WILLIAM H. WOODALL

3400 Magazine Street, Unit #16
New Orleans, LA 70115
Mobile Phone: (540) 818-0399
bwoodall@vt.edu

Academic Background:

Ph.D. in Statistics, Virginia Polytechnic Institute and State University, December 1980.
Dissertation: "A Markov Chain Representation of Certain Sequential Tests."
Advisor: Marion R. Reynolds, Jr.

M.S. in Statistics, Virginia Polytechnic Institute and State University, 1974.

B.S. in Mathematics (Magna Cum Laude), Millsaps College, 1972.

Professional Experience:

Professor Emeritus of Statistics in the Department of Statistics, Virginia Tech (2019-present).

Professor of Statistics in the Department of Statistics, Virginia Tech (2000-2019).

Russell Professor of Statistics in the Department of Management Science and Statistics at the University of Alabama (1995-2000). C&BA Board of Visitors Research Professor of Statistics (1992-1994). Director of Applied Statistics Program (1993-1998). Associate Professor (1989-1992).

Adjunct Professor in the Department of Statistics at the University of Southwestern Louisiana. (1989-1990). (Associate Professor 1986-1989; Assistant Professor 1982-1986).

Visiting Professor in the Department of Statistics at Virginia Polytechnic Institute and State University. (Summer, 1988).

Assistant Professor in the Department of Business Statistics and Data Processing at Mississippi State University. (January 1981 - May 1982).

Statistical Consulting experience involving design of experiments, computing, and interpretation of data from many fields including business, biology, chemistry, agriculture, psychology and engineering. (1978-present).

Assistant Actuary with responsibility for product development for Southern Farm Bureau Life Insurance Company, Jackson, Mississippi. Passed seven of the ten exams of the Society of Actuaries. (1975-1978).

Awards and Honors:

Shewhart Medal, American Society for Quality, 2002

Box Medal, European Network of Business and Industrial Statistics, 2012

William G. Hunter Award, ASQ Statistics Division, 2019

Fellow of the American Statistical Association (1997)

Fellow of the American Society for Quality (2000)

Elected Member of the International Statistical Institute (2004)

Deming Lectureship Award, 2024 Joint Statistical Meetings

Listed as one of World's Top 2% Scientists, Stanford University

Honoree, Quality and Productivity Research Conference, Long Beach, CA, 2012

Jack Youden Prize for best expository papers in *Technometrics* (1995, 2003, 2025)

ASQ Brumbaugh Award (2000, 2006)

Søren Bisgaard Award from *Quality Engineering*, 2012

1997 Best Paper Award for *IIE Transactions on Quality and Reliability*

Ellis Ott Foundation Award for best paper in quality control, 1987

Lloyd S. Nelson Award, ASQ Statistics Division, 2014

1992 *Technometrics* paper selected as one of 35 "classic" papers for 60th Anniversary virtual issue

W. J. Youden Memorial Address, Fall Technical Conference of ASA and ASQ, 2004

Isobel Loutit Invited Address, Statistical Society of Canada, 2009

W. L. Gore Lecture, University of Delaware, 2014

David Sprott Distinguished Speaker, University of Waterloo, 2015

Selected by *Quality Progress* of ASQ as one of 21 "Voices of Quality" for 21st Century

Mishra Memorial Lecture, University of South Alabama, 2024

Pamplin MBA Faculty Award, Virginia Tech (2003-2004)

Thomas D. Moore Endowed Undergraduate Teaching Award, University of Alabama, 1998.

Statistics Club Professor of the Year, Virginia Tech 2001-2002, 2011-2012

Boyd Harshbarger Award for excellence in first year of graduate school, Virginia Tech

Certificate of Teaching Excellence, Virginia Tech, 1980

Courses Taught:

Undergraduate courses in applied statistics, mathematical statistics, time series analysis, and statistical quality control. Graduate courses in applied statistics, statistical quality control, advanced statistical quality control, stochastic processes, mathematical statistics, time series analysis, experimental design, nonparametric methods, and Six Sigma.

Publications:

(see Google Scholar page at http://scholar.google.com/citations?user=5y13-1EAAAAJ&hl=en)

Refereed Journal Articles:

1. Woodall, W. H., and Reynolds, M. R., Jr. (1983), "A Discrete Markov Chain Representation of SPRT's," *Communications in Statistics - Sequential Analysis*, 2(1), 27-44.

2. Woodall, W. H. (1983), "The Distribution of the Run Length of One-Sided CUSUM Procedures for Continuous Random Variables," *Technometrics*, 25(3), 295-301.

3. Woodall, W. H. (1984), "On the Markov Chain Approach to the Two-Sided CUSUM Procedure," *Technometrics*, 26(1), 41-46.

4. Ncube, M. M. and Woodall, W. H. (1984), "A Combined Shewhart-Cumulative Score Quality Control Procedure," *Applied Statistics*, 33(3), 259-265.

5. Woodall, W. H. (1985), "The Statistical Design of Quality Control Charts," *Journal of the Royal Statistical Society. Series D* (*The Statistician*), 34(2), 155-160. Reprinted in *Quest for Quality* (1987), edited by Mehram Sepehri, Industrial Engineering and Management Press, Atlanta, Georgia.

6. Woodall, W. H. and Ncube, M. M. (1985), "Multivariate CUSUM Quality Control Procedures," *Technometrics*, 27(3), 285-292.

7. Woodall, W. H. (1986), "The Design of CUSUM Quality Control Charts," *Journal of Quality Technology*, 18(2), 99-102.

8. Tuprah, K. and Woodall, W. H. (1986), "Bivariate Dispersion Quality Control Charts," *Communications in Statistics - Simulation and Computation*, 15(2), 505-522.

9. Champ, C. W. and Woodall, W. H. (1987), "Exact Results for Shewhart Control Charts with Supplementary Runs Rules," *Technometrics*, 29(4), 393-399. (Ellis Ott Foundation Award)

10. Davis, R. B. and Woodall, W. H. (1988), "Performance of the Control Chart Trend Rule Under Linear Shift," *Journal of Quality Technology*, 20(4), 260-262.

11. Adams, B. M. and Woodall, W. H. (1989), "An Analysis of Taguchi's On-Line Process Control Method Under a Random Walk Model," *Technometrics*, 31(4), 401-413.

12. Champ, C. W. and Woodall, W. H. (1990), "A Program to Evaluate the Run Length Distribution of Shewhart Control Charts with Supplementary Runs Rules," *Journal of Quality Technology*, 22(1), 68-73.

13. Davis, R. B., Homer, A., and Woodall, W. H. (1990), "Performance of the Zone Control Chart," *Communications in Statistics - Theory and Methods*, 19(5), 1581-1587.

14. Champ, C. W., Woodall, W. H., and Moshen, H. A. (1991), "A Generalized Quality Control Procedure," *Statistics and Probability Letters*, 11(3), 211-218.

15. Maragah, H. D. and Woodall, W. H. (1992), "The Effect of Autocorrelation on the Retrospective X-Chart," *Journal of Statistical Computation and Simulation*, 40, 29-42.

16. Lowry, C. A., Woodall, W. H., Champ, C. W., and Rigdon, S. E. (1992), "A Multivariate Exponentially Weighted Moving Average Control Chart," *Technometrics*, 34(1), 46-53. (Selected as one of 35 "Classic" Papers for 60th Anniversary of *Technometrics*.)

17. Woodall, W. H. (1992), "A Note on Maximum Z-Scores for Control Charts for Individuals," *Communications in Statistics - Theory and Methods*, 21(11), 3211-3217.

18. Woodall, W. H. and Adams, B. M. (1993), "The Statistical Design of CUSUM Charts," *Quality Engineering*, 5 (4), 559-570.

19. Nayebpour, M. R. and Woodall, W. H. (1993), "An Analysis of Taguchi's On-Line Quality Monitoring Procedures for Attributes," *Technometrics*, 35(1), 53-60.

20. Tsui, K.-L. and Woodall, W. H. (1993), "Multivariate Control Charts Based on Loss Functions," *Sequential Analysis*, 12 (1), 79-92.

21. Wade, M. R. and Woodall, W. H. (1993), "A Review and Analysis of Cause-Selecting Control Charts," *Journal of Quality Technology*, 25(3), 161-169.

22. Bullington, R. G., Lovin, S., Miller, D. M., and Woodall, W. H. (1993), "Improvement of an Industrial Thermostat Using Designed Experiments," *Journal of Quality Technology*, 25(4), 262-270.

23. Davis, R. E. and Woodall, W. H. (1994), "A Study of Parabolic Control Limits for the EWMA Control Chart," *Communications in Statistics - Simulation and Computation*, 23 (1), 17-26.

24. Gray, J. Brian and Woodall, W. H. (1994), "On the Maximum Size of Standardized and Internally Studentized Residuals in Regression Analysis," *American Statistician*, 48(2), 111 - 113.

25. Sullivan, J. H. and Woodall, W. H. (1994), "A Comparison of Fuzzy Forecasting and Markov Modeling," *Fuzzy Sets and Systems*, 64(3), 279-293.

26. Redden, D. T. and Woodall, W. H. (1994), "Properties of Certain Fuzzy Linear Regression Methods," *Fuzzy Sets and Systems*, 64(3), 361-375.

27. Laviolette, M., Seaman, J. W., Jr., Barrett, J. D., and Woodall, W. H. (1995), "A Probabilistic and Statistical View of Fuzzy Methods," (with discussion) *Technometrics*, 37(3), 249-292. (Presented in the *Technometrics* session of the 1994 Joint Statistical Meetings in Toronto, Canada.) (Youden Prize).

28. Woodall, W. H. and Thomas, E.V. (1995), "Statistical Process Control with Several Components of Common Cause Variability," *IIE Transactions*, 27(6), 757-764.

29. Margavio, T. M., Conerly, M. D., Woodall, W. H., and Drake, L. G. (1995), "Alarm Rates for Quality Control Charts," *Statistics and Probability Letters*, 24(3), 219-224.

30. Lowry, C. A., Champ, C. W., and Woodall, W. H. (1995), "Performance of Control Charts for Monitoring Process Variation," *Communications in Statistics - Simulation and Computation*, 24 (2), 409-437.

31. Sullivan, J. H., Barrett, J. D., and Woodall, W. H. (1995), "Interpreting the Retrospective T^2 Control Chart Based on Individual Observations," invited paper in the *Indian Association for Productivity, Quality, and Reliability Transactions*, special issue dedicated to the memory of Professor P. K. Bose, 20, 183-195.

32. Sullivan, J. H. and Woodall, W. H. (1996), "A Control Chart for Preliminary Analysis of Individual Observations," *Journal of Quality Technology*, 28(3), 265-278.

33. Redden, D. T. and Woodall, W. H. (1996), "Further Examination of Fuzzy Linear Regression," *Fuzzy Sets and Systems*, 79(2), 203-211.

34. Sullivan, J. H. and Woodall, W. H. (1996), "A Comparison of Multivariate Quality Control Charts for Individual Observations," *Journal of Quality Technology*, 28(4), 398-408.

35. Barrett, J. D. and Woodall, W. H. (1997), "A Probabilistic Alternative to Fuzzy Logic Controllers," *IIE Transactions - Quality and Reliability Engineering*, 29(6), 459-467. (Best Paper Award).

36. Woodall, W. H. (1997), "Control Charting Based on Attribute Data: Bibliography and Review," *Journal of Quality Technology*, 29(2), 172-183.

37. Champ, C. W. and Woodall, W. H. (1997), "Signal Probabilities of Runs Rules Supplementing a Shewhart Control Chart," *Communications in Statistics-Simulation and Computation*, 26(4), 1347-1360.

38. Jones, L. A. and Woodall, W. H. (1997), "A Runs Rule Alternative to Level Crossings in Statistical Process Control," *Journal of Statistical Computation and Simulation*, 59(4), 315-331.

39. Jones, L. A. and Woodall, W. H. (1998), "The Performance of Bootstrap Control Charts," *Journal of Quality Technology*, 30(4), 362-375.

40. Jones, L. A., Woodall, W. H., and Conerly, M. D. (1999), "Exact Properties of Demerit Control Charts," *Journal of Quality Technology*, 31(2), 207-216.

41. Sullivan, J. H. and Woodall, W. H. (1998), "Adapting Control Charts for the Preliminary Analysis of Multivariate Observations," *Communications in Statistics - Simulation and Computation*, 27 (4), 953-979.

42. Barrett, J. D. and Woodall, W. H. (1999), "A Simple Probabilistic Representation of the Product-Sum Fuzzy Logic Controller," *Communications in Statistics-Stochastic Models*, 15, 201-225.

43. Woodall, W. H. and Montgomery, D. C. (1999), "Research Issues and Ideas in Statistical Process Control," *Journal of Quality Technology*, 31(4), 376-386.

44. Sullivan, J. H. and Woodall, W. H. (1999), "Estimating Markov Transition Matrices Using Uncertain Observed States," *Stochastic Analysis and Applications*, 17(2), 253-274.

45. Sullivan, J. H. and Woodall, W. H. (2000), "Change-Point Detection of Mean Vector or Covariance Matrix Shifts Using Multivariate Individual Observations," *IIE Transactions - Quality and Reliability Engineering*, 32(6), 537-549.

46. Woodall, W. H. (2000), "Controversies and Contradictions in Statistical Process Control," (with discussion), *Journal of Quality Technology*, 32(4), 341-378. (Brumbaugh Award)

47. Jiang, W., Tsui, K.-L., and Woodall, W. H. (2000), "A New SPC Monitoring Method: The ARMA Chart," *Technometrics*, 42(4), 399-410.

48. Woodall, W. H. and Montgomery, D. C. (2000), "Using Ranges to Estimate Variability," *Quality Engineering*, 13(2), 211-217.

49. Cleveland, C. D., Jr., Sullivan, J. H., Batson, R. G., and Woodall, W. H. (2001), "A Program for Retrospective Change-Point Analysis of Individual Observations," *Journal of Quality Technology*, 33(2), 242-257.

50. Stoumbos, Z. G., Reynolds, M. R., Jr., Ryan, T. P., and Woodall, W. H. (2000), "The State of Statistical Process Control as We Proceed into the 21st Century," *Journal of the American Statistical Association*, 95(451), 992-998. (Reprinted in *Statistics for the 21st Century*, Chapman and Hall, 2001, edited by A.E. Raftery, M.A. Tanner, and M.T. Wells).

51. Linna, K. W. and Woodall, W. H. (2001), "The Effect of Measurement Error on the Performance of Shewhart Control Charts," *Journal of Quality Technology*, 33(2), 213-222.

52. Linna, K. W., Woodall, W. H., and Busby, K. L. (2001), "The Performance of Multivariate Control Charts in the Presence of Measurement Error," *Journal of Quality Technology*, 33(3), 349-355.

53. Davis, R. B. and Woodall, W.H. (2002), "Evaluating and Improving the Synthetic Control Chart," *Journal of Quality Technology*, 34(2), 200-208.

54. Woodall, W. H., Koudelik, R., Tsui, K.-L., Kim, S.B., Stoumbos, Z.G., and Carvounis, C.P. (2003), "A Review and Analysis of the Mahalanobis-Taguchi System," *Technometrics*, 45(1), 1-30. (With discussion by R. Jugulum, G. Taguchi, S. Taguchi, and J. O. Wilkins; D. M. Hawkins; and B. Abraham and A. M. Variyath.) (Youden Prize)

55. Noorossana, R., Woodall, W.H., and Amiriparian, S. (2002), "On the Economic Design of Multivariate Control Charts," *Communications in Statistics – Theory and Methods*, 31(9), 1665-1673.

56. Tucker, G. T., Woodall, W. H., and Tsui, K. –L. (2002), "A Control Chart Method for Ordinal Data," *American Journal of Mathematical and Management Sciences*, 22, 31-48.

57. Kim, K., Mahmoud, M. A., and Woodall, W. H. (2003), "On the Monitoring of Linear Profiles," *Journal of Quality Technology*, 35(3), 317-328.

58. Mahmoud, M. A. and Woodall, W. H. (2004), "Phase I Analysis of Linear Profiles with Calibration Applications", *Technometrics*, 46(4), 377-391.

59. Woodall, W. H., Spitzner, D. J., Montgomery, D. C., and Gupta, S. (2004), "Using Control Charts to Monitor Process and Product Quality Profiles", *Journal of Quality Technology* 36(3), 309-320. (Corrigendum, *JQT* 2006, 38(2), 197.)

60. Ryan, T. P. and Woodall, W. H. (2005), "The Most-Cited Statistical Papers," *Journal of Applied Statistics* 32(5), 461-474.

61. Woodall, W. H. and Mahmoud, M. A. (2005), "The Inertial Properties of Quality Control Charts", *Technometrics* 47(4), 425-436. (Presented at the *Technometrics* Session of the 49th Fall Technical Conference, St. Louis, MO)

62. Gupta, S., Montgomery, D. C., and Woodall, W. H. (2006), "Performance Evaluation of Two Methods for Online Monitoring of Linear Calibration Profiles", *International Journal of Production Research*, 44(10), 1927-1942.

63. Mahmoud, M. A., Parker, P. A., Woodall, W. H., and Hawkins, D. M. (2007), "A Change Point Method for Linear Profile Data", *Quality & Reliability Engineering International*, 23(2), 247-268.

64. Williams, J. D., Woodall, W. H., Birch. J. B., and Sullivan, J. H. (2006), "Distribution of Hotelling's T^2 Statistic Based on the Successive Differences Covariance Matrix Estimator", *Journal of Quality Technology*, 38(3), 217-229.

65. Jensen, W. A., Jones-Farmer, L. A., Champ, C. W., and Woodall, W. H. (2006), "Effects of Parameter Estimation on Control Chart Properties: A Literature Review", *Journal of Quality Technology* 38(4), 349-364.

66. Runger, G. C., Barton, R. R., Del Castillo, E., and Woodall, W. H. (2007), "Optimal Monitoring of Multivariate Data for Fault Detection", *Journal of Quality Technology*, 39(2), 159-172.

67. Woodall, W. H. (2006), "Use of Control Charts in Health-Care and Public-Health Surveillance" (with discussion), *Journal of Quality Technology*, 38(2), 89-104. (Brumbaugh Award)

68. Joner, M. D., Jr., Woodall, W. H., Reynolds, M. R., Jr., and Fricker, R. D., Jr. (2008), "A One-Sided MEWMA Chart for Health Surveillance", *Quality and Reliability Engineering International* 24 (5), 503-518.

69. Marshall, J. B., Spitzner, D. J., and Woodall, W. H. (2007), "Use of the Local Knox Statistic for the Prospective Monitoring of Disease Occurrences in Space and Time", *Statistics in Medicine* 26 (7), 1579-1593.

70. Jensen, W. A., Birch, J. B., and Woodall, W. H. (2007), "High Breakdown Estimation for Phase I Multivariate Control Charts", *Quality and Reliability Engineering International* 23, 615-629.

71. Sego, L. H., Woodall, W. H., and Reynolds, M. R., Jr. (2008), "A Comparison of Surveillance Methods for Small Incidence Rates", *Statistics in Medicine* 27(8), 1225 - 1247.

72. Williams, J. D., Birch, J. B., Woodall, W. H., and Ferry, N. M. (2007), "Statistical Monitoring of Heteroscedastic Dose-Response Profiles from High-Throughput Screening", *Journal of Agricultural, Biological and Environmental Statistics* 12(2), 216-235.

73. Jensen, W. A., Birch, J. B., and Woodall, W. H. (2008), "Monitoring Correlation within Linear Profiles Using Mixed Models", *Journal of Quality Technology* 40(2), 167-183.

74. Woodall, W. H., Marshall, J. B., Joner, M. D., Jr., Fraker, S. E., and Abdel-Salam, A. G. (2008), "On the Use and Evaluation of Prospective Scan Methods in Health-Related Surveillance", *Journal of the Royal Statistical Society*, Series A, 171(1), 223-237.

75. Joner, M. D., Jr., Woodall, W. H., and Reynolds, M.R., Jr. (2008), "Detecting a Rate Increase Using a Bernoulli Scan Statistic", *Statistics in Medicine* 27, 2555-2575.

76. Woodall, W. H. and Borror, C. M. (2008), "Some Relationships between Gage R&R Criteria", *Quality and Reliability Engineering International* 24, 99-106.

77. Sego, L H., Reynolds, M. R., Jr., and Woodall, W. H. (2009), "Risk-Adjusted Monitoring of Survival Times", *Statistics in Medicine* 28, 1386-1401.

78. Mohammed, M. A., Worthington, P., and Woodall, W. H. (2008), "Plotting Basic Control Charts: Tutorial Notes for Healthcare Practitioners", *Quality and Safety in Health Care* 17, 137-145.

79. Williams, J. D., Woodall, W. H., and Birch, J. B. (2007), "Statistical Monitoring of Nonlinear Product and Process Quality Profiles", *Quality and Reliability Engineering International* 23(7), 925-941.

80. Fraker, S. E., Woodall, W. H., and Mousavi, S. (2008), "Performance Metrics for Surveillance Schemes", *Quality Engineering* 20, 451-464.

81. Fraker, S. E., Woodall, W. H., and Burkom, H. S. (2008), "A Note on the Poisson Likelihood Ratio Test Statistic for Kulldorff's Scan Methods". *Communications in Statistics – Theory and Methods* 37(7), 998-1001.

82. Mahmoud, M. A., Woodall, W. H., and Davis, R. E. (2008), "Performance Comparison of Some Likelihood Ratio-Based Statistical Surveillance Schemes". *Journal of Applied Statistics* 35(7), 783-798.

83. Woodall, W. H. (2007), "Current Research in Profile Monitoring", *Producão* 17(3), 420-425. (Invited paper)

84. Montgomery, D. C. and Woodall, W. H. (2008), "An Overview of Six Sigma", *International Statistical Review* 76(3), 329-346. (Invited paper)

85. Mahmoud, M. A., Morgan, J. P., and Woodall, W. H. (2010), "The Monitoring of Simple Linear Regression Profiles with Two Observations per Sample", *Journal of Applied Statistics* 37 (8), 1249-1263.

86. Woodall, W. H. (2009), "A Conversation with Donald J. Wheeler", *Quality Engineering* 21 (4), 357-365.

87. Tsui, K.-L., Han, S. W., Jiang, W., and Woodall, W. H. (2012), "A Review and Comparison of Likelihood-based Charting Methods", *IIE Transactions* 44, pp. 724-743.

88. Ryan, A. G. and Woodall, W. H. (2010), "Control Charts for Poisson Count Data with Varying Sample Sizes", *Journal of Quality Technology* 42 (3), 260-275.

89. Mahmoud, M. A. and Woodall, W. H. (2010), "An Evaluation of the Double Exponentially Weighted Moving Average Control Chart", *Communications in Statistics – Simulation and Computation* 39, 933-949.

90. Jiang, W., Han, S. W., Tsui, K.-L., and Woodall, W. H. (2011), "Spatiotemporal Surveillance in the Presence of Spatial Correlation", *Statistics in Medicine* 30(5), 569-583.

91. Szarka, J. L., III, Gan, L., and Woodall, W. H. (2011), "Comparison of the Early Aberration Reporting System (EARS) W2 Methods to an Adaptive Threshold Method", *Statistics in Medicine* 30(5), 489-504.

92. Mahmoud, M. A., Henderson, G. R., Epprecht, E. K., and Woodall, W. H. (2010), "Estimating the Standard Deviation in Quality Control Applications", *Journal of Quality Technology* 42(4), 348-357.

93. Megahed, F. M., Woodall, W. H., and Camelio, J. A. (2011), "A Review and Perspective on Control Charting with Image Data", *Journal of Quality Technology* 43(2), 83-98.

94. Megahed, F. M., Kensler, J.L.K., Bedair, K., and Woodall, W. H. (2011), "A Note on the ARL of Two-sided Bernoulli-based CUSUM Control Charts", *Journal of Quality Technology* 43(1), 43-49.

95. Ryan, A. G., Wells, L.J., and Woodall, W. H. (2011), "Methods for Monitoring Multiple Proportions When Inspecting Continuously", *Journal of Quality Technology* 43(3), 237-248.

96. Megahed, F. M., Fraker, S. E., and Woodall, W. H. (2012), "A Note on Two Performance Metrics for Public-Health Surveillance Schemes", *Journal of Applied Probability and Statistics* 7(1), 35-41.

97. He, S., Huang, W., and Woodall, W. H. (2012), "CUSUM Charts for Monitoring a Zero-Inflated Poisson Process", *Quality and Reliability Engineering International* 28(2), 181-192.

98. Szarka, J. L., III and Woodall, W. H. (2011), "A Review and Perspective on Surveillance of Bernoulli Processes", *Quality and Reliability Engineering International* 27, 735-752.

99. Szarka, J. L., III and Woodall, W. H. (2012), "On the Equivalence of the Bernoulli and Geometric CUSUM Charts", *Journal of Quality Technology* 44(1), 54-62.

100. Wells, L. J., Megahed, F. M., Camelio, J. A., and Woodall, W. H. (2012), "A Framework for Variation Visualization and Understanding in Complex Manufacturing Systems", *Journal of Intelligent Manufacturing* 23, 2025-2036.

101. Megahed, F. M., Wells, L. J., Camelio, J. A., and Woodall, W. H. (2012), "A Spatiotemporal Method for the Monitoring of Image Data", *Quality and Reliability Engineering International* 28, 967-980.

102. Zhang, M., Peng, Y., Schuh, A., Megahed, F. M., and Woodall, W. H. (2013), "Geometric Charts with Estimated Parameters", *Quality and Reliability Engineering International* 29, 209-223.

103. Lee, J., Wang, N., Xu, L., Schuh, A., and Woodall, W. H. (2013), "The Effect of Parameter Estimation on Upper-Sided Bernoulli CUSUM Charts", *Quality and Reliability Engineering International* 29, 639-651.

104. Xu, L., Wang, S., Peng, Y., Morgan, J.P., Reynolds, M.R., Jr., and Woodall, W. H. (2012), "The Monitoring of Linear Profiles with a GLR Control Chart", *Journal of Quality Technology* 44(4), 348-362.

105. Box, G. E. P. and Woodall, W. H. (2012), "Innovation, Quality Engineering, and Statistics", *Quality Engineering* 24, 20-29. (Søren Bisgaard Award)

106. Wells, L. J., Megahed, F. M., Niziolek, C., Camelio, J. A., and Woodall, W. H. (2013), "Statistical Process Monitoring Approach for High Density Point Clouds", *Journal of Intelligent Manufacturing* 24, 1267-1279.

107. Zhang, Y., He, Z., Zhang, C., and Woodall, W. H. (2014), "Control Charts for Monitoring Linear Profiles with Within-profile Correlation Using Gaussian Process Models", *Quality and Reliability Engineering International* 30(4), 487-501

108. Schuh, A., Camelio, J. A., and Woodall, W. H. (2014), "Control Charts for Accident Frequency: A Motivation for Real-Time Occupational Safety Monitoring". *International Journal of Injury Control and Safety Promotion* 21(2), 154-163.

109. Woodall, W. H. and Montgomery, D. C. (2014), "Some Current Directions in the Theory and Application of Statistical Process Monitoring", *Journal of Quality Technology* 46(1), 78-94.

110. Zhang, M., Megahed, F. M., and Woodall, W.H. (2014), "Exponential CUSUM Charts with Estimated Control Limits", *Quality and Reliability Engineering International* 30, 275-286.

111. Chen, Y., Birch, J. B., and Woodall, W. H. (2015), "Cluster-Based Profile Analysis in Phase I". *Journal of Quality Technology* 47(1), 14-29.

112. Schuh, A., Woodall, W. H., and Camelio, J. A. (2013), "The Effect of Aggregating Data When Monitoring a Poisson Process", *Journal of Quality Technology*, 45(3), 260-272.

113. Richards, S. C., Woodall, W. H., and Purdy, G. (2015), "Surveillance of Nonhomogeneous Poisson Processes". *Technometrics* 57(3), 388-394.

114. Dickinson, R. M., Roberts, D. A. O., Ryan, A. G., Woodall, W. H., and Vining, G. G. (2014), "CUSUM Charts for Monitoring the Characteristic Life of Censored Weibull Lifetimes". *Journal of Quality Technology* 46(4), 340-358.

115. Aly, A. A., Mahmoud, M. A., and Woodall, W. H. (2015). "A Comparison of the Performance of Phase II Simple Linear Profile Control Charts when Parameters are Estimated". *Communications in Statistics – Simulation and Computation* 44, 1432-1440.

116. Jones-Farmer, L. A., Woodall W. H., Steiner, S. H., and Champ, C. W. (2014). "An Overview of Phase I Analysis for Process Improvement and Monitoring". *Journal of Quality Technology* 46(3), 265-280. (Lloyd S. Nelson Award)

117. Woodall, W. H. and del Castillo, E. (2014). "An Overview of George Box's Contributions to Process Monitoring and Feedback Adjustment", *Applied Stochastic Models for Business and Industry* 30, 53-61. (Invited paper for special issue on George E. P. Box)

118. Shafae, M. S., Dickinson, R. M., Woodall, W. H., and Camelio, J. A. (2015). "CUSUM Charts for Monitoring Weibull-Distributed Time between Events". *Quality and Reliability Engineering International* 31, 839-849.

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8. Ryan, T.P. and Woodall, W. H. (2011), "Comment on Schell, Michael J. (2010). "Identifying Key Statistical Papers from 1985 to 2002 Using Citation Data for Applied Biostatisticians". *The American Statistician*, 64, 310-317.", *The American Statistician*, 65(2), 140.

9. Letter with R. D. Fricker, Jr. (2016), "Play it again, and again, Sam", in response to "Dr. Fisher's Casebook, 'Play it again, Sam.'" *Significance* 13(4), p. 46.

10. Knoth, S., Mahmoud, M. A., Saleh, N.A., Tercero-Gómez, V. G. and Woodall, W. H. (2022). "Letter on Statistical Process Monitoring Research: Misdirections and Recommendations". *Quality and Reliability Engineering International*, 38, 2198–2199.

11. Rakovich, G, Woodall, W. H., and Steiner, S. H. (2022). "Comment on the CUSUM surgical learning curve analysis in Dimitrovska et al. (2021)", *Interactive CardioVascular and Thoracic Surgery*, 35(2), ivac 184.

12. Knoth, S. and Woodall, W. H. (2023). Letter to the Editor, *Quality Engineering* 35(4), 729-730.

Refereed Abstract:

1. Ryan, S., Johnson, N., Woodall, W. H., and Fogel, S. (2016). "Both Emergent and Elective Colo-rectal Surgery Patients Benefit from Enhanced Recovery", National Surgical Quality Improvement Program (NSQIP) national meeting, San Diego, July 16-19.

Proceedings Articles, Newsletter Articles, Encyclopedia Entries, Editorials and Essays:

1. Woodall, W. H. (1985), "A Critique of Economic Models for Designing Quality Control Charts," *Proceedings of the 45th Session of the International Statistical Institute*, Amsterdam, Netherlands.

2. Davis, R. B. and Woodall, W. H. (1991), "Evaluation of a Control Chart for Ratios," *Proceedings of the 22nd Annual Pittsburgh Conference on Modeling and Simulation*.

3. Woodall, W. H., and Faltin, F. W. (1993), "Autocorrelated Data and SPC," *ASQC Statistics Division Newsletter*, 13(4), 18-21.

4. Sullivan, J. H., and Woodall, W. H. (1996), "Improved Preliminary Multivariate Quality Control for Individual Observations," *ASA Proceedings of the Section on Physical and Engineering Sciences*, 356-361.

5. Ajmani, V., Randles, R., Vining, G., and Woodall, W. H. (1997), "Robustness of Multivariate Control Charts," *Proceedings of the Section on Quality and Productivity*, American Statistical Association, Alexandria, VA, 152-157.

6. Sullivan, J. H., and Woodall, W. H. (1998), "A Likelihood Ratio Multivariate Change-Point Method," *American Statistical Association Proceedings*, Section on Physical and Engineering Sciences, 168-173.

7. Linna, K. W., and Woodall, W. H. (1998), "The Use of Covariates and the Effect of Measurement Error in Statistical Process Control," *American Statistical Association Proceedings*, Section on Quality and Productivity, 98-103.

8. Spitzner, D. J., and Woodall, W. H. (2003). "High-Dimensional Directional Testing for Monitoring Functional Profiles", Proceedings of the American Statistical Association, 225-236.

9. Woodall, W H. (2004). Biography of Walter Andrew Shewhart, *Encyclopedia of Statistical Sciences*, 2nd Edition, edited by N. Balakrishnan, Campbell Read, Samuel Kotz, and Brani Vidakovic, John Wiley & Sons, Inc. New York. (DOI: 10.1002/0471667196.ess5078)

10. Woodall, W. H. (2007). "Profile Monitoring", entry in Volume 3 of *Encyclopedia of Statistics in Quality and Reliability* edited by Fabrizio Ruggeri, Frederick Faltin, and Ron Kenett, John Wiley & Sons Ltd., 1507-1512.

11. Woodall, W. H. (2019). "Thoughts on *The Road to Quality Control – The Industrial Application of Statistical Quality Control* by Homer M. Sarasohn", in *The Road to Quality Control – The Industrial Application of Statistical Quality Control* by Homer M. Sarasohn published by John Wiley & Sons, pp. 101-108.

12. Saleh, N. A., Mahmoud, M. A., Woodall, W. H., and Knoth, S. (2022). Guest Editorial on Auxiliary Information Based Monitoring, *Quality and Reliability Engineering International* 38, p. 2255.

13. Woodall, W. H (2024), "On 100 Years of the Shewhart Control Chart" JMP White Paper.

Ph.D. Students:

University of Southwestern Louisiana

1. Matoteng Ncube, "Some New Quality Control Procedures," Summer, 1984. (Retired Professor, University of West Florida).

2. Kwami Tuprah, "Dispersion Quality Control Procedures," Spring, 1985. (Associate Professor, Fayetteville State University).

3. Charles W. Champ, "Exact Results for Shewhart Control Charts with Supplementary Runs Rules," Fall, 1986. (Retired Professor, Georgia Southern University).

4. Benjamin M. Adams, "Economically Optimal On-Line Quality Control Procedures," Fall, 1988. (Retired Professor, University of Alabama).

5. Cynthia A. Lowry, "A Multivariate Exponentially Weighted Moving Average Control Chart," Spring 1989.

6. Hazem D. Maragah, "The Effect of Autocorrelation on Quality Control Charts," Spring 1989. (Deceased Associate Professor, Drexel University).

7. Mohamad R. Nayebpour, "Economic Design of On-Line Quality Control Procedures for Attribute Characteristics," Spring 1990. (University of St. Thomas)

8. Rassoul Noorossana, "Empirical Bayes Process Control Procedures," Summer 1990. (Retired Professor, Iran University of Science and Technology).

University of Alabama

9. Mark R. Wade, "A Study of Q-Charts and Cause-Selecting Charts," Summer 1992. (Deceased).

10. Joe Sullivan, "A Comparison of Fuzzy Forecasting and Markov Modeling," Spring 1994. (Retired Professor, Mississippi State University).

11. David T. Redden, "A Comparison of Fuzzy Linear Regression Methods and Statistical Regression Models," Spring 1995. (Professor, University of Alabama – Birmingham)

12. Robert E. Davis, "A Markov Chain Representation of the Shirayev-Roberts Procedure," Spring 1995. (CRIF Group)

13. J. Douglas Barrett, "A Probabilistic Alternative to Fuzzy Logic Controllers," Spring 1995. (Professor, University of North Alabama).

14. Gary R. Tucker, "A Quality Control Chart Based on Ordinal Categorical Data," Summer, 1995, co-chaired with Professor Kwok Tsui of the School of Industrial and Systems Engineering, Georgia Tech.

15. L. Allison Jones, "Topics on Data Intensive and Computationally Intensive Control Charting Methods," December 1997. (Chaired Professor, Miami University - Ohio).

16. Kenneth W. Linna, "Control Chart Performance under Linear Covariate Measurement Processes," December 1999. (Associate Professor, Auburn University at Montgomery).

Virginia Tech

17. Keunpyo Kim, "Process Monitoring with Multivariate Data: Varying Sample Sizes and Linear Profiles" December 2003, co-chaired with Marion R. Reynolds, Jr. (MedImmune)

18. Mahmoud A. Mahmoud, "The Monitoring of Linear Profiles and the Inertial Properties of Control Charts," Fall 2004. (Professor and Vice-President, Cairo University)

19. James D. Williams, "Contributions to Profile Monitoring and Multivariate Statistical Process Control," Fall 2004, co-chaired with Jeffery B. Birch.

20. Landon Sego, "Applications of Control Charts in Medicine and Epidemiology," Spring 2006, co-chaired with Marion R. Reynolds, Jr. (formerly at Pacific Northwest National Laboratory)

21. Michael D. Joner, Jr., "Univariate and Multivariate Surveillance Methods for Detecting Increases in Incidence Rates," co-chaired with Marion R. Reynolds, Jr., Spring, 2007. (GE Aircraft).

22. Shannon E. Fraker, "Evaluation of Scan Methods used in Monitoring of Public Health Surveillance Data," Fall 2007. (Joint Research and Development, Inc.)

23. J. Brooke Marshall, "Prospective Spatio-Temporal Surveillance Methods for the Detection of Disease Clusters", co-chaired with Dan Spitzner of the University of Virginia, Summer 2009. (Eli Lilly)

24. Denisa A. Olteanu, "Cumulative Sum Control Charts for Censored Reliability Data," co-chaired with G. G. Vining, Spring 2010. (Olteanu & Roberts Analytics LLC)

25. Linmin (Lucia) Gan, "Adaptive Threshold Method for Monitoring Rates in Public Health Surveillance", Spring 2010. (Monsanto)

26. Anne G. Ryan, "Surveillance of Poisson and Multinomial Processes", Spring 2011. (Collegiate Professor, Virginia Tech)

27. John L. Szarka, III, “Surveillance of Negative Binomial and Bernoulli Processes”, Spring 2011. (W. L. Gore)

28. Hongzhang Zheng, “On Development and Performance Evaluation of Some Biosurveillance Methods”, Summer 2011. (Goldman Sachs)

29. Fadel M. Megahed, “The Use of Image and Point Cloud Data in Statistical Process Control”, Industrial & Systems Engineering student co-chaired with Jaime Camelio, Spring 2012. (Professor, Miami University - Ohio)

30. Xiang Zhang, “Dynamic Probability Control Limits for Risk-Adjusted Bernoulli Cumulative Sum Charts”, Fall 2015. (Pfizer)

31. Meng J. Zhao, “Analysis and Evaluation of Social Network Anomaly Detection”, Fall 2017. (Eli Lilly)

Grants Received:

1. "A Study of the CUSUM Inspection Plan Used to Monitor the Quality of Exported U.S. Grain," Federal Grain Inspection Service of U.S. Department of Agriculture, Specific Cooperative Agreement No.58-43YK-6-0011, Amount: $50,600, 1986.

2. Research project with Union Camp Corporation, Lafayette, Louisiana, Amount: $13,000, 1987-88.

3. Alcoa Foundation Research Grants, "Statistical Control Charts for Data Violating Classical Assumptions," Amount: $7,500, 1988, "Economic Design of Control Charts Under Realistic Assumptions," Amount: $7,500, 1989.

4. National Science Foundation, Operations Research and Production Systems, “Multivariate Methods for On-Line and Off-Line Quality Control and Improvement,” DMII-9908013, Amount: $84,000, UA Supplement ($19,000), 1999-2001. Collaborative research with Kwok Tsui, Georgia Tech.

5. Editor of *Journal of Quality Technology*, 1999-2003, support from American Society for Quality: Amount: approximately $197,800.

6. National Science Foundation, “Using Control Charts to Monitor Process and Product Quality Profiles,” DMII-0354859, Amount $50,000, 2004-2005. Collaborative research with Doug Montgomery, Arizona State University.

7. Merck & Co., Inc., “Study of Vaccine Safety Monitoring Methods”, 2008-2009, $28,750.

8. Merck & Co., Inc., “Monitoring Vaccine Effectiveness”, 2009-2010, $43,000.

9. National Science Foundation, "Quality Mining – A Novel Framework for Quality Monitoring and Control for Data Rich Manufacturing Systems", CMMI-0927323, Amount $304,500. 2009-2012. Co-PI with Jaime Camelio, Industrial and Systems Engineering, Virginia Tech.

10. National Science Foundation, "GOALI: Robust Quality Control Tools for Cyber-Physical Manufacturing Systems: Assessing and Eliminating Cyber-Attack Vulnerabilities", CMMI-1436365, Amount $398,930. 2014-2017. Co-PI with Jamie Camelio, Lee Wells and Paul Miller.

Professional Service:

Editor: *Journal of Quality Technology* (2001-2003)

Associate Editor: *Technometrics* (1987-1995, 2013-2014)

Editor: *Quality Engineering* (2025-2027)

Member of Editorial Review Board:

Journal of Quality Technology (1988-present)
ASQC Basic References in Quality Control: Statistical Techniques
IISE Transactions
Quality Engineering (2008-present)
Quality and Reliability Engineering International (2012-present)
International Journal of Quality & Reliability Management (2022-present)

Referee or Reviewer for:

Advances in Decision Sciences
Advances in Disease Surveillance
Advances in Engineering Software
Ain Shams Engineering Journal
Alexandria Engineering Journal
American Statistician
Annals of Applied Statistics
Annals of Statistics
Annals of the Institute of Statistical Mathematics (Japan)
Applied Mathematics Research eXpress
Applied Statistics
Applied Stochastic Models in Business and Industry (ASMBI) Journal
Asia-Pacific Journal of Science and Technology
ASME Journal of Manufacturing Science and Engineering
ASQC Annual Quality Congress
ASQC Statistics Division Newsletter

Athens University of Economics and Business
Australian and New Zealand Journal of Statistics
Biometrical Journal
Biometrics
Biometrika
BMC Health Services Research
BMC Medical Informatics and Decision Making
BMC Medical Research Methodology
BMC Veterinary Research
BMJ Quality & Safety
British Medical Journal
Cambridge Handbook of Improving Quality and Safety in Healthcare
Canadian Journal of Statistics
City University of Hong Kong
Cogent Engineering
College Mathematics Journal
Communications in Statistics
Computational Statistics
Computational Statistics and Data Analysis
Computers & Industrial Engineering
Computers & Operations Research
CRC Press LLC
Discover Applied Sciences
Environmental Monitoring and Assessment
Eutopia European University
Frontiers in Industrial and Applied Mathematics
Frontiers in Statistical Quality Control
Fuzzy Sets and Systems
Hacettepe Journal of Mathematics and Statistics
Health Care Management Science
Heliyon
IEEE Transactions on Fuzzy Systems
IIE (Institute of Industrial Engineers) Transactions
Indian Association for Productivity, Quality, and Reliability Transactions
Inferensi
Information Fusion
Information Science
International Journal for Quality in Health Care
International Journal of Business and Economics
International Journal of Forecasting
International Journal of Management Concepts and Philosophy
International Journal of Mathematical, Engineering and Management Sciences
International Journal of Mathematics and Mathematical Sciences
International Journal of Physical Sciences
International Journal of Production Research
International Journal of Quality & Reliability Management

International Journal of Social Research Methodology
International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems
International Statistical Review
Israeli Ministry of Science, Technology and Space
Italian Ministry of Education, University, and Research
Japan Journal of Industrial and Applied Mathematics
John Wiley & Sons, Inc.
Journal of Applied Statistics
Journal of Educational and Behavioral Statistics
Journal of Food Quality
Journal of Humanities and Applied Social Sciences
Journal of Infection and Public Health
Journal of Multivariate Analysis
Journal of Official Statistics
Journal of Probability and Statistics
Journal of Process Control
Journal of Quality Technology
Journal of Statistical Computation and Simulation
Journal of Statistical Planning and Inference
Journal of Statistical Software
Journal of the American Statistical Association
Journal of the Royal Statistical Society – Series A
Journal of Transportation and Statistics
King Fahd University of Petroleum & Minerals
Latin American Theoretical Informatics Symposium
Management Research News
Management Science
Mathematical Problems in Engineering
Mathematics
McMaster University (Canada)
Metrika
Metrologia
Nanyang Technological University (Singapore)
National Research Foundation – South Africa
National Science Foundation
Nature – Scientific Reports
Naval Research Logistics
Occupational Medicine
Open Mathematics
Pakistan Journal of Statistics
PeerJ
PLOS ONE
Processes
Quality & Reliability Engineering International
Quality Engineering
Quality Technology and Quantitative Management

Research Council of Canada
Revista Columbiana de Estadistica
RIMNI-International Journal of Numerical Methods for Calculation and Design in Engineering
Sankhyā
Scientia Iranica Journal
Scientific Reports
Society for Industrial and Applied Mathematics (SIAM)
Soft Computing
Songklanakarin Journal of Science and Technology
Stat
Statistica Neerlandica
Statistica Sinica
Statistical Analysis and Data Mining
Statistical Methods in Medical Research
Statistical Papers
Statistical Science
Statistics and Computing
Statistics and Probability Letters
Statistics in Medicine
Statistics, Politics, and Policy
Symmetry
Technometrics
The University of Chicago Press
Transactions of the Society for Modeling and Simulation International
U.S. Army Research Office
Universidad Nacional de Colombia
University Grants Committee, Hong Kong
University of Malaya (Malaysia)
University of Newcastle (Australia)
University of Padova (Italy)
University of Sharjah (United Arab Emirates)
University of Western Sydney (Australia)
Victoria University of Technology (Australia)
Virginia Journal of Science
Water Resources and Industry
Wiley Encyclopedia of Operations Research and Management Science

Professional Society Memberships:

American Statistical Association (Fellow)

American Society for Quality (Fellow)

Royal Statistical Society (Fellow)

International Statistical Institute (Elected Member)

Institute of Industrial Engineers (Senior Member) – Inactive

Society of Actuaries (Associate) – Inactive

Other Professional Activities:

Past Member of Research Committee of ASA Section on Quality and Productivity

Program Co-Chairman of the 1986 Fall Technical Conference of ASA and ASQC, Charlotte, North Carolina

Peer Review Committee for the Louisiana Board of Regents (1983-84)

Program Chairman for Section on Physical and Engineering Sciences of ASA for ENAR Spring Regional Meetings, Dallas, Texas, March 1987

Member of Steering Committee for 1987 and 1988 National Symposiums on Statistical Quality Control, Arizona State University

Program Chairman for Section on Physical and Engineering Sciences of ASA for Joint Statistical Meetings, New Orleans, Louisiana, August, 1988.

Regional Councilor, Statistics Division of American Society for Quality Control (Region 15: Mississippi, Alabama, Tennessee, Georgia, Florida) (1989-1994)

Member of Board of Directors, Quality and Productivity Research Conference (1988-90)

Associate Secretary, IMS Special Topics Meeting on Statistics in Industry, Philadelphia, Pennsylvania, June 1991.

Invited Paper Session organizer, Section on Physical and Engineering Sciences of ASA for Joint Statistical Meetings, Atlanta, Georgia, August 1991.

Council of Sections Representative (1992-1994) American Statistical Association Section on Quality and Productivity.

Member of ASA Continuing Education Evaluation Subcommittee (1993-1995)

Scientific Program Committee, International Workshops on Intelligent Statistical Quality Control: Würzburg, Germany (1998), Waterloo, Canada (2001), Warsaw, Poland (2004), Beijing, China (2008), Seattle, WA (2010), Sydney (2013), Hamburg, Germany (2016), and Hong Kong (2019).

ASA Deming Lectureship Committee (2003-2008)

Advisory Committee, Quality, Statistics, and Reliability Section of INFORMS (2003-2005)

Shewhart Medal Committee of the American Society for Quality, 2003-2006, 2024-present.

Brumbaugh Award Committee of ASQ, 2002-2004

Lloyd S. Nelson Award Committee of the Statistics Division of ASQ, 2006

ASQ Deming Medal Committee (2008-2018)

Program Committee for 2nd Stu Hunter Research Conference, Phoenix, AZ (2014)

Technometrics Management Committee (2023-2025)

Member of Search Committee for Editor-in-Chief of *Applied Stochastic Models for Business and Industry*, 2023.

ASQ Shewhart Medal Committee, 2024-present.

Presentations:

1. "Markov Chains and Sequential Probability Ratio Tests," Virginia Academy of Science, University of Virginia, May 1980.

2. "Run Length Distribution of One-Sided CUSUM Control Charts," Joint Statistical Meetings, Cincinnati, Ohio, August 1982.

3. "Multivariate CUSUM Quality Control Procedures," Joint Statistical Meetings, Toronto, Canada, August 1983.

4. "Multivariate Quality Control," Invited paper, Conference for Texas Statisticians, Waco, Texas, April 1984.

5. Chairman and Discussant for the session on Statistical Quality Control, SREB Summer Research Conference, Arkadelphia, Arkansas, June 1984.

6 "The Statistical Design of Quality Control Charts," Joint Statistical Meetings, Philadelphia, Pennsylvania, August 1984.

7. "Multivariate CUSUM Quality Control Procedures," Invited paper for the 28th Annual Fall Technical Conference of ASQC and ASA, London, Ontario, Canada, October 1984.

8. Discussant for the session on Statistical Quality Control, SREB Summer Research Conference, Boone, North Carolina, June 1985.

9. "A Critique of Economic Models for Designing Quality Control Charts," International Statistical Institute, Amsterdam, Netherlands, August 1985.

10. "The Economic Design of Quality Control Charts," Spring Regional Meetings of ENAR, ASA, and IMS, Atlanta, Georgia, March 1986.

11. Invited Participant at the Third International Workshop on Statistical Quality Control, Copenhagen, Denmark, June 1986.

12. "The Use of Multivariate Control Charts," Invited paper, International Research Conference on Reliability and Quality, University of Missouri-Columbia, June 1986.

13. "Conflicts between Deming's Philosophy and the Economic Design of Control Charts," Joint Statistical Meetings, Chicago, Illinois, August 1986.

14. Discussant for the session on CUSUM Theory and Applications, Joint Statistical Meetings, Chicago, Illinois, August 1986.

15. "The Design of Quality Control Charts," 30th Annual Fall Technical Conference of ASQC and ASA, Charlotte, North Carolina, October 1986.

16. "The Design of Quality Control Charts," Colloquium Presentation, Department of Statistics, Virginia Tech, November 1986.

17. "The Design and Use of Quality Control Charts," Colloquium Presentation, Department of Management Science and Statistics, University of Alabama, April 1987.

18. "Current Research in Statistical Process Control," Gordon Research Conference on Statistics in Chemistry and Chemical Engineering, New Hampton, New Hampshire, July 1987.

19. "Evaluation of the CUSUM Inspection Plan for Exported U.S. Grain," Joint Statistical Meetings, San Francisco, California, August 1987.

20. "Exact Results for Shewhart Control Charts with Supplementary Runs Rules," *Technometrics* session of the 31st Annual Fall Technical Conference, Atlantic City, New Jersey, October 1987.

21. Discussant at the Second National Symposium on Statistical Process Control: Keeping Pace with Automated Manufacturing, Arizona State University, November 1987.

22. "Exact Results for Shewhart Control Charts with Supplementary Runs Rules," Colloquium Presentation, Department of Statistics, Rice University, February 1988.

23. "Economically Optimal On-Line Quality Control Procedures," Alcoa Technical Center, Alcoa Center, Pennsylvania, October 1988.

24. "Optimal On-Line Process Control," Third National Symposium on Statistics in Design and Process Control: Keeping Pace with Automated Manufacturing, Arizona State University, November 1988.

25. Discussion of "Exponentially Weighted Moving Average Control Schemes - Properties and Enhancements," *Technometrics* session of the 33rd Annual Fall Technical Conference, Houston, Texas, October 1989.

26. "Forecasting and SPC Applications of the Exponentially Weighted Moving Average," Alcoa Technical Center, Alcoa Center, Pennsylvania, December 1989.

27. "An Analysis of Taguchi's On-Line Quality Control Methods for Attribute Characteristics," Invited paper, ASA Winter Conference, Orlando, Florida, January 1990.

28. "An Analysis of Taguchi's On-Line Quality Control Procedures for Attribute Characteristics," Colloquium Presentation, Department of Statistics and Management Science, University of Michigan, February 1990.

29. "The Use (and Abuse) of False Alarm Probabilities in Control Chart Design," 4th International Workshop on Statistical Quality Control, Baton Rouge, Louisiana, May 1990.

30. "Taguchi's Approach to On-Line Quality Control," SRCOS Summer Research Conference, Mobile, Alabama, June 1990.

31. Discussant at the Fifth National Symposium on Statistics and Design in Automated Manufacturing, Arizona State University, February 1991.

32. Moderator and Discussion Leader, Gordon Research Conference on Statistics in Chemistry and Chemical Engineering, New Hampton, New Hampshire, July 1991.

33. "Statistical Process Control with Several Components of Common Cause Variability," Joint Statistical Meetings, Atlanta, Georgia, August 1991.

34. Invited participant on Control Chart Panel, 36th Annual Fall Technical Conference, Philadelphia, PA, October 1992.

35. Discussant at the Sixth National Symposium on Statistics and Design in Automated Manufacturing, Arizona State University, February 1993.

36. "An Overview and Perspective on Statistical Process Control," General Electric Corporate Research and Development, Schenectady, NY, May 1993.

37. "Alarm Rates for Quality Control Charts," Joint Statistical Meetings, San Francisco, California, August 1993.

38. "Current Research Topics in Quality," Roundtable Discussion Leader, ASA Section on Quality and Productivity, Joint Statistical Meetings, San Francisco, California, August 1993.

39. Discussant of the *Technometrics* invited paper, "Run Length Distributions of Special Cause Control Charts for Correlated Processes," by D. G. Wardell, H. Moskowitz, and R. D. Plante, 37th Annual Fall Technical Conference, Rochester, NY, October 1993.

40. "Autocorrelated Data and SPC," Section on Quality and Productivity Invited Paper, Winter Conference of American Statistical Association, Atlanta, GA, January 1994.

41. "A Probabilistic Alternative to the Fuzzy Logic Controller," General Electric Corporate Research and Development, Schenectady, NY, March 1994.

42. "A Probabilistic View of Fuzzy Statistical Methods," *Technometrics* invited paper, Joint Statistical Meetings, Toronto, August 1994.

43. "A Review of Statistical and Fuzzy Quality Control Charts Based on Categorical Data," Fifth International Workshop on Intelligent Statistical Quality Control, University of Osaka Prefecture, Osaka, Japan, September 1994.

44. "Do We Need Fuzzy Logic?" Colloquium Presentation, Department of Statistics, Virginia Tech, September 1995.

45. "Control Charts Based on Attribute Data," The Second World Congress of Nonlinear Analysts, Athens, Greece, July 10-17, 1996.

46. Discussant for the Session on Quality Control for Attribute Data, Joint Statistical Meetings, Chicago, August 1996.

47. "An Overview of Comparisons Between Fuzzy and Statistical Methods," Joint Statistical Meetings, Anaheim, California, August 1997.

48. "Research Issues and Ideas in Statistical Process Control," Invited Paper, Annual Meeting of the Statistical Society of Canada, Sherbrooke, Quebec, June 1998.

49. "Research Issues and Ideas in Statistical Process Control," Colloquium Presentation, Department of Industrial and Operations Engineering, University of Michigan, March 1999.

50. "Controversies and Contradictions in Statistical Process Control," Invited Paper, Virginia Tech Statistics Department 50th Anniversary Conference, Blacksburg, VA, August 1999.

Presented at Mississippi State University in November 1999 and at the University of Miami in December 1999.

51. "Controversies and Contradictions in Statistical Process Control," presented in the *JQT* session of the Fall Technical Conference of ASQ and ASA, Minneapolis, MN, October 2001.

52. "A Review and Analysis of the Mahalanobis-Taguchi System," Joint Statistical Meetings, Atlanta, GA, August, 2001, the VIIth International Workshop on Intelligent Statistical Quality Control, Waterloo, Ontario, September 2001 and at the 2002 Taipei International Statistical Symposium, Taipei, Taiwan, July 2002. (Invited)

53. "The Monitoring of Linear Profiles", 2002 Quality and Productivity Research Conference, Tempe, Arizona, June 2002. (Invited). Also presented at the Hong Kong University of Science and Technology in July 2002 and the Joint Statistical Meetings in New York, NY, August 2002.

54. "The Six-Sigma Roadmap", Roanoke/Radford Section of ASQ, Roanoke, VA, June 2002.

55. "Academic Life, Citation Counts, and Statistical Models", 44th Annual Fall Technical Conference of ASA and ASQ, Valley Forge, PA, October 2002. (Invited)

56. Participant in the panel discussion "Journal Editor's Views: Current Status and Future Trends in Quality, Statistics, and Reliability Research and Implementation", INFORMS, San Jose, CA, November 2002.

57. "Using Control Charts to Monitor Process and Product Profiles", Quality & Productivity Research Conference, White Plains, NY, May 2003.

58. "A General Approach to the Monitoring of Process and Product Profiles", Second International Congress on Applied and Computational Mathematics (CIMAC II), Lima, Peru, August 2003.

59. "Using Control Charts to Monitor Process and Product Quality Profiles", STAR Seminar Series (with support from the Dolibois Faculty Development Fund), Department of Decision Sciences and Management Information Systems, University of Miami – Ohio, March 2004; 8th International Workshop on Intelligent Statistical Quality Control, Warsaw, Poland, June 2004; Joint Statistical Meetings, Toronto, Canada, August 2004; *JQT* Session at the 2004 INFORMS Meeting in Denver, Colorado; Tianjin University – China, June 2011.

60. W. J. Youden Memorial Address, "The View from an Ivory Tower", 48th Annual Fall Technical Conference of ASA and ASQ, October 2005, Roanoke, VA.

61. "Use of Control Charts in Health Care Monitoring and Public Health Surveillance", Invited presentation for Statistics Week, Arizona State University, March 2005; Quality & Productivity Research Conference, Minneapolis, MN, May 2005; Fifth International Symposium on Business and Industrial Statistics, Lima, Peru, January 2006; Georgia Tech School of Industrial and Systems Engineering, April 2006; 2006 Joint Statistical Meetings, Seattle, WA, August 2006; Meeting of the Royal Statistical Society, Belfast, Ireland, September 2006; Lynchburg Section of ASQ, March 2007; Tianjin University - China, June 2011.

62. "The Inertial Properties of Quality Control Charts", Invited paper for the *Technometrics* Session of the 49th Annual Fall Technical Conference, St. Louis, MO, October 2005.

63. "Research Issues and Ideas on Health-Related Surveillance", presented at the IXth International Workshop on Intelligent Statistical Quality Control, Beijing, China, September 2007, the Statistical Society of Canada Meeting in Ottawa, May 2008, IBM Thomas J. Watson Research Center, Yorktown Heights, June 2008.

64. "An Overview of Health-Related Monitoring", Joint Statistical Meetings, Denver, CO, August 2008, 18th Simposio de Estadística, Cartagena, Colombia, August 2008.

65. "An Overview of Health-related Monitoring from an SPC Viewpoint", Brigham Young University, March 2009.

66. "Statistical Process Control (SPC) Ideas in Spatiotemporal and Temporal Public Health Surveillance", Twelfth Biennial CDC Symposium on Statistical Methods, Decatur GA, April 2009.

67. "The State of Statistical Process Control – An Update", Isobel Loutit Invited Address, Statistical Society of Canada, and Quality and Productivity Research Conference in White Plains, NY, both June 2009.

68. "An Overview of Health-Related Surveillance", International Symposium on Statistical Process Control", Nantes France, July 2009.

69. "Adaptive Threshold Methods for Monitoring Rates and Counts in Public Health Surveillance", Penn State Department of Statistics, October 2009; International Symposium on Business and Industrial Statistics, Portoroz, Slovenia, July 2010.

70. "Adaptive Threshold Methods for Monitoring Rates in Public Health Surveillance", Xth International Workshop on Intelligent Statistical Quality Control, Seattle, Washington, August 2010.

71. "A Brief History of Statistics and Quality", Opening Plenary Session of the 54th Annual Fall Technical Conference of ASA and ASQ, Birmingham, Alabama, October, 2010; City University of Hong Kong, January 2014.

72. "The Use of Control Charts with Image Data", Tianjin University – China and at Conference on "Applications of Statistical Methods in Modern Industry", Chung-Ang University – Korea, June 2011.

73. "The Monitoring of Bernoulli Processes", Tianjin University, Tsinghua University, and Nankai University – China, June 2011 and the 2nd International Symposium on Statistical Process Control, Rio de Janeiro, Brazil, July 2011.

74. "Research and Publication in Statistics", Tianjin University and Tsinghua University – China, June 2011; Shanghai Jiao Tong University, June 2012; City University of Hong Kong, June 2012; Cairo University, March 2013; University of Piraeus, Greece, July 2013; National Chiao Tung University, Taiwan, January 2014.

75. Roundtable discussion at the Joint Statistical Meetings, "New Directions and Methods in Process Monitoring", Miami, FL, August 2011.

76. "The Monitoring of Bernoulli Processes", INFORMS Annual Meeting, Charlotte, NC, November 2011.

77. "Innovation: Ideas, Engineering, and Management", Roanoke/Radford Section of ASQ, January 2012.

78. "Innovation, Quality Engineering, and Statistics", Quality and Productivity Research Conference, June 2012; Spring Research Conference of IMS/ASA, Harvard University, June 2012; City University of Hong Kong, June 2012; Shanghai Jiao Tong University, June 2012; Nanjing University of Science and Technology, June 2012; ENBIS annual meeting, Ljubljana, Slovenia, September 2012; International Quality Engineering Conference, Tehran, Iran (given by video link), December 2012.

79. "Risk-Adjusted Comparisons and Monitoring in Healthcare", 2nd International Conference on the Interface between Statistics and Engineering, Tainan, Taiwan, June 2012 and Virginia Tech INFORMS Section, September 2012.

80. "Monitoring and Improving Surgical Quality", ASA/ASQ Fall Technical Conference, St. Louis, MO, October 2012; Cairo University, March 2013; Tulane University, February 2014; Radford University, April, 2014; W. L. Gore Lecture, University of Delaware, April 2014; MINITAB and Penn State, November 2014; University of Waterloo, May, 2015; Meeting of the German Statistical Society, Hamburg Germany, September 2015; Florida Chapter of ASA, Pensacola FL, March 2020; University of South Alabama, October, 2024.

81. "Recent Results on the Monitoring of the Rate of a Rare Event", Quality and Productivity Research Conference, GE Global Research, Niskayuna, NY, June 2013; XIth International Workshop on Intelligent Statistical Quality Control, Sydney, Australia, August 2013.

82. "An Overview of Phase I Analysis for Process Improvement and Monitoring", 3rd International Symposium on Statistical Process Control, Piraeus, Greece, July 2013.

83. "Overview and Perspective on Profile Monitoring", Joint Statistical Meetings, Montreal, Canada, August 2013; National Chiao Tung University, Taiwan, January 2014.

84. "The Surprising Difficulty in Designing and Comparing Control Charts", City University of Hong Kong and National Chiao Tung University, Taiwan, January 2014; University of Liege, Belgium, May 2014; Spring Research Conference, Cincinnati, May, 2015.

85. "Dynamic Control Limits for the Risk-adjusted Bernoulli CUSUM Chart for Monitoring Surgical Outcome Quality", The Third International Conference on the Interface between Statistics and Engineering 2014 (ICISE2014) December 2014, City University of Hong Kong; Quality and Productivity Research Conference, Raleigh, NC, June 2015.

86. "An Overview and Perspective on Social Network Monitoring", International Symposium on Statistical Process Monitoring – 4, Padua Italy, July 2015; Virginia Tech INFORMS, March 2016; Eindhoven University of Technology, April 2016; First Sino-U.S. Research Conference on Quality, Analytics and Innovation, Shanghai, China, July 2016; XIIth Workshop on Intelligent Statistical Quality Control, Hamburg, Germany, August 2016; 11th International Statistics Days Conference, Bodrum, Turkey, October 2018.

87. "Bridging the Gap Between Theory and Practice in Basic Statistical Process Monitoring", 4th Stu Hunter Research Conference, Waterloo, Ontario, Canada, March 2016.

88. "Applications of the Conditional False Alarm Rate Metric in Process Monitoring", 5th International Symposium on Statistical Process Monitoring, Seoul, South Korea, July 2017; 2nd International Conference on Reliability Systems Engineering, Beijing, China, July 2017.

89. "A Review of Some Sampling and Aggregation Strategies for Basic Statistical Process Monitoring" Joint Statistical Meetings, Vancouver, BC, July 2018.

90. "Use of the Conditional False Alarm Metric in Statistical Process Monitoring", presented at the XIIIth Workshop on Intelligent Statistical Quality Control, Hong Kong, August 2019.

91. "Rethinking Control Chart Design and Evaluation", Fall Technical Conference, Gaithersburg, MD, September 2019; Technical University of Dortmund, October 2019; University of Amsterdam, October 2019; Lloyd Roeling Conference, University of Louisiana – Lafayette, October 2019; University of California – Riverside, December 2019; University of Alabama, January 2020; ISBIS Conference – Cochin University of Science and Technology, December 2020 (presented virtually).

92. "The Evolution of Statistical Process Monitoring", Industry Engineering and Management Systems Conference, March 2021 (presented virtually); Virginia Tech,

March 2022; DAGStat 2022 Meeting, Hamburg, Germany, April 2022; Summer Institute on Quality, Reliability and Data Science, City University of Hong Kong, May 2023.

93. 2021 ISI World Statistics Conference, Discussant in the session "Recent Trends, Advances and Applications of Statistical Process Monitoring," July, 2021. (presented virtually)

94. "Concerns about Some Research Directions in Statistical Process Monitoring", Helmut Schmidt University, Hamburg Germany, April 2022; University of Amsterdam, April 2022.

95. "Misguided Statistical Process Monitoring Methods", 7th International Symposium on Statistical Process Monitoring", Valencia Spain, July 2023.

96. JMP Statistically Speaking presentation with Annie Dudley, "On 100 Years of the Shewhart Control Chart", February 2024.

97. Deming Lecture, Joint Statistical Meetings, "Innovation: Deming's Views, the Role of Statistics, and the Threats to Scientific Publishing." August 2024.

98. "Monitoring Univariate Processes Using Control Charts: Some Practical Issues and Advice", Fall Technical Conference, Nashville TN, October 2024.

99. "Systematic Manipulation of the Scientific Publishing Process", University of South Alabama, October 2024; Georgia Tech, October 2024; Virginia Tech, April 2025.

100. "The Effect of AI on the Scientific Publishing Process", LUIAS Summer Workshop, Lingnan University, Hong Kong, June 2025.

101. "Control Charting with Interval Data" and "Current Status and Future of SPM", presented at the ISSPM, Naples, Italy, July 2025.

102. "A Critique of Neutrosophic Statistical Analysis Illustrated with Interval Data from Designed Experiments", *JQT* session of Fall Technical Conference, Sugar Land, TX, October 2025.

103. "A Simulation Approach to the Analysis of Interval-valued Data", Lloyd Roeling Conference, University of Louisiana, October 2025.

104. "Systematic Manipulation of the Scientific Publication and Citation Processes", Tulane University, November 2025.

105. "A Critique of Neutrosophic Statistics", Arizona State University Webinar, Fireside Chat with Doug Montgomery, February 2026; Baylor University, March 2026.

March 13, 2026