encyclopedia of Statistical Sciences, Update Vol. 1*, (Ed. S. Kotz), Wiley, New York, p.521-3.

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85. Turnbull, B.W., Jiang, W. and Clark, L.C. (1997). "Regression models for recurrent event data: random effects models with measurement error." *Statistics in Medicine* 16, 853-864.

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87. Jennison, C. and Turnbull, B.W. (1997). "Group sequential analysis incorporating covariate information." *J. Am. Statist. Assoc.* **92**, 1330-1341.

88. Jennison, C. and Turnbull, B.W. (1997). "Distribution theory of group sequential t, χ^2 and F tests for general linear models." *Sequential Analysis,* **16**, 295-317.

89. Gulyas, S.W., Slate, E.H., and Turnbull, B.W. (1997). "Latent changepoint process models for longitudinal biomarkers of disease." *Proceedings of the Biuometrics Section,* pp. 249-252. American Statistical Association, Alexandria, VA.

90. Gulyas, S.W., Slate, E.H. and Turnbull, B.W. (1998). "Fitting latent changepoint models for serial biomarkers using the EM algorithm," *Computing Science and Statistics,* **29**(1), (Scott, D.W., ed.), Interface Foundation of North America, Inc.: Fairfax Station, VA 22039-7460, 253–258.

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