Steven E. Rigdon

Professor
Department of Biostatistics
College for Public Health & Social Justice
Saint Louis University

Saint Louis University
3545 Lafayette Avenue
Saint Louis, MO 63104

(314) 977-8127
(618) 920-1383

srigdon@slu.edu
www.slu.edu/x66348.xml
scholar.google.com/citations?user=Yk1378UAAAAJ&hl=en

Professional Experience

2012 – Present   Professor, Department of Biostatistics, Saint Louis University
Research areas: | Statistical methods for quality | Biosurveillance | Survival analysis |
Design of Experiments | Bayesian data analysis | Applications of statistics in sports

1986-2012   Department of Mathematics and Statistics, Southern Illinois University Edwardsville
2012 – Present: Distinguished Research Professor Emeritus
2010 – 2012: Distinguished Research Professor
1996 – 2010: Professor
1991 – 1996: Associate Professor
1986 – 1991: Assistant Professor

1982 – 1986   Monsanto
1982 – 1984: Mathematical Statistician, Quality Control Engineering Group
1984 – 1986: Senior Mathematical Statistician, Design of Experiments Group

1979 – 1982   University of Missouri-Columbia and University of Missouri-St. Louis
Graduate Teaching Assistant and Graduate Research Assistant

Education

1985   PhD in Statistics, University of Missouri-Columbia

1982   MA in Statistics, University of Missouri-Columbia

1980   MA in Mathematics, University of Missouri-St. Louis

1977   BA in Mathematics, University of Missouri-St. Louis

Professional Memberships and Awards

Member, American Statistical Association
    Sections: Physical and Engineering Sciences | Quality and Productivity | Statistical
    Consulting | Statistical Computing | Statistics in Sports | Bayesian Statistical Science
Member, International Society for Disease Surveillance
Member, Editorial Review Board, *Journal of Quality Technology* (1996 – 2006)
Certified Quality Engineer (1986 – 2001)
Paul Simon Teaching/Research Award (1998, from SIUE)
Vizeau Award (1996, by St. Louis section of ASQ for technical contributions to field of quality)
President, Granite City Community Band (2013 – 2015)
Member, American Federation of Musicians (2004 – present)
Member, Missouri Ice Hockey Officials Association
Chair Elect, Section on Statistics in Sports, American Statistical Association

Steven E. Rigdon

Teaching Summary

at SIUE   Mathematical Statistics | Statistical Computing | Reliability | Quality Control | Multivariate Analysis | Time Series Analysis | Sample Surveys | Regression Analysis | Experimental Design | Calculus (I, II, and III) | Engineering Mathematics | Numerical Analysis | Risk, and Risk Tradeoffs | Stochastic Processes | Nonparametric Statistics | Discrete Math | Logic and Mathematical Reasoning | others

Developed on-line classes in Calculus I and II, and Concepts of Statistics

Developed Interdisciplinary courses: IS 385 Risk & Risk Tradeoffs, IS 361 Music: Art & Science

Directed 39 Master's theses or research projects and 16 senior projects

at SLU   Principles of Biostatistics, Bayesian Statistics, Capstone in Biostatistics, Survey Sampling

Scholarship Summary

Books   Varberg, D., Purcell, E. and Rigdon, S. E. (2000) *Calculus*, 8th Edition, Prentice-Hall: Upper Saddle River, NJ. Translated into Spanish, Indonesian, and Korea.

Rigdon, S. E. and Basu, A. P. (2000) *Statistical Methods for the Reliability of Repairable Systems*, John Wiley and Sons: New York, NY.

Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus*, 9th Edition, Prentice-Hall.

Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus: Early Transcendentals*, Prentice-Hall.

Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus with Differential Equations*, 9th Edition, Prentice-Hall. Translated into Spanish and Chinese.

Articles   Forty five journal article publications in journals such as Journal of Quality Technology (11), Technometrics (3), Quality Engineering (4), Quality & Reliability Engineering International (3), Journal of Quantitative Analysis in Sports (2), Journal of Statistical Computation & Simulation, Statistics & Probability Letters, American Politics Research, Psychometrika, Journal of Educational Research. Over 30 reviewed papers in proceedings, encyclopedias, etc.

Other   Member, Editorial Review Board, Journal of Quality Technology (1996 – 2006)

Section Editor for the Encyclopedia of Statistics in Quality and Reliability (System Reliability)

Funded Project: "Enhancing High School Mathematics Teaching Through Technology and Cooperative Learning." $70,000 from Illinois Board of Higher Education, 2002

Funded Project: "Efficient Experimentation for Product & Reliability Improvement" October 2009 through October 2012, with Rong Pan, Douglas C. Montgomery, and Connie Borror, from Arizona State University. National Science Foundation, Total amount $437,575.

Service Summary

Chair, Department of Mathematics and Statistics, SIUE, 1994 – 1998.

Graduate Program Director, Department of Mathematics and Statistics, SIUE, 2008 – 2009.

Chair, Curriculum Council, SIUE (university-wide committee with oversight for all curricular matters), 1993 – 1995 (during conversion from quarters to semesters).

Faculty Senate, SIUE (two separate terms),

Chair, Undergraduate Courses Committee, SIUE

Chair, Salary Equity Committee, 2011 – 2012 (SIUE university wide committee)

Committee on Compensation and Fringe Benefits, SLU, 2014 – Present.

Co-director of PhD program in Public Health Studies, SLU (2014 – 2015).

University Committee on Academic Rank and Tenure (SLU university-wide committee), 2012 – 2015.

Chair, Public Health Promotion/Tenure Committee, 2015 – present.

▬▬▬ Courses Taught at SIUE

Term	Courses	Term	Courses
Winter 1987	STAT 480b Intro to Mathematical Statistics II STAT 107 Concepts of Statistics	Fall 1989	MATH 260b Calculus STAT 107 Concepts of Statistics STAT 590 Seminar: Time Series I
Spring 1987	STAT 580a Mathematical Statistics I STAT 107 Concepts of Statistics	Winter 1990	STAT 244 Statistics MATH 260c Calculus STAT 590 Seminar: Time Series II
Summer 1987	STAT 487 Nonparametric Statistics STAT 580b Mathematical Statistics II	Spring 1990	STAT 481 Design & Analysis of Experiments STAT 482 Regression Analysis STAT 107 Concepts of Statistics
Fall 1987	STAT 484 Reliability Theory STAT 107 Concepts of Statistics MATH 260b Calculus	Summer 1990	MATH 465b Numerical Analysis STAT 590 Advanced Experimental Design STAT 244 Statistics
Winter 1988	MATH 462 Engineering Mathematics II STAT 107 Concepts of Statistics	September Option 1990	Management Science 251 Statistics for Business Decisions
Spring 1988	MATH 465a Numerical Analysis STAT 244 Statistics STAT 590 Seminar: Probability Theory	Fall 1990	STAT 244 Statistics STAT 480a Intro to Math Stat I STAT 590 Advanced Experimental Design
Summer 1988	4th Quarter Research (supported by SIUE)	Winter 1991	STAT 480b Intro to Math Stat II STAT 484 Reliability Theory
September Option 1988	STAT 107 Concepts of Statistics	Spring 1991	STAT 580a Math Stat I STAT 590 Adv. Statistical Quality Control
Fall 1988	STAT 107 Concepts of Statistics MATH 465b Numerical Analysis	Summer 1991	STAT 580b Math Stat II
Winter 1989	STAT 484 Reliability Theory MATH 462 Engineering Math II MATH 590g Seminar: Numerical Analysis	Fall 1991	STAT 244 Statistics STAT 483 Sample Surveys
Spring 1989	STAT 481 Applications of Statistics STAT 380 Statistics for Application	Winter 1992	STAT 485 Stochastic Processes
Summer 1989	MATH 422 Discrete Mathematics STAT 495 Statistics (NSF Grant/ Workshop)	Spring 1992	STAT 589 Multivariate Analysis

Steven E. Rigdon   Teaching

Term	Courses	Term	Courses
Summer 1992	STAT 589 Advanced Experimental Design MATH 400 History of Mathematics	**Spring 1996**	MATH 466 Numerical Linear Algebra
Fall 1992	MATH 305 Differential Equations STAT 575 Statistical Computing	**Summer 1996**	STAT 107 Concepts of Statistics
Winter 1993	SABBATICAL	**Fall 1996**	MATH 305 Differential Equations STAT 584 Reliability Theory
Spring 1993	SABBATICAL	**Spring 1997**	STAT 588 Advanced Quality Control
Summer 1993	STAT 487 Nonparametric Statistics STAT 580b Mathematical Statistics II	**Summer 1997**	STAT 380 Statistics for Application
Fall 1993	MATH 223 Logic & Math Reasoning STAT 481 Design & Analysis of Experiments STAT 480a Intro to Math Stat I	**Fall 1997**	MATH 550 Topics in Analysis STAT 484 Reliability Engineering
Spring 1994	MATH 223 Logic & Math Reasoning STAT 581 Advanced Experimental Design	**Spring 1998**	MATH 350 Introduction to Analysis
Summer 1994	MATH 565 Advanced Numerical Analysis MATH 135 Vector Algebra	**Summer 1998**	MATH 400 Dev. Of Modern Mathematics
Fall 1994	STAT 584 Reliability Theory	**Fall 1998**	MATH 150 Calculus I MATH 320 Intro to Algebraic Structures MATH 498 Senior Seminar
Spring 1995	MATH 150 Calculus I STAT 588 Advanced Quality Control	**Spring 1999**	MATH 152 Calculus II MATH 498 Senior Seminar STAT 588 Advanced Quality Control
Summer 1995	MATH 305 Differential Equations	**Summer 1999**	MATH 250 Calculus III OR 441 Stochastic Models MATH 416e Math Topics for Teachers
Fall 1995	MATH 150 Calculus I	**Fall 1999**	MATH 140 Calculus I: Part I MATH 160 Honors Calculus I MATH 550 Topics in Analysis

Spring 2000	SABBATICAL	Spring 2004	IS 385 Risk & Risk Tradeoffs
Summer 2000	MATH 152 Calculus II	Summer 2004	IS 385 Risk & Risk Tradeoffs MATH 423 Combinatorics and Graph Theory
Fall 2000	MATH 160 Honors Calculus I STAT 484 Reliability Engineering	Fall 2004	UNIV 112 University Experience MATH 250 Calculus III MATH 498 Senior Seminar
Spring 2001	MATH 223 Discrete Mathematics MATH 464 Differential Equations II STAT 584 Reliability Theory	Spring 2005	MATH 152 Calculus II MATH 498 Senior Seminar
Summer 2001	MATH 224 Discrete Mathematics	Summer 2005	IS 385 Risk & Risk Tradeoffs
Fall 2001	STAT 480a Mathematical Statistics I MATH 150 Calculus I	Fall 2005	IS 385 Risk & Risk Tradeoffs MATH 250 Calculus III STAT 480a Mathematical Statistics I
Spring 2002	MATH 502 Engineering Math MATH 250 Calculus III MATH 464 Differential Equations II	Spring 2006	MATH 152 Calculus II STAT 480b Mathematical Statistics II
Summer 2002	MATH 150 Calculus I STAT 590 Seminar in Statistics (HS Teachers)	Summer 2006	IS 385 Risk & Risk Tradeoffs STAT 575 Statistical Computing
Fall 2002	MATH 152 Calculus II MATH 224 Discrete Mathematics IS 385 Risk & Risk Tradeoffs	Fall 2006	MATH 150 Calculus I IS 385 Risk & Risk Tradeoffs
Spring 2003	MATH 223 Logic and Math Reasoning MATH 250 Calculus III	Spring 2007	SABBATICAL
Summer 2003	MATH 223 Logic and Math Reasoning MATH 423 Combinatorics & Graph Theory	Summer 2007	MATH 152 Calculus II (on-line) MATH 125 Precalculus STAT 380 Statistics for Appl.
Fall 2003	HONS 120 Infinity MATH 224 Discrete Mathematics STAT 481 Design & Analysis of Experiments	Fall 2007	MATH 150 Calculus I IS 385 Risk and Risk Tradeoffs STAT 480a Mathematical Statistics I STAT 588 Advanced Quality Control

Spring 2008 STAT 380 Statistics for Appl.	**Summer 2010** STAT 107 Concepts of Statistics (on-line) STAT 575 Statistical Computing
Summer 2008 STAT 575 Statistical Computing MATH 150 Calculus I (on-line) MATH 320 Algebraic Structures	**Fall 2010** MATH 152 Calculus II MATH 152 Calculus II STAT 588 Advanced Quality Control
Fall 2008 MATH 150 Calculus I MATH 150 Calculus I STAT 480a Mathematical Statistics I	**Spring 2011** STAT 478 Time Series Analysis STAT 584 Reliability Theory
Spring 2009 MATH 466 Numerical Linear Algebra	**Summer 2011** MATH 150 Calculus I (on-line) STAT 107 Concepts of Statistics (on-line)
Summer 2009 STAT 380 Statistics for Application MATH 423 Combinatorics & Graph Theory	**Fall 2011** MATH 355 Engineering Mathematics
Fall 2009 MATH 150 Calculus I MATH 355 Engineering Math	**Spring 2012** Assigned Time for Research (for receiving promotion to Distinguished Research Professor)
Spring 2010 STAT 581 Advanced Experimental Design	**Summer 2012** STAT 575 Statistical Computing IS 361 Music: Art and Science

Courses Taught at SLU

Fall 2012 Assigned Time for Research and Consulting	**Spring 2015** BST 542 Sampling Theory & Survey Design BST 625 Capstone in Biostatistics
Spring 2013 BST 523 Bayesian Statistics BST 625 Capstone in Biostatistics	**Fall 2015** BST 5000 Principles of Biostatistics BST 5020 Theory of Biostatistics
Fall 2013 BST 500 Principles of Biostatistics	**Spring 2016** BST 5230 Bayesian Statistics BST 6200 Spatial Stat & Disease Mapping
Spring 2014 BST 523 Bayesian Statistics BST 625 Capstone in Biostatistics	**Fall 2016** BST 5000 Principles of Biostatistics (sch) BST 5020 Theory of Biostatistics (sch)
Fall 2014 BST 500 Principles of Biostatistics	

Graduate Students at SIUE and Masters Project or Thesis Title

[1]   Jeffery J. Luner (1987) "Taguchi Methods of Experimental Design."

[2]   Safia Md-Yusof (1988) "Estimating the Proportion in the Tail of a Normal Distribution."

[3]   Laura A. Aerne (Fall 1989) "The Performance of Exponentially Weighted Moving Average Control Charts Under Linear Trend."

[4]   Mindy Walker (Summer 1991) "Estimation for a One-Parameter Item Response Model."

[5]   Emma Cruthis (Summer 1991) "Design Strategies for the Individual Measurements and Moving Range Charts"

[6]   Howard Fuller (Summer 1991) "Bayesian Estimation of Factor Effects in Unreplicated Fractional Factorial Designs"

[7]   Donna Aubrey (Winter 1992) "Goodness-of-fit Tests for Power Law Processes"

[8]   Connie Borror (Spring 1992) "Exponentially Weighted Moving Average and Run Sum Control Charts for Poisson Data."

[9]   Joan Budde (Spring 1992) "A Generalization of Taguchi's Signal-to-Noise Ratio for the Nominal-is-Best Case"

[10]   Julie Beiser (Summer 1992) "Bayesian Prediction for the Number of Failures of a Repairable System."

[11]   Mary Lakey (Summer 1992) "The Modulated Power Law Process"

[12]   Thomas Burroughs (Winter 1993) "An Analysis of Various Quality Control Charts With No Standards Given."

[13]   Amie B. Gianino (Spring 1993) "Using the Method of Collocation to Approximate the Solution of Integral Equations Arising in Statistical Process Control."

[14]   Julia Kendall (Summer 1993) "Average Run Length Comparisons for Multivariate Exponentially Weighted Moving Average Control Charts."

[15]   John Molitor (Fall 1993) "A Comparison of Estimators of the Shape Parameter of the Parameters of the Power Law Process"

[16]   Scott Black (Spring 1994) "Statistical Inference for a Modulated Power Law Process"

[17]   Paul Abernathy (Spring 1995) "Comparison of Various Bootstrap Methods Against Viable Alternatives when Sampling from Finite Universes Using Stratified Random Sampling."

[18]   Corey Bradford (Spring 1995) "Multiresponse Experiments"

[19]   Janet Hogan (Spring 1995) "Statistics and the Law"

[20]   Jodi Palm (Summer 1995) "Bayesian Statistics in Actuarial Science"

[21]   Rich Craig (Summer 1995) "Statistical Process Control and Algorithmic Process Control"

[22]   Kevin Bodden (Summer 1995) "A Shrinkage Estimator for the Covariance Matrix Multivariate Statistical Process Control"

[23]   Safwan Alsebei (Spring 1996) "Construction and Operation of Variables Control Charts"

[24]   Deborah Shepherd (Fall 1996) "A Markov Model for Attribute Data"

[25]   Joseph Karnowski (Fall 1996) "Bayesian Inference for a Change Point in a Stochastic Point Process"

[26]   Richard Blood (Fall 1996) "Control Limits for the EWMA Chart with Exact Limits"

[27]   Jing Zhang (Summer 1998) "Regression Models for Lifetime Data with Applications"

[28]   L. Stephen Knapp (Summer 1999) "Some Aspects of Control Charts"

[29]   H. Randall Holden (Fall 1999) "Using Nonparametric Kernel-Type Estimators for the Rate Functions of Repairable Systems"

[30]   Melissa Stutz (Summer 2001) "Exponentially Weighted Moving Average Control Charts for Processes with Censored Data"

[31]   Ali Arab (Spring 2002) "The Piecewise Exponential Model for Multiple Repairable Systems"

[32]   Haigang Zhou (Spring 2003) "Power Law Process and Duration Dependence of Business Cycles: An Empirical Analysis"

[33]   Nicole Munden (Spring 2004) "Change Point Analysis with Applications to Quality Control"

[34]   Yu Han (Spring 2009) "Application of Revised Genetic Algorithms to the Construction of Alphabetically –Optimal Designs"

[35]   Ryan Cafarelli (Spring 2010) "A Logistic Regression Model for Third Down Conversions in the National Football League"

[36]   Brandon Fish (Spring 2011) "Genetic Algorithms: Finding the Optimal Design for a Life Testing Model" **[Won the university's Outstanding Thesis Award, October 2011]**

[37]   Tong Wu (Summer 2011) "A Bayesian Markov Model for Analyzing the Evolution of Breast Cancer"

[38]   David Timson (Summer 2011) "Analysis of Steakiness in Major League Baseball"

[39]   Viliana Rizova (2013) "Dynamic Linear Models for Election Prediction"

[40]   Georgia Mueller (2015) "The Constant Shape Parameter in Weibull Regression"

Graduate Students Who Have Completed a PhD

[1]   John Molitor, Ph.D. University of Missouri, now at Oregon State University and Imperial College London (joint appointment)

[2]   Ali Arab, Ph.D. University of Missouri, now at Georgetown University

[3]   Connie Borror, Ph.D. Arizona State University, now at Arizona State University West

[4]   Haigang Zhou, Ph.D. University of Nebraska, now at Cleveland State University

[5]   Thomas Burroughs, Ph.D. Washington University, now at Saint Louis University

[6]   Deborah Shepherd, Ph.D. Louisiana Tech, now at University of Tennessee-Chattanooga

[7]   Howard Fuller, Ph.D. University of Wisconsin, now working in industry

[8]   Scott E. Black, Ph.D. Washington University, now at Boeing, St. Louis

[9]   Corey Bradford, Ph.D. Southern Illinois University Carbondale, now Assistant Vice President for Financial and Administrative Affairs and Ethics Officer, Southern Illinois University

Direction of Senior Projects at SIUE

Ron Hulliung (Fall 1999)   Shannon Barruzini (Spring 2000)

Tim Brown (Fall 2001)   Jeremy LeSaulnier (Spring 2004)

Nicole Munden (Spring 2004)   John Goodman (Spring 2004)

Carrie Fletcher Laur (Fall 2004)   Steve Sommer (Fall (2004)

Naomi Thompson (Fall 2005)   Marion Hansen (Spring 2006)

Brandon Fischer (Spring 2008)   Melissa Lemanski (Summer 2008)

Michael Siekerka (Fall 2008)   Laura Tinney (Summer 2009)

Amanda Simpson (Spring 2010)   Josh Jackson (Summer 2011)

PhD Students at Saint Louis University

[1]   Robert M. Steward, Department of Mathematics and Computer Science, co-director.

[2]   Angelique Zeringue, Department of Biostatistics, College for Public Health and Social Justice, committee member.

[3]   Georgia Mueller, Department of Biostatistics, mentor.

Teaching Workshops

[1]   Writing Across the Curriculum, SIUE, Spring 1989.

[2]   Workshop on General Education, University of North Carolina at Ashville, June 1990.

[3]   High Performance Scientific Computing, University of Colorado, Boulder, CO, June 1993.

[3]   Calculus for a New Century, Argonne National Lab, May 1995.

[4]   Revitalizing the Engineering, Mathematics and Science Curricula via Symbolic Algebra, Rose-Hulman Institute of Technology, Terre Haute, IN, July 1995.

[5]   Learning Technologies, May 19-23, 1997. Champaign/Urbana Illinois.

[6]   Cooperative Learning in Mathematics, Notre Dame University, June 2000.

[7]   "Flash at the Beach" seminar June 11-15, 2007, at the University of Rhode Island, Kingston, RI, to learn Adobe Flash web-based animations and interactions.

Other Teaching Activity

[1]   Member of focus group for doctoral dissertation research of Cindy Manjounes, November, 2015

Books

- Varberg, D., Purcell, E. and Rigdon, S. E. (2000) *Calculus*, 8th Edition, Prentice-Hall: Upper Saddle River, NJ.

  Translations of Varberg, Purcell and Rigdon (2000)

  Varberg, D., Purcell, E. and Rigdon, S. E. (2003) *Calculo Diferencial e Integral/ Differential and Integral Caculus (Spanish Edition/Octava Edicion)* – (Spanish)

  Varberg, D., Purcell, E. and Rigdon, S. E. (2003) *Kalkulus* – (Indonesian)

  Varberg, D., Purcell, E. and Rigdon, S. E. (2002) *Calculus*, 8th Edition – (Korean)

- Rigdon, S. E. and Basu, A. P. (2000) *Statistical Methods for the Reliability of Repairable Systems*, John Wiley and Sons: New York, NY.

- Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus*, 9th Edition, Prentice-Hall: Upper Saddle River, NJ.

- Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus: Early Transcendentals*, Prentice-Hall: Upper Saddle River, NJ.

- Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus with Differential Equations*, 9th Edition, Prentice-Hall: Upper Saddle River, NJ.

  Translations of Varberg, Purcell and Rigdon (2007)

  Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculo*, Novena Edicion – (Spanish)

  Varberg, D., Purcell, E. and Rigdon, S. E. (2007) *Calculus*, 9th Ed. – (Chinese)

Journal Articles (* indicates SIUE Student; § indicates SLU student)

[1] Rigdon, S. E. and Tsutakawa, R. K. (1983) "Parameter Estimation in Latent Trait Models." *Psychometrika*, **48**, pp. 567-574.

[2] Rigdon, S. E. and Tsutakawa, R. K. (1987) "Estimation for the Rasch Model When Both Ability and Difficulty Parameters are Random."" *Journal of Educational Statistics*, **12**, pp. 76-86.

[3] Rigdon, S. E. and Basu, A. P. (1988) "Estimating the Intensity Function of a Weibull Poisson Process at the Current Time: Failure Truncated Case." *Journal of Statistical Computation and Simulation*, **30**, pp. 17-38.

[4] Rigdon, S. E. and Basu, A. P. (1989) "The Power Law Process: A Model for the Reliability of Repairable Systems." *Journal of Quality Technology*, **20**, pp. 251-260.

[5]   Rigdon, S. E. and Basu, A. P. (1989) "Mean Squared Errors of Estimators of the Intensity Function of a Nonhomogeneous Poisson Process." *Statistics and Probability Letters*, **8**, pp. 445-449.

[6]   Rigdon, S. E. (1989) "Testing Goodness-of-fit for the Power Law Process." *Communications in Statistics: Theory and Methods*, **A18**, pp. 4665-4676.

[7]   Rigdon, S. E. and Basu, A. P. (1990) "The Effect of Assuming a Homogeneous Poisson Process When the True Process is a Power Law Process." *Journal of Quality Technology*, **22**, pp. 111-117.

[8]   Rigdon, S. E. and Basu, A. P. (1990) "Estimating the Intensity Function of a Power Law Process at the Current Time: Time Truncated Case." *Communications in Statistics: Computation and Simulation*, **B-19**, pp. 1079-1104.

[9]   Champ, C. W. and Rigdon, S. E. (1991) "A Comparison of the Markov Chain and the Integral Equation Approaches for Evaluating the Run Length Distribution of Quality Control Charts." *Communications in Statistics: Computation and Simulation*, **B21**, pp. 191-204.

[10]   *Aerne, L. A., Champ, C. W., and Rigdon, S. E. (1991) "The Performance of Control Charts Under Linear Trend" *Communications in Statistics: Theory and Methods*, **A20**, pp. 3341-3349.

[11]   Lowry, C. A., Woodall, W. H., Champ, C. W. and Rigdon, S. E. (1992) "A Multivariate Exponentially Weighted Moving Average Control Chart" *Technometrics*, **34**, pp. 46-53.

[12]   *Md-Yusof, S. and Rigdon, S. E. (1992) "A Comparison of Estimates for the Proportion in the Tail of a Normal Distribution." *Statistiche Hefte*, **33**, pp. 33-38.

[13]   *Cruthis, E. N. and Rigdon, S. E. (1992) "Comparing Two Estimates of the Variance to Determine the Stability of a Process" *Quality Engineering*, **5**, pp. 67-74.

[14]   Rigdon, S. E., *Cruthis, E. N., and Champ, C. W. (1994) "Design Strategies for Individual and Moving Range Control Charts." *Journal of Quality Technology*, **26**, pp. 274-287.

[15]   Rigdon, S. E. (1995) "Mood's Theorem, Deming's kp Rule, and the Death of Acceptance Sampling." *Quality Engineering*, **8**, pp. 129-136.

[16]   Rigdon, S. E. (1995) "An Integral Equation for the In-Control Average Run Length of a Multivariate Exponentially Weighted Moving Average Control Chart," *Journal of Statistical Computation and Simulation*, **52**, pp. 351-365.

[17]   Rigdon, S. E. (1995) "An Double-Integral Equation for the Average Run Length of a Multivariate EWMA Control Chart," *Statistics and Probability Letters*, **24**, pp. 365-373.

[18]   *Black, S. E. and Rigdon, S. E. (1996) "Statistical Inference for a Modulated Power Law Process," *Journal of Quality Technology*, **28**, pp. 81-90.

[19]   *Beiser, J. A. and Rigdon, S. E. (1997) "Bayes Prediction for the Number of Failures of a Repairable System Modeled by a Nonhomogeneous Poisson Process." *IEEE Transactions on Reliability*, **R-46**, pp. 291-295.

[20]   Champ, C. W. and Rigdon, S. E. (1997) "An Analysis of the Run Sum Control Chart." *Journal of Quality Technology*, **29**, pp. 407-417.

[21]   *Borror, C. M., Rigdon, S. E., and Champ, C. W. (1998) "Poisson EWMA Control Charts." *Journal of Quality Technology*, **30**, pp. 352-361.

[22]   Rigdon, S. E. and *Ma, X. and *Bodden, K. M. (1998) "Statistical Analysis for the Power Law Process." *Journal of Quality Technology,* **30**, pp. 395-400. Program is located at http://www.stat.cmu.edu/jqt/30-4

[23]   *Bodden, K. M. and Rigdon, S. E. (1999) "A Program for the In-Control Average Run Length of a Multivariate Exponentially Weighted Moving Average Control Chart." *Journal of Quality Technology,* **31,** 120-123. Program is located at http://www.stat.cmu.edu/jqt/31-1

[24]   Jones, A. L., Champ, C. W. and Rigdon, S. E. (2001) "Performance of Exponentially Weighted Moving Average Charts with Estimated Parameters," *Technometrics*, **43**, pp. 156-167.

[25]   Champ, C. W., Rigdon, S. E. and Scharnagl, K. A. (2001) "A Method for Deriving Integral Equations Useful in Control Chart Performance Analysis," *Nonlinear Analysis*, **47**, pp. 2089-2101.

[26]   Rigdon, S. E. (2002) "Properties of the Duane Plot for Repairable Systems" *Quality and Reliability Engineering International*, **18**, pp. 1-4.

[27]   Jones, L. A., Champ, C. W., Rigdon, S. E. (2004) "The Run Length Distribution of the CUSUM with Estimated Parameters" *Journal of Quality Technology*, **36**, pp. 95-108.

[28]   Champ, C. W., Jones-Farmer, L. A., and Rigdon, S. E. (2005) "Properties of the T^2 Control Chart When Parameters Are Estimated" *Technometrics*, Vol. 47, pp. 437-445.

[29]   *Shepherd, D. K., Champ, C. W., Rigdon, S. E., and Fuller, H. T. (2007) "Attribute Charts for Monitoring a Markov Process," *Quality and Reliability Engineering International*, 341-365. http://www3.interscience.wiley.com/cgi-bin/fulltext/112635827/PDFSTART

[30]   *Zhou, Haigang and Rigdon, S. E. (2008) "Duration Dependence in U.S. Business Cycles: An Analysis Using the Modulated Power Law Process," *Journal of Economics and Finance*, **32**, 25-34.

[31]   Pan, R. and Rigdon, S. E. (2009) "Bayes Inference for Repairable Systems," *Journal of Quality Technology*, **41**, pp. 82-94.

[32]   Rigdon, S. E., Jacobson, S. H., Cho, W. K. T, Sewell, E. C., and *Rigdon, C. J. (2009) "A Bayesian Prediction Model for the United States Presidential Election," *American Politics Research*, **37**, pp. 700-724.

[33]   Rigdon, S. E., Sewell, E. C., Jacobson, S., Cho, W. K. T., and *Rigdon, C. J. (2010) "An Analysis of Daily Predictions for the 2008 United States Presidential Election," *Case Studies in Business, Industry, and Government Statistics*, **4**, pp. 1-8.

[34]   Zhou, H. and Rigdon, S. E. (2011) "Duration Dependence In Bull and Bear Stock Markets," *Modern Economy*, Vol. **2** Issue 3, pp. 279-286. http://www.scirp.org/journal/PaperInformation.aspx?paperID=6263

[35]   Rigdon, S. E. (2011) "The Penalty Shot/Optional Minor Choice in Ice Hockey," *Journal of Quantitative Analysis in Sports*, Vol. 7: Iss. 4, Article 4.

[36]   *Arab, A., Rigdon, S. E. and Basu, A. (2012) "Bayesian Inference for the Piecewise Exponential Model for the Reliability of Multiple Repairable Systems," *Journal of Quality Technology*, Vol. 44, No. 1, pp. 28-38.

[37]   Pan, R. and Rigdon, S. E. (2012) "A Bayesian Approach to Change Point Estimation in Multivariate SPC," *Journal of Quality Technology*, Vol. 44, No 3, pp. 231-248.

[38]   *Shepherd, D. K., Rigdon, S. E., and Champ, C. W. (2012) "Using Runs Rules to Monitor an Attribute Chart for a Markov Process," *Quality Technology & Quantitative Management*, Vol. 9, No. 4, pp. 383-406.

[39]   *Cafarelli, R., *Rigdon, C. J., Rigdon, S. E. (2012) "Models for Third Down Efficiency in the National Football League," *Journal of Quantitative Analysis in Sports*, Volume 8, Issue 3 pp. 1-26.

[40]   Rigdon, S. E., *Englert, B. R., *Lawson, I. A., Borror, C. M., Montgomery, D. C., Pan, R. (2013) "Experiments for Reliability Achievement," *Quality Engineering*, **25**, pp. 54-72.

[41]   §Steward, R. M. and Rigdon, S. E. (2013) "The Efficiency of a Wavelet Transformation Approach to Prospective Monitoring," *Quality and Reliability Engineering International*, DOI: 10.1002/qre.1607

[42]   Rigdon, S. E., Turabelidze, G. and Jahanpour, E. (2014) ""Trigonometric Regression for Analysis of Public Health Surveillance Data, " *Journal of Applied Mathematics*, Article ID 673293, doi:10.1155/2014/673293

[43]   *Shepherd, D. K., Champ, C. W., and Rigdon, S. E. (2015) "Properties of the Markov Dependent Attribute Control Chart with Estimated Parameters," *Quality and Reliability Engineering International*, DOI: 10.1002/qre.1765.

[44]   Rigdon, S. E., Sauppe, J.J., Jacobson, S. H. (2015) "A Bayesian Prediction Model for the 2012 Presidential and Senate Elections" *Sage Open*, DOI: 10.1177/2158244015579724 .

[45]   *§Mueller, G. and Rigdon, S. E. (2015) "The Constant Shape Parameter in Weibull Regression" *Quality Engineering*, pp. 374-392.

[46]   §Steward, R. M. and Rigdon, S. E. (2015) "A Bayesian Wavelet Approach to the Estimation of a Change-point in a Nonlinear Multivariate Time Series," *Journal of Statistical Computation and Simulation*, DOI: 10.1080/00949655.2015.1116535.

Other Reviewed Papers

[1]   Basu, A. P. and Rigdon, S. E. (1986) "Examples of Parametric Empirical Bayes Methods for the Estimation of Failure Processes for Repairable Systems."   In *Reliability and Quality Control*, ed. A. P. Basu, pp. 47-55. [Refereed]

[2]   Rigdon, S. E. (1990) "How Do You Improve a Process?" *Quality Progress*, August, 1990, p. 152. [Trade publication reviewed by editorial staff.]

[3]   Champ, C. W. and Rigdon, S. E. (1990) "A Comparison of Three Methods for Modeling the Performance of Quality Control Charts." In *Modeling and Simulation Part 2: Expert Systems, Artificial Intelligence, Neural Networks, Vision, Manufacturing*, Eds. W. G. Vogt and M. H. Mickle, pp. 617-622. [Acceptance decisions are based on abstract and summary.]

[4]   Basu, A. P. and Rigdon, S. E. (1991) "Statistical Models for Repairable Systems: Concepts and Results" *Transactions of the 45th Annual Quality Congress.*   [Refereed]

[5]   Champ, C. W. and Rigdon, S. E. (1991) "Analyzing a Generalized Control Chart for Exponentially Distributed Observations" In *Modeling and Simulation, Part 2, Expert Systems, Artificial Intelligence, Electronic Databases, Hydrology and Manufacturing*, Eds. W. G. Vogt and M. H. Mickle, pp. 966-971. [Acceptance decisions are based on abstract and summary.]

[6]   Rigdon, S. E. (1991) "Random Defects vs. Defects With Causes" *IEEE Transactions on Reliability*, R-40, p. 139.   Also: Rigdon, S. E. (1993) Reply to ``Can't Get Rid of Random That Easy" by E. Dougherty, IEEE Transactions on Reliability, R-42, pp. 45. [Editorial essays.]

[7]   *Fuller, H. T. and Rigdon, S. E. (1991) "Bayesian Estimation of Factor Effects for Unreplicated Fractional Factorial Designs" In *Modeling and Simulation, Part 2, Expert Systems, Artificial Intelligence, Electronic Databases, Hydrology and Manufacturing*, Eds. W. G. Vogt and M. H. Mickle. pp. 990-995. [Acceptance decisions are based on abstract and summary.]

[8]   *Aubrey, D. J. and Rigdon, S. E. (1992) "Goodness-of-fit Tests for Power Law Processes." *Advances in Reliability*, Ed. A. P. Basu. Elsevier: North Holland. pp. 21-28. [Refereed]

[9]   *Lakey, M. J. and Rigdon, S. E. (1992) "The Modulated Power Law Process" *Transactions of the 46th Annual Quality Congress*, pp. 559-563 . [Abstracts are refereed]

[10]   *Borror, C. M. and Rigdon, S. E. (1992) "The Exponentially Weighted Moving Average Control Chart for Poisson Data," In *Modeling and Simulation, Part 4: Control, Signal Processing, Robotics, Systems, Power*, Eds. W. G. Vogt and M. H. Mickle, pp. 1769-1773. [Acceptance decisions are based on abstract and summary.]

[11]   *Beiser, J. A. and Rigdon, S. E. (1992) "Bayesian Prediction for the Number of Failures of a Repairable System Modeled by a Homogeneous Poisson Process," In *Modeling and Simulation, Part 4: Control, Signal Processing, Robotics, Systems, Power*, Eds. W. G. Vogt and M. H. Mickle, pp. 1775-1782. [Acceptance decisions are based on abstract and summary.]

[12]   Rigdon, S. E. (1992) "A Survey of Taguchi's Contributions to Quality Engineering and Improvement," *Proceedings of the 1992 Arkansas Quality Conference*, pp. 75-88. [Abstracts are refereed.]

[13]   *Blood, R. E. and Rigdon, S. E. (1993) "Variance Reduction for Estimating Average Run Lengths of Quality Control Charts by Simulation," *Proceedings of the IASTED International Conference: Modelling and Simulation*, pp. 217-220. [Abstracts are refereed.]

[14]   *Lakey, M. J. and Rigdon, S. E. (1993) "Using Experimental Design for Reliability Achievement," *Transactions of the 47th Annual Quality Congress.*   [Abstracts are refereed]

[15]   Champ, C. W., *Blatterman, D. K., and Rigdon, S. E. (1994) "A CUSUM Quality Control Chart Under 100% Inspection for Markov Dependent Attribute Data," *Proceedings of the Third Industrial Engineering Research Conference*, Atlanta, GA pp. 34-39. [Abstracts are refereed]

[16]   Rigdon, S. E. (1995) "Preliminary Sample Sizes for Multivariate Control Charts" *Proceedings of the 26th Annual Meeting of the Midwest Decision Sciences Institute*, pp. 240-243. [Abstracts are refereed]

[17]   *Burroughs, T. E., Rigdon, S. E., and Champ, C. W. (1995) "Analysis of the Shewhart S-Chart with Runs Rules When No Standards are Given," *Proceedings of the 26th Annual Meeting of the Midwest Decision Sciences Institute*, pp. 268-270. [Abstracts are refereed]

[18]   Ross, H. S., C. W. Champ, S. E. Rigdon (1997) "Analysis of the Run Sum X-bar Chart when No Standards are Given," *Proceedings of Southeast Decision Sciences Institute.* [Abstracts are refereed]

[19]   Rigdon, S. E. (1999) "Jakob Bernoulli" in Biographical Encyclopedia of Mathematicians, Donald R. Franceschetti (Editor) Marshall Cavendish: Tarrytown, NY, pp. 48-50. [Encyclopedia entry, reviewed by editor.]

[20]   Rigdon, S. E. (1999) "Ronald Aylmer Fisher" In *Biographical Encyclopedia of Mathematicians*, Donald R. Franceschetti (Editor) Marshall Cavendish: Tarrytown, NY, pp. 195-198. [Encyclopedia entry, reviewed by editor.]

[21]   Rigdon, S. E. (1999) "William Sealy Gosset" In *Biographical Encyclopedia of Mathematicians*, Donald R. Franceschetti (Editor), Marshall Cavendish: Tarrytown, NY, pp. 239-241. [Encyclopedia entry, reviewed by editor.]

[22]   Basu, A. P. and Rigdon, S. E. (2001) The Weibull Nonhomogeneous Poisson Process, in *Handbook of Statistics*, Vol. 20, pp. 43-68, Ed. N. Balakrishnan and C. R. Rao. [Refereed]

[23]   Rigdon, S. E. (2005) The Power Law Process, in *Encyclopedia of Statistical Sciences*, 2nd Edition, Wiley: New York. [Reviewed by editor.]

[24]   Rigdon, S. E. (2008) "Imperfect Repair," in *Encyclopedia for Statistics in Quality and Reliability*, Eds. F. Ruggeri, F. Faltin, and R. Kennett, Wiley: Chichester, pp. 847-850. [Reviewed by editor-in-chief.]

[25]   Rigdon, S. E. (2008) "Component Reliability Importance," in *Encyclopedia for Statistics in Quality and Reliability*, Eds. F. Ruggeri, F. Faltin, and R. Kennett, Wiley: New York. pp. 341-345. [Reviewed by editor-in-chief.]

[26]   Rigdon, S. E. (2008) "Reliability Optimization," in *Encyclopedia for Statistics in Quality and Reliability*, Eds. F. Ruggeri, F. Faltin, and R. Kennett, Wiley: Chichester, pp. 1599-1604. [Reviewed by editor-in-chief.]

[27]   *Rigdon, C. J. and Rigdon, S. E. (2008) "System Reliability: Monte Carlo Estimation," in *Encyclopedia for Statistics in Quality and Reliability*, Eds. F. Ruggeri, F. Faltin, and R. Kennett, Wiley: Chichester, pp. 1977-1982. [Reviewed by editor-in-chief.]

[28]   Rigdon, S. E. (2008) "Repairable Systems: Bayesian Analysis," in *Encyclopedia for Statistics in Quality and Reliability*, Eds. F. Ruggeri, F. Faltin, and R. Kennett, Wiley: New York, pp. 1631-1636. [Reviewed by editor-in-chief.]

[29]   Rigdon, S. E. (2008) "Repairable Systems Reliability," in *Encyclopedia of Quantitative Risk Assessment, and Analysis*, Eds. E. Melnick and B. Everitt, Wiley: New York. pp. 1493-1499. [Reviewed by section editor.]

[30]   Rigdon, S. E. (2010) "Repairable Systems: Renewal and Non-Renewal" in *Encyclopedia of Operations Research and Management Science*, Ed. J. J. Cochran, Wiley: New York, (to appear). [Reviewed by editor]

[31]   Rigdon, S. E. (2010) "Power Law Process" in *Handbook of Engineering, Quality Control and Physical Sciences*, Wiley: New York (to appear) [Reviewed by editor. This is a revision and update of 2005 entry reported above [23] in Encyclopedia of Statistical Sciences, 2nd Ed..]

[32]   *Fish, B. R., Rigdon, S. E., *Borror, C. M., Montgomery, D. C., Pan, R. (2012) "Optimal Design for Multifactor Life Testing Experiments for Exponentially Distributed Lifetimes," in *Frontiers in Statistical Quality Control 10*, Lenz, H.-J.; Schmid, W.; Wilrich, P.-T. (Eds.), Springer: New York, pp. 303-318.

[33]   Rigdon, S. E. and Fricker, R. D. (2015) "Health Surveillance" in Innovative Statistical Methods for Public Health Data, Springer, pp. 203 – 249.

[34]   Rigdon, S. E. (2015) "Power Law Process," Wiley Online Library, http://onlinelibrary.wiley.com/doi/10.1002/9781118445112.stat02201.pub2/pdf, revision and update of [23] and [31] above.

Other Papers

[1]   *Gianino, A. B., Rigdon, S. E. and Champ, C. W. (1990) "The Solution of Integral Equations by the Collocation Method." *Proceedings of the Statistical Computing Section of the American Statistical Association*, pp. 101-102.

[2]   Rigdon, S. E. and Champ, C. W. (1991) "An Example to Illustrate the Use of Experimental Design in Industry" *Proceedings of the Statistics Education Section of the American Statistical Association.*

[3]   *Molitor, J. T. and Rigdon, S. E. (1993) "A Comparison of Estimators of the Shape Parameter of the Power Law Process," *Proceedings of the Section on Physical and Engineering Sciences.*

[4]   *Burroughs, T. E., Champ, C. W., and Rigdon, S. E. (1993) "Analysis of Shewhart Charts With Runs Rules When No Standards are Given," *Proceedings of the Section on Quality and Productivity*.

[5]   Rigdon, S. E. (1996) "Discussion of Presentations by Champ and Fuller; Kirmani and Park; Alwan; and Alwan, Ebrahimi, and Soofi." Proceedings of the Section on Quality and Productivity, pp. 65-66.

[6]   Rigdon, S. E. (1997) "Getting Students to Write in Statistics Classes." *Proceedings of the Section on Statistics Education.*

[7]   Champ, C. W. and Rigdon, S. E. (1998) "Monitoring Variability Using the Run Sum Chart." *Proceedings of the Quality and Productivity Section*, pp. 24-25.

[8]   Rigdon, S. E. (2000) "The Penalty Shot/Optional Minor Choice in Hockey," *Proceedings of the Section on Statistics in Sport.*

[9]   Champ, C. W., Rigdon, S. E., and Scharnagl, K. A. (2000) "Derivation of Integral Equations Useful in the Performance Evaluation of Various Control Charts," *Proceedings of Quality and Productivity Section.*

[10]   *Rigdon, C. J. and S. E. Rigdon (2003) "An Analysis of Scoring Methods in Tennis," *Proceedings of Statistics in Sports Section.*

[11]   *Rigdon, . J. and S. E. Rigdon (2004) "A Model for First-Down Efficiency in the NFL," *Proceedings of Statistics in Sports Section.*

[12]   Rigdon, S. E., Turabelidze, G., DeClue, R, Patrick, S., Jahanpour, E., He, R., and Lloyd, J. (2013) "Detection of Outbreak Signals Using R" *Online Journal of Public Health Informatics*, http://ojphi.org/ojs/index.php/ojphi/article/view/5070/3929 (abstract).

Other Manuscripts

[1]   Rigdon, S. E. (1998)   A Handbook of Mathematical Writing for Undergraduates, Unpublished.

Submitted

[1]   Rigdon, S. E., Sauppe, J.J., Jacobson, S. H. (2014) "A Bayesian Prediction Model for the 2012 Presidential and Senate Elections"

[2]   Steward, R. M. and Rigdon, S. E. (2014) "Estimating the change-point location of a multivariate time series: A Bayesian approach in the wavelet domain"

[3]   Steward, R. M. and Rigdon, S. E. (2014) "A Reversible Jump Markov Chain Monte Carlo Approach to the Multivariate Change-Point Problem."

[4]   Shepherd, D. K., Champ, C. W., Rigdon, S. E. (2014) "Properties of the Markov Dependent Attribute Control Chart with Estimated Parameters"

Current Work

[1]   Rigdon, S. E. and Timson, D. (2014) "Hierarchical Bayes Models for Competition in Sports."

[2]   Champ, C. W. and Rigdon, S. E. (2014) "Selecting the Smoothing Matrix for the MEWMA Chart"

[3]   Rigdon, S. E. and Rizova, V. (2014) "A Dynamic Linear Model for Presidential Election Polls."

[4]   Jones-Farmer, L. A., Rigdon, S. E., Bodden, K. M. (2014) "Hotelling's T^2 Control Charts based on Shrunken Covariance Estimates"

External Grant Submissions

[1]   2002 "Enhancing High School Mathematics Teaching Through Technology and Cooperative Learning." $70,000 from Illinois Board of Higher Education, Funded.

[2]   2007 Assessment of On-Line Homework/Quizzes in Precalculus Mathematics, Spencer Foundation, Not Funded.

[3]   2008 "Efficient Experimentation for Product and Process Reliability Improvement" with Douglas C. Montgomery, Rong Pan, and Connie M. Borror (all from Arizona State University), National Science Foundation, Not Funded.

[4]   2009 – 2013 "Efficient Experimentation for Product and Process Reliability Improvement" $437,000 from National Science Foundation. With Douglas C. Montgomery, Rong Pan, and Connie M. Borror (all from Arizona State University), Funded.

[5]   2012 "Multivariate Process Control for High-Dimensional Processes" with Rong Pan (Arizona State University) and Charles W. Champ (Georgia Southern University), Not Funded.

[6]   2012 "Biosurveillance Methods for Situational Awareness and Early Event Detection," Institute of Clinical and Translational Sciences, Not Funded.

[7]   2013 "Multivariate Process Control for High-Dimensional Processes" with Rong Pan (Arizona State University) and Charles W. Champ (Georgia Southern University), National Science Foundation, Not Funded.

Editing

1996 - 2006   Member, Editorial Review Board, *Journal of Quality Technology*. Responsible for reviewing a number of papers for the journal and making recommendations to the editor for acceptance/rejection/revision of papers submitted to the journal. Editorial board met twice per year: once at the Joint Statistics Meetings in August, and once at the Fall Technical Conference in October. I attended nearly all of the August meetings and some of the October meetings.

2006-2007   Section editor (System Reliability) for *Encyclopedia of Statistics in Quality and Reliability*, a publication of John Wiley and Sons, Chichester, UK. Responsible for

- selecting topics for articles

- selecting authors for the articles
- providing authors with guidelines on their particular topic
- reviewing the submitted papers, and make comments for revisions
- sending the papers to the editor when the papers were acceptable

Each of these articles was three to eight typeset pages. The goal of each entry was to give a comprehensive treatment, including a literature review, of a given topic. Entries in my section included:

Coherent Systems	Monte-Carlo Methods for System Evaluation
Parallel, Series, and Parallel-Series Systems	Repairable systems, statistical inference
k-out-of-n Systems	Computational Algebra Methods for System Reliability
Path and Cut Sets	Genetic Algorithms in Reliability
Component Reliability Importance	Safety and Reliability
Modules and Modular Systems	Block Replacement
Bounds on System Reliability	System Downtime Distributions
Repairable Systems	Intensity Functions: Nonhomogeneous Poisson Processes
Redundancy	Bayesian analysis of Repairable Systems
Stress-Strength Model	Flowgraph models
Reliability Optimization	Queues in Reliability
Reliability Databases	Imperfect Repair
Fault Trees	Reliability Allocation
Failure Mode, Effects, & Criticality Analysis (FMECA)	

Book Reviews for Journals

[1]   Bury, Karl "Statistical Models in Applied Science." *Technometrics* (1988) pp. 129-130.

[2]   Amendola, A. and Keller, A. (editors) "Reliability Data Bases."   *Technometrics*, (1989) pp. 268-269.

[3]   Dovich, Robert A. "Reliability Statistics" *Technometrics* (1992) p. 118.

[4]   Hecht, Harry G. "Mathematics in Chemistry: An Introduction to Modern Methods" *Technometrics* (1992) p. 239-240.

[5]   Zacks, Shellemyahu "Introduction to Reliability Analysis" *Technometrics*, (1993) p 221.

[6]   Schaeffer, R. L. and McClave, J. T. (1995) "Probability and Statistics for Engineers" *Journal of Quality Technology,* pp. 178-179.

[7]   Tobias, Paul A. and Trindade, David C. (1998) "Applied Reliability, Second Edition," Chapman Hall: New York, *Journal of Quality Technology*, pp. 179-180.

[8]   Kales, Paul (1999) "Reliability for Technology, Engineering, and Management," Prentice-Hall: Upper Saddle River, *Journal of Quality Technology*, pp. 360-362.

[9]   Fuchs, C. and Kenett, R. S. (1998) "Multivariate Quality Control: Theory and Applications,"
        Marcel Dekker: New York, *Journal of Quality Technology*.

[10]   Blischke, W. R. and Murthy, D. N. P. (2003) "Case Studies in Reliability and Maintenance,"
        Wiley: New York, *Journal of Quality Technology*.

[11]   Stamatis, D.H. (2013) "Essential Statistical Concepts for the Quality Professional," CRC Press,
        The American Statistician

Book Reviews for Publishers

[1]   Burden, R. L. and Faires, J. D. *Numerical Analysis*, Fifth Edition. PWS-Kent: Boston. (See the
        blurb on the outside back cover of the fifth edition.)

[2]   Hanke and Reitch *Understanding Business Statistics*, Second Edition.   Richard Irwin:
        Homewood, IL.

[3]   Lenth, R. V. *Planning and Analysis of Experiments*, Second Edition. PWSKent: Boston.

[4]   Mendenhall, W., Wackerly, D. D., and Scheaffer, R. L., *Mathematical Statistics with Applications*,
        Fourth Edition. (prior to making changes for the fifth edition)

[5]   Meeker, W. Q. and Escobar, L. A. *Statistical Methods for Reliability Data*, for Duxbury Press.

[6]   Moore, David *Statistics: Concepts and Controversies, Third Edition*, for Freeman Inc.

[7]   Kapur, K. C., and Lamberson, L. R., *Reliability in Engineering Design*, for John Wiley and Sons.

[8]   Voegel, Joseph, *Design of Experiments for Engineers and Scientists*, for Duxbury Press.

[9]   Moore, David *Statistics: Concepts and Controversies, Fourth Edition* for Duxbury Press.

[10]   Scheaffer and McClave, *Probability and Statistics for Engineers*, Fourth Edition, Duxbury.

[11]   Weiss, Neil A. *Introductory Statistics*, published by Addison-Wesley-Longman.

[12]   Aliaga, Martha, and Gunderson, Brenda, *Interactive Statistics*

[13]   J. Devore and N. Farnum, *Statistics for Engineers and Scientists*, for Duxbury

[14]   Alwan, Laythe, Statistical Process Monitoring, for Irwin

[15]   Triola, M. M., Triola, M. F. and Roy, (2015) *Biostatistics for the Biological and Health Sciences*, for
        Pearson

Conference and Invited Presentations

[1]   Rigdon, S. E. and Tsutakawa, R. K. (1981) "Parameter Estimation in Latent Trait Models." Spring meeting of the Biometric Society, San Antonio, Texas.

[2]   Rigdon, S. E. and Basu, A. P. (1984) "Parametric Empirical Bayes Estimation of Failure Processes for Repairable Systems" International Conference on Reliability and Quality, Columbia, Missouri.

[3]   Rigdon, S. E. and Basu, A. P. (1986) "Estimating the Intensity Function of a Weibull Process at the Current Time: Failure Truncated Case." Joint Statistical Meetings, Chicago, Illinois.

[4]   Champ, C. W. and Rigdon, S. E. (1987) "Multivariate Exponentially Weighted Moving Average Control Charts." Joint Statistical Meetings, San Francisco, California.

[5]   Rigdon, S. E. and Basu, A. P. (1988) "The Effect of Assuming a Homogeneous Poisson Process When the True Process is a Power Law Process." Joint Statistical Meetings, New Orleans, Louisiana.

[6]   Rigdon, S. E. (1988) "The Probability of Reversal in Contested Elections." University of Missouri-Columbia.

[7]   Rigdon, S. E. (1988) "Statistics and the Law" Pi Mu Epsilon meeting at SIUE.

[8]   Rigdon, S. E. and Champ, C. W. (1989) "A Comparison of the Integral Equation and Markov Chain Approaches to Obtaining Average Run Lengths for Control Charts." Joint Statistical Meetings, Washington, DC.

[9]   Champ, C. W. (presenter) and Rigdon, S. E. (1989) "The Generalized Control Chart for Exponential Random Variables." Joint Statistical Meetings, Washington, DC.

[10]   Lowry, C., Woodall, W. H., Champ, C. W. and Rigdon, S. E. (1989) "A Multivariate Exponentially Weighted Moving Average Control Chart." Joint Statistical Meetings, Washington, DC. (Lowry was presenter.)

[11]   Champ, C. W. and Rigdon, S. E. (1990) "A Comparison of Three Methods for Modeling the Performance of Quality Control Charts." The Pittsburgh Conference on Modeling and Simulation. (May 1990)

[12]   *Gianino, A. B., Rigdon, S. E., and Champ, C. W. (1990) "The Solution of Integral Equations by the Collocation Method." Joint Statistical Meetings, Los Angeles, California. (August 1990)

[13]   Rigdon, S. E. (1990) "Statistics in Society" at Weber Township High School, Bluford, Illinois. (March 1990)

[14]   Rigdon, S. E. (1991) "Statistical Process Control" Workshop presentation for the March meeting of the St. Louis Section of the American Society for Quality Control. (January 1991)

[15]   Rigdon, S. E. (1991) "A Survey of Taguchi's Contributions to Quality Engineering" 45th Annual Spring Quality Conference, St. Louis, Missouri. (April 1991)

[16]   Basu, A. P. and Rigdon, S. E. (1991) "Statistical Models for Repairable Systems: Concepts and Results" Annual Quality Congress in Milwaukee, Wisconsin. (May 1991)

[17]   Champ, C. W. and Rigdon, S. E. (1991) "Analyzing a Generalized Control Chart for Exponentially Distributed Observations" 22nd Annual Pittsburg Conference on Modeling and Simulation. (May 1991)

[18]   *Fuller, H. T. and Rigdon, S. E. (1991) "Bayesian Estimation of Factor Effects for Unreplicated Fractional Factorial Designs" 22nd Annual Pittsburg Conference on Modeling and Simulation. (May 1991)

[19]   *Aubrey, D. J. and Rigdon, S. E. (1991) "Goodness-of-Fit Tests for Power Law Processes" Invited presentation at the International Conference on Reliability, Columbia, Missouri. (June 1991)

[20]   Rigdon, S. E. and Champ, C. W. (1991) "An Example to Illustrate the Use of Experimental Design in Industry" Joint Statistical Meetings, Atlanta, Georgia. (August 1991).

[21]   Rigdon, S. E. (1992) "A Survey of Taguchi's Contributions to Quality Engineering and Improvement," 1992 Arkansas Quality Conference, March 1992.

[22]   *Borror, C. M. and Rigdon, S. E. (1992) "The Exponentially Weighted Moving Average Control Chart for Poisson Data," Pittsburgh Conference on Modeling and Simulation, May 1992.

[23]   *Beiser, J. A. and Rigdon, S. E. (1992) "Bayesian Prediction for the Number of Failures of a Repairable System Modeled by a Homogeneous Poisson Process," Pittsburgh Conference on Modeling and Simulation., May 1992.

[24]   *Lakey, M. J. and Rigdon, S. E. (1992) "The Modulated Power Law Process," 1992 Quality Congress, Nashville, Tennessee, May 1992

[25]   Rigdon, S. E. (1993) "Quality, Statistics, and the Scientific Method," St. Louis Section of the American Society for Quality Control, February, 1993.

[26]   Rigdon, S. E. (1993) "Markov Chain and Integral Equation Approximations for the Average Run Length of Exponentially Weighted Moving Average Charts," University of Missouri-Columbia, April 1993.

[27]   *Blood, R. E. and Rigdon, S. E. (1993) "Variance Reduction for Estimating Average Run Lengths of Quality Control Charts by Simulation," IASTED International Conference on Modelling and Simulation," May 1993.

[28]   *Lakey, M. J. and Rigdon, S. E. (1993) "Using Experimental Design for Reliability Achievement," Annual Quality Congress, Boston, MA, May 1993.

[29]   *Molitor, J. and Rigdon, S. E. (1993) "A Comparison of Estimators of the Shape Parameter of the Power Law Process," Joint Statistical Meetings, San Francisco, CA, August 1993.

[30]   *Burroughs, T. E., Champ, C. W. (presenter) and Rigdon, S. E. "Analysis of Shewhart Charts With Runs Rules When No Standards are Given," Joint Statistical Meetings, San Francisco, CA, August 1993.

[31]   Rigdon, S. E. "An Integral Equation for the In-Control Average Run Length of a Multivariate Exponentially Weighted Moving Average Control Chart," Winter Meeting of the American Statistical Association, January 1994, Atlanta, GA.

[32]   Rigdon, S. E. "Multivariate Quality Control," Operations Research Society of America/ Institute of Management Science (ORSA/TIMS) Meeting, October 1994, Detroit, MI. (Invited talk).

[32]   *Black, S. E. (presenter) and Rigdon, S. E, "Statistical Models for Repairable Systems," Operations Research Society of America/ Institute of Management Science (ORSA/TIMS) Meeting, April, 1995, Los Angeles, CA (Invited talk).

[33]   Rigdon, S. E. (1995) "A Double-Integral Equation for the Average Run Length of a Multivariate Exponentially Weighted Moving Average Control Chart," Joint Statistical Meetings, August 1995, Orlando, FL.

[34]   Rigdon, S. E. (1996) Invited to be a discussant at a session on quality control and reliability for the Joint Statistical Meetings, August, 1996, Chicago, IL.

[35]   Rigdon, S. E. (1996) "Preliminary Sample Size Requirements for Multivariate Control Charts," Joint Statistical Meetings, August, 1996, Chicago, IL.

[36]   Champ, C. W. and Rigdon, S. E. (1997) "Analysis of the Run Sum X-Chart when No Standards Are Given," Southeast Decisions Sciences Institute, 27th Annual Meeting, Atlanga, GA.

[37]   Rigdon, S. E. (1997) "Getting Students to Write in Introductory Statistics and Mathematics Courses," Joint Statistical Meetings, August 1997, Anaheim, CA.

[38]   Rigdon, S. E. (1998) "A Note on Duane Plots" International Conference on Reliability and Survival Analysis, DeKalb, IL, March 1998.

[40]   Champ, C. W. (presenter) and Rigdon, S. E. (1998) "Monitoring Variability with the Run Sum Chart, " Joint Statistical Meetings, Dallas, TX, August 1998.

[41]   Jones, L. A., Champ, C. W. and Rigdon, S. E. (1999) "Sample Size Requirements for the EWMA Chart," Joint Statistical Meetings, Baltimore, MD, August 1999.

[42]   Champ, C. W., (presenter) Rigdon, S. E., and Scharnagl, K. A. (2000) "A Method for Deriving Integral Equations Useful in Control Chart Performance Analysis," World Congress of Nonlinear Analysis, Catania, Sicily, May 2000.

[43]   Rigdon, S. E. (2000) "The Penalty Shot/Optional Minor Choice in Hockey," Joint Statistical Meetings, Indianapolis, IN, August 2000.

[44]   Champ, C. W., Rigdon, S. E., and Scharnagl, K. A. (2000) "Derivation of Integral Equations Useful in the Performance Evaluation of Various Control Charts," Joint Statistical Meetings, Indianapolis, IN, August 2000.

[45]   Rigdon, S. E. (2001) "Properties of the Duane Plot for Repairable Systems" Statistics 2001 Canada, Montreal, Quebec, July, 2001

[46]   Rigdon, S. E. (2002) "Graphical Methods for Analyzing Data from Repairable Systems" Fall Technical Conference, Valley Forge, PA, October 2002

[47]   Rigdon, S. E. (2003) "The Duane Plot for Repairable Systems" Joint Statistical Meetings, San Francisco, CA, August 2003. [This talk received "Honorable Mention" from SPES (Section on Physical and Engineering Sciences) for the being among the best talks in the 43 sponsored by SPES at the Joint Statistical Meetings in 2003.]

[48]   Rigdon, C. J. (presenter) and S. E. Rigdon (2003) "An Analysis of Scoring Methods in Tennis" San Francisco, CA, August 2003.

[49]   Munden, N. J. and Rigdon, S. E. (2004) Methods for Estimating the Time of a Shift in the Mean for Multivariate Data, Joint Statistical Meetings, Toronto, ON, August 2004

[50]   Rigdon, C. J. (presenter) and Rigdon, S. E. (2004) Models for Third Down Effiency in the NFL, Joint Statistical Meetings, Toronto, ON, August 2004

[51]   Zhou, H. (presenter) and Rigdon, S. E. (2004) Statistical Modeling of Duration Dependence in Business Cycles, Southern Economic Association, New Orleans, LA, November 2004

[52]   Rigdon, C. J. (presenter) and Rigdon, S. E. (2006) A Compound Logistic Regression Model for Third Down Efficiency in the NFL, Joint Statistics Meetings, Seattle, WA, August 2006

[53]   Rigdon, S. E. and Munden, N. (2006) The Multivariate Exponentially Weighted Moving Average, Joint Statistics Meetings, Seattle, WA, August 2006.

[54]   Rigdon, S. E. (2007) Multivariate Control Charts, Arizona State University, April 20, 2007

[55]   Champ, C. W. and Rigdon, S. E. (2007) "A Method for Selecting the Smoothing Matrix of a MEWMA Chart" Fall Technical Conference, Jacksonville, FL, October, 2007.

[56]   Rigdon, S. E. (2008) "The Use of On-Line Testing in Precalculus Mathematics," Joint Mathematics Meetings," San Diego, CA, January 2008.

[57]   Rigdon, C. J., Rigdon, S. E., Sewell, E. C., Jacobson, S. (2008) "Predicting Electoral Vote Totals for the Presidential Election," Joint Statistics Meetings," Denver, CO, August 2008.

[58]   Rigdon, S. E. and Rigdon, C. J. (2008) "Election Prediction Using the Kalman Filter," Joint Statistics Meetings, Denver, CO, August 2008.

[59]   Rigdon, S. E., Sewell, E. C., Jacobson, S. H., Cho, W. K. T., Rigdon, C. J. (2009) "A Bayesian Model for Predicting Electoral Vote Totals for the 2008 Presidential Election" Joint Statistics Meetings, Washington, DC, August 2009.

[60]   Pan, R. and Rigdon, S. E. (2009) "A Bayesian Approach to Change Point Estimation in Univariate and Multivariate SPC" *Fall Technical Conference*, Indianapolis, IN, October 2009. [Acceptance based on abstract]

[61]   Pan, R. and Rigdon, S. E. (2009) "Bayes Inference for General Repairable Systems" INFORMS, San Diego, CA [Invited by editor of *Journal of Quality Technology*]

[62]   Jacobson, S. H. (presenter), Cho, W., Rigdon, S. E., and Sewell, E. C. (2009) "A Retrospective Analysis of Predictions for the 2008 United States Presidential Election" INFORMS, San Diego, CA.

[63]   Fish, B. R., Rigdon, S. E. (presenter), Borror, C. M., Montgomery, D. C., Pan, R. (2010) "Optimal Design for Multifactor Life Testing Experiments for Exponentially Distributed Lifetimes," Joint Statistics Meetings, Vancouver, BC, August 8-12, 2010.

[64]   Fish, B. R., Rigdon, S. E. (presenter), Borror, C. M., Montgomery, D. C., Pan, R. (2010) "Optimal Design for Multifactor Life Testing Experiments for Exponentially Distributed Lifetimes," X[th] International Workshop on Intelligent Quality Control, Seattle, WA, August 19-20, 2010 [essentially the same talk as [63], but this was a little longer and updated based on comments from [63]).

[65]   Fish, B. R., Lawson, I., Rigdon, S. E. (presenter), Borror, C. M., Montgomery, D. C., Pan, R. (2011) "Experiments for Reliability Achievement," Quality and Productivity Research Conference, June 2011, Roanoke, VA.

[66]   Rigdon, S. E. (presenter) and Pan, R. "A Bayesian Approach to Change Point Estimation in Multivariate SPC," Quality and Productivity Research Conference, June 2012, Long Beach, CA.

[67]   Rigdon, S. E. (presenter), Pan, R., Montgomery, D. C., and Borror, C. M., "Design of Experiments for Reliability Achievement, Fall Technical Conference, October 2012, St. Louis, MO.

[68]   Rigdon, S. E. (presenter), Turabelidze, G., DeClue, R., Patrick, S., Jahanpour, E., He, R., Lloyd, J. "Detection of Outbreak Signals Using R" International Society for Disease Surveillance, December 2013, New Orleans, LA.

[69]   Steward, R. M. (presenter), Rigdon, S. E., Pan, R. "A Reversible Jump Markov Chain Monte Carlo Approach to the Multivariate Change-Point Problem" Fall Technical Conference, October 2014, Richmond, VA.

[70]   Rigdon, S. E. (presenter), Steward, R. M., and Pan, R. "A Reversible Jump Markov Chain Monte Carlo Approach to the Multivariate Change-Point Problem" International Symposium on Statistical Process Monitoring, July 2015, Padua, Italy.

[71]   Rigdon, S. E. (presenter), Steward, R. M., and Pan, R., "Bayesian Diagnostics for Multivariate Control Charts," Virginia Tech. Department of Statistics, October 2015.

[72]   Rigdon, S. E. (presenter), Mueller, G. "The Constant Shape Parameter Assumption in Weibull Regression," INFORMS, Philadelphia, November 2015. [Invited by editor of *Quality Engineering*]

[73]   Pan, R. and Rigdon, S. E. (joint presenters), "Design and Analysis of Accelerated Life Tests (2 hour workshop)" Reliability and Maintainability Symposium, Tucson, January 2016

Grant Review Panels

[1]   Institute for Clinical and Transitional Sciences, 2013, 2014

[2]   National Science Foundation, Civil, Mechanical, and Manufacturing Innovation, 2013

Short Courses

[1]   Statistical Methods for the Reliability of Repairable Systems ½ - day short course at the Joint
         Statistics Meetings, August 1997, Anaheim, CA.

[2]   Statistical Models for the Reliability of Repairable Systems, 25th Agricultural, Industrial, and
         Construction Equipment Conference, March, 1998, Davenport, Iowa, ½ - day workshop.

[3]   Experimental Design for Reliability Achievement, full-day workshop at Fall Technical
         Conference, San Antonio, TX, October 2013, with Connie Borror and Rong Pan.

Other Scholarly Activities

Refereed papers for *Journal of the American Statistical Association, Technometrics, Journal of Quality Technology, Quality and Reliability Engineering International, Annals of Statistics, Journal of Statistical Planning and Inference, American Statistician, Communications in Statistics, Illinois Academy of Science, Journal of Educational Statistics, Journal of the American Statistical Association, Communications in Statistics: Simulation and Computation, Communications in Statistics: Theory and Methods, Mathematical Biosciences and Engineering, Sage Open Journal, Journal of the Iranian Statistical Association, Wiley Encyclopedia*

Organizer for sessions at conferences:

  [1]   "Repairable Systems Reliability," 1991 Joint Statistical Meetings in Atlanta, Georgia.

  [2]   "Achieving and Controlling Quality," 1991 Pittsburgh Simulation Conference in Pittsburgh, PA.

  [3]   "Quality Control Statistics" at the ORSA/TIMS meeting, October 1994

Developed and coded a method for the Missouri Department of Health and Senior Services to monitor reportable diseases. Method is based on Rigdon, S. E., Turabelidze, G. and Jahanpour, E. (2014) "Trigonometric Regression for Analysis of Public Health Surveillance Data, " *Journal of Applied Mathematics*. Received Second Prize from Association of State and Territorial Health Officials (20 studies were nominated). Their blurb was *"Disease Electronic Surveillance with Trigonometric Models (DESTEM) (MO) – Reviewers rated this program highly, because the program is affordable, and can be replicated by most public health agencies in the country. The system has shown accurate situational assessment of reportable diseases in Missouri and demonstrated timely detection of the real life disease clusters and outbreaks. This program was selected as the second place winner for Category B."*

Google Scholar Citations as of 3/21/2016

Citation indices	All	Since 2011
Citations	2685	1099
h-index	21	15
i10-index	29	19

20 Most Cited Papers

A multivariate exponentially weighted moving average control chart CA Lowry, WH Woodall, CW Champ, SE Rigdon Technometrics 34 (1), 46-53	913	1992
Statistical methods for the reliability of repairable systems SE Rigdon, AP Basu Wiley	392	2000
The performance of exponentially weighted moving average charts with estimated parameters LA Jones, CW Champ, SE Rigdon Technometrics	178	2012
Poisson EWMA control charts CM Borror, CW Champ, SE Rigdon Journal of Quality Technology 30 (4), 352-361	121	1998
The run length distribution of the CUSUM with estimated parameters SE RIGDON	104	2004
The power law process: a model for the reliability of repairable systems SE Rigdon, AP Basu Journal of Quality Technology 21 (4), 251-260	91	1989
Parameter estimation in latent trait models SE Rigdon, RK Tsutakawa Psychometrika 48 (4), 567-574	87	1983

A comparison of the Markov chain and the integral equation approaches for evaluating the run length distribution of quality control charts
CW Champ, SE Rigdon
Communications in Statistics-Simulation and Computation 20 (1), 191-204

65   1991

Design strategies for individuals and moving range control charts
SE Rigdon, EN Cruthis, CW Champ
Journal of Quality Technology 26 (4)

64   1994

Properties of the T2 control chart when parameters are estimated
CW Champ, LA Jones-Farmer, SE Rigdon
Technometrics

57   2012

An integral equation for the in-control average run length of a multivariate exponentially weighted moving average control chart
SE Rigdon
Journal of Statistical Computation and Simulation 52 (4), 351-365

53   1995

A double-integral equation for the average run length of a multivariate exponentially weighted moving average control chart
SE Rigdon
Statistics & probability letters 24 (4), 365-373

46   1995

Cálculo
EJ Purcell, SE Rigdon, DE Varberg
Pearson Educación

39   2007

Handbook of statistics
N Balakrishnan, CR Rao, N Limnios, C Papadopoulos, AP Basu, ...
Order 16, 3-731

39*   1998

Evaluation of control charts under linear trend
LA Aerne, CW Champ, SE Rigdon
Communications in Statistics-Theory and Methods 20 (10), 3341-3349

39   1991

Bayes prediction for the number of failures of a repairable system
JA Beiser, SE Rigdon
Reliability, IEEE Transactions on 46 (2), 291-295

36   1997

Statistical inference for a modulated power law process
SE Black, SE Rigdon
Journal of Quality Technology 28 (1), 81-90

35   1996

[A program for approximating the in-control ARL for the MEWMA chart](#)
KM Bodden, SE Rigdon
Journal of Quality Technology 31 (1), 120

[32](#)   1999

[Bayes inference for general repairable systems](#)
R Pan, SE Rigdon
Journal of Quality Technology 41 (1)

[31](#)   2009

[Cálculo diferencial e integral](#)
EJ Purcell, D Varbeg, SE Rigdon
Pearson Education

[22](#)   2003

Committees at SIUE

- Faculty Senate 1988-1992 (Elected in 1988 to fill the vacancy of D. Steinberg who was elected President Elect of the Faculty Senate. Reelected to three year term in 1990.)

- Served as Curriculum Council representative on PERC 1988-89. (PERC was the committee that considers and ranks New and Expanded Program Requests.)

- Chaired Undergraduate Courses Committee 1989-90. (The UCC considers all requests to add, drop or revise undergraduate courses.)

- Chair of Curriculum Council 1990-92. The Curriculum Council is responsible for 1. Recommending policy on requirements for entrance, retention, and graduation for undergraduates. 2. Recommending policy on requirements for undergraduate majors and minors. 3. Recommending policy on adopting new programs or eliminating existing ones. 4. Maintaining a continuing review and evaluation of undergraduate programs and courses. 5. Maintaining a continuing review and evaluation of Continuing Education programs. 6. Maintaining a continuing review of General Education requirements. etc.

- Faculty Senate Executive Committee 1990-1992 (The Faculty Senate Executive Committee consists of the chairs of the President, President-Elect and Past-President of the Faculty Senate, and the chairs of the Curriculum Council, Rules and Procedures Council, Welfare Council, Graduate Council, and the University Planning and Bugeting Council. The executive committee meets to prepare the agenda for the Faculty Senate meetings.)

- Department of Mathematics and Statistics Graduate Committee 1991-92, 2008-present (Chair 1992, 2009-2009) Reviews applications for graduate school, and considers other matters relating to the graduate program.

- Faculty Senate Ad Hoc Committee on Intergroup and Ethnic Relations (1990) (After a bill was passed by the Illinois legislature requiring course work on intergroup relations, this ad hoc committee was formed, to recommend to the Curriculum Council, what SIUE should do regarding such a requirement.)

- Academic Development Committee for Calendar Conversion (1991-92) (Developed structure of Academic Development courses for the semester calendar.)

- Self-Study Committee on Undergraduate Education (Considered undergraduate education as a whole in preparation for North Central accreditation visit in 1993.)

- Department of Mathematics and Statistics Policy Committee 1989-91, 1999-2002, 2008-present. (The department policy committee 1. Considers changes in the department's courses or curriculum. 2. Recommends textbooks for courses. 3. Considers requests from students to make substitutions in graduation requirements etc.)

- Computational Mathematics Committee (Chair) (Worked with the Computer Science Department to develop computational mathematics option for the M.S. in Mathematics.)

- Excellence in Undergraduate Education Projects Funded in 1987 ($13,600 for statistical graphics software and hardware) and 1988 ($867 for videotapes to use with the current STAT 244 textbook)

- Introduction to Calculus Committee (This committee developed, along with the School of Business, an outline for the Mathematics 130 "Introduction to Calculus" course.)

- School of Sciences Policy Committee 1987-1988.

- Assessment Round Table Discussions. (This group had as its objective to define the goals and objectives of baccalaureate education at SIUE. A list of objectives, given to the Director of Assessment was the outcome.)

- Textbook Selection Committees: Most Statistics courses, and MATH 223/323, 400, 465.Committee on the General Major. (This department committee met to discuss how the Mathematical Studies option of the Mathematics degree should be revised.)

- School of Sciences Five Year Computing Plan Committee 1988

- Department Peer Review Committee multiple years.

- Department Scheduling Committee (This committee determined schedules for evening classes, and adopted the 5:30-7:20 and 7:30-9:20 time blocks instead of the 6:30-8:20 time block.)

- Mentor for Presidential Scholars (Kevin Bodden and Shannon Baruzzini)

- NSF Proposal (Assisted in preparation of National Science Foundation proposal to sponsor a workshop for high school mathematics teachers on computational mathematics.

- Awarded Special Research Initiative by the Graduate School at SIUE. Our proposal "Statistical Modeling of Repairable Systems" with Tapas Das, Dept. of Industrial Engineering, was funded for $8,500. This was renewed in 1992 for $9,600.

- Program Committee for the St. Louis Section of the American Society for Quality Control

- Lined up speakers for the monthly St. Louis ASQC meetings.

- Department Hiring Committee 1992-93, 1993-94, 2001-2002, 2002-2003, 2003-2004, 2010-2011

- Marshall for Commencement, Spring 1994.

- Chairs Council of the College of Arts and Sciences 1995-1998

- Science, Engineering, and Mathematics Cluster Committee

- Science Building Renovation and Expansion Committee (In 1998, we interviewed 4 architectural firms and selected one.)

- 1998/99 Teaching Excellence Award Committee

- Faculty Senate 1999-2002

- Faculty Welfare Council 1999-2000

- Curriculum Council 2000-2002

- University Committee to explore School of Pharmacy program

- Promotion Advisory Committees for School of Engineering (2001-2004)

- School of Nursing Dean Selection Committee, 2002

- Policy Committee 1999-2004 (Chair 1999-2003)

- University contact for Barry Goldwater Scholarship

- Bachelor of Liberal Studies Steering Committee

- Undergraduate Courses Committee (2003-2006)

- Graduate Program Director, Department of Mathematics and Statistics (2007-2008)

- Policy Committee (2009 – 2010, 2012)

- Illinois Articulation Initiative Committee for Mathematics (2006-2012)

- General Education Committee (2010 – 2012)

- University Salary Equity Committee (2010-2012, Chair 2011-2012)

Committees at SLU

- Department of Biostatistics Search Committee (2012)

- Pedagogy Committee for CPHSL

- University Committee on Academic Rank and Tenure (2012 – 2015)

- Co-director of Ph.D. program in Public Health Studies (2014 – 2015)

- Doctoral Committee BST Representative (2014 – present)

- Compensation and Fringe Benefits Committee (2014 – present)

- Chair, Public Health Promotion and Tenure Committee (2015 – present)

- Search Committee for Chair, Department of Environmental and Occupational Health (2015)

Service to the Profession

- Chair-Elect, Section on Statistics in Sports, American Statistical Association (2016)

- Program Chair, Quality and Productivity Research Conference, to be held in Tempe, AZ, June 2016