William R. Myers

myersw@miamioh.edu
513-218-6956

Education

Virginia Commonwealth University, Richmond, Virginia
Ph.D. Biostatistics (1991)

Radford University, Radford, Virginia
B.S. Statistics (1986)

Industry Work Experience

The Procter & Gamble Company 1991 - 2022

Principal Statistician

- Apply statistics through effective problem definition, experimental design, statistical modeling, data visualization, and data interpretation on critical projects to further innovation and improve quality and productivity
- Support projects in Research & Development involving Product Development, Packaging Development, Process Development, and Modeling & Simulation with multi-functional project teams composed of engineers and scientists (collaboration has involved many of Procter & Gamble's Business Units and Billion Dollar Brands)

  Sample of Key Projects

  - **Developed a virtual packing manufacturing line for oral care business Crest®**
    I applied innovative experimental design methods for computer simulation experiments (space-filling designs involving sequential experiments, factor constraints, and categorical factors) and Gaussian Process Modeling to develop surrogate models for key transformations of the oral care packing line – develop a virtual packing manufacturing line. This resulted in critical process understanding, significant cost savings by eliminating physical experimentation, and quicker speed to market.
  - **Developed new dosing technology for laundry and surface cleaner bottles**
    I applied design of experiments and statistical modeling to accurately predict product dosage amount as a function of control variables, product variables, and consumer variables. I then applied Monte Carlo simulation techniques to estimate the distribution of dosage amount by modeling the variation of the uncontrollable noise variables (product variability and consumer habits). This work resulted in finding "robust" settings of the control variables that minimize dosage amount variation from uncontrolled noise variables (product variability and consumer habits). In addition, the work enabled the decision for a significant capital investment and supported dosing claims.
- Coach and mentor statisticians within the Corporate Statistics Organization
- Develop new statistical methods, through collaboration with academia, to solve key business problems (present research at conferences including the Fall Technical Conference, Spring Research Conference, and Joint Statistical Meetings)
- Lead corporate statistics training
  - Develop and teach short courses (see list in Teaching Experience) designed for scientists and engineers across the company
  - Create statistics curricula for many R&D disciplines (e.g., process engineering, formulation, packaging engineering)
  - Develop virtual/online courses to expand learning opportunities for a global organization

William R. Myers

myersw@miamioh.edu

513-218-6956

- Develop and teach training sessions to R&D Leadership on the importance of statistics and data science to further innovation, while solving challenging business problems
- Co-lead the *Statistics Community of Practice*
    - Foster collaboration between the expert community (statisticians) and the practitioner community (scientists & engineers) through internal symposia and seminars

Areas of Expertise

- Statistical Consulting
- Applied Statistics
- Design & Analysis of Experiments
- Statistical/Predictive Modeling
- Response Surface Methodology
- Design & Analysis of Computer Experiments
- Evaluating Measurement Systems (Gauge R&R)
- Statistical Process Control
- Statistical-Based Sampling
- JMP®
- R Programming

Teaching Experience

Miami University — 2023 - Present

Herbert E. Markley Visiting Executive Professor & ISA Executive Data Scientist in Residence — 2023 – 2024

Associate Teaching Professor — 2024 – Present

- Teach *Business Analytics Practicum* (ISA 650)
  The graduate level Business Analytics Practicum is an immersive, project-based, experiential course intended to draw on skills and knowledge gained in courses throughout the MS in Business Analytics program. Students will be immersed in a semester long real-world business problem and deliver a solution to the corporate client. Past corporate clients include *Fifth Third Bank*, *DHL*, *Total Quality Logisitcs*, *Cleveland Guardians*, *Philadelphia Flyers*, *Snow Commerce*.
- Teach *Communicating with Data* (ISA 616)
  The graduate level course spans the entire process of developing a data analytic product from consultation to developing a solution to presenting the solution to the client. Addresses the fundamentals of effective communication.
- Teach *Applied Regression Analysis in Business* (ISA 391)
  Topics include: statistical inference (hypothesis testing and intervals) in regression, model building, variable screening, model assumptions.
- Teach *Statistical Monitoring and Design of Experiments* (ISA 365)
  Topics include: Introduction to experimental design (e.g., A/B testing) with applications in business analytics.
- Teach *Principles of Business Analytics* (ISA 225)
  Topics include: probability and classification, data visualization, two or more population inference, predictive modeling with simple and multiple regression analysis, business forecasting, data-mining. Emphasis on computer implementation, analysis of real data, and communication of results.
- Manage industry relationships for the development of projects in *Business Analytics Practicum* experiential course

William R. Myers

myersw@miamioh.edu

513-218-6956

The Procter & Gamble Company 2000 - 2022

Leader of Corporate Statistics Training

- Develop and teach the following short courses
  - Applied Statistics
  - Design & Analysis of Expermients
  - Introduction to Statistical Modeling
  - Data Mining & Machine Learning
  - Advance Topics in Design & Analysis of Experiments
  - Design & Analysis of Computer Experiments
  - Evaluatig the Measurement System (Gauge R&R)
  - Statistical Process Control
  - Statistical-Based Sampling
  - Statistics & Data Science for Leadership
- Teach to learners with diverse backgrounds (scientific, educational, demographic, and cultural)

- Devoloped several online asynchronous courses
  - Applied Statistics
  - Design & Analysis of Experiments
  - Data Mining & Machine Learning

University of Cincinnati (Blue Ash College) 2022

Adjunct Assistant Professor, Statistics

- Teach *Introduction to Statistics*
- Use the Canvas Learning Management System

University of Cincinnati 1993 -1998

Adjunct Professor

- Developed a course – *Response Surface Methodology in Pharmaceutical Research*
- Taught this course to Ph.D. students in Industrial Pharmacy (within the College of Pharmacy)

Achievements/Awards

- Member of the *Georgia Tech – Procter & Gamble Collaboration* that received the *2020 Statistical Partnerships Among Academe, Industry & Government (SPAIG) Award of the American Statistical Association (ASA)* 2020
- Inventor on P&G patent application (Method for Designing a Material Processing System) 2014
- CTO Pathfinder Awards (P&G) - Packaging Modeling & Simulation Team 2011
- Quantum Award for Modeling Culture 2011
- Quasar Award for Packaging 2011

Professional Activities

- College of Science & Technology Advisory Council – Radford University 2015 - Present
- Fall Technical Conference Steering Committee 2017 - 2019
- Co-Chair for the 22nd ASA/IMS Spring Research Conference 2015
- Member of PhRMA Statistical Quality Control Working Group 2001 - 2005
- Program Chair of the Quality & Productivity Section of the ASA 2004

William R. Myers

myersw@miamioh.edu

513-218-6956

Publications

Statistics

Wei, Y, Myers, W. and Deng, X. (2024) An Efficient Filtering Approach for Model Estimation in Sparse Regression, *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 17(5), 1-12.

Krishna, A., Jospeh, V.R., Ba, S., Brenneman, W.A. and Myers, W.R. (2022) Robust Experimental Designs for Model Calibration, *Journal of Quality Technology*, 54(4), 441-452

Li, Y., Deng, X., Ba, S., Myers, W.R., Brenneman, W.A., Lange, S.J., Zink, R. and Jin, J. (2022) Cluster-based Data Filtering for Manufacturing Big Data Systems, *Journal of Quality Technology*, , 54(3), 290-302

Joseph, V. R., Gu, L., Ba, S. and Myers, W.R. (2019) Space-Filling Designs for Robustness Experiments, *Technometrics*, 61(1), 24-37.

Ba, S., Myers, W.R., and Wang, D. (2018) A Sequential Maximum Projection Design Framework for Computer Experiments with Inert Factors, *Statistica Sinica*, 28(2), 879-897.

Ba, S., Myers, W.R. & Brenneman, W.A. (2015) Optimal Sliced Latin Hypercube Designs, *Technometrics*, 57(4), 479-487.

Das, D., Robinson, T.J., Myers, W.R., and Wulff, S.S. (2011), Optimal Screening Designs for Robust Parameter Design, *Journal of Statistical Theory and Applications*, 10(2), 279-304.

Brenneman, W.A., Myers, W.R. (2010), "Acceptance Sampling", *Encyclopedia of Biopharmaceutical Statistics*, Marcel Dekker, 1-7.

Myers, W.R. (2010), "Response Surface Methodology", *Encyclopedia of Biopharmaceutical Statistics*, Marcel Dekker, 1171-1179.

Myers, W.R. , Brenneman, W.A. (2010), "Statistical Process Control", *Encyclopedia of Biopharmaceutical Statistics*, Marcel Dekker, 1282-1289.

Robinson, T.J., Brenneman, W.A., Myers, W.R. (2009), An Intuitive Graphical Approach to Understanding the Split-Plot Experiment, *Journal of Statistics Education*, 17(1), 1-15.

Robinson, T.J., Brenneman, W.A., Myers, W.R. (2006), Process Optimization via Robust Parameter Design when Categorical Noixe Factors are Present, *Quality and Reliability Engineering International*, 22, 307-320.

Myers, W.R, Brenneman, W.A., Myers, R.H. (2005), Dual-Response Approach to Robust Parameter Design for Generalized Linear Model, *Journal of Quality Technology*, 37(2), 130-138.

Brenneman, W.A., Myers, W.R. (2003), Robust Parameter Design with Categorical Noise Variables, *Journal of Quality Technology*, 35(4), 335-341.

Brenneman, W.A., Myers, W.R. (2001), Basic Principles of Acceptance Sampling, *Regulatory Affairs Focus*, 6(10), 34-36.

Myers, W. Handling Missing Data in Clinical Trials: An Overview (2000) *Drug Information Journal*, Vol. 34, 525-533.

Myers, W.R., Myers, R.H., Carter, W.H. and White, K.L. (1996), Two Stage Designs for the Logistic Regression Model in Single Agent Bioassays. *Journal of Biopharmaceutical Statistics,* 6, pp. 283-301.

William R. Myers

myersw@miamioh.edu

513-218-6956

Myers, W.R., Myers, R.H., and Carter, W.H. (1994), Some Alphabetic Optimal Designs for the Logistic Regression Model, Special Issue of the *Journal of Statistical Planning and Inference* on Statistical Design of Medical Experiments, 40, pp. 57-77.

Interdisciplinary

Turner, A.S., Alvis, M., Myers, W.R., Stevens, M.L. and Lundy, M.W. (1995) Changes in Bone Mineral Density and Bone-Specific Alkaline Phosphatase in Ovariectomized Ewes, *Bone*, 17,395s-402s.

Blank, M.A., Ems, B.L., Gibson, G.W., Myers, W.R., Berman, S.K., Phipps, R.J. and Smith, P.N. A Non-clinical Model for Assessing Gastric Effects of Bisphosphonates (1997) *Digestive Diseases and Sciences*, 42, pp. 281-288.

Scipioni, R.L., Diters, R.W., Myers, W.R. and Hart, S.M. Clinical and Clinipathological Assessment of Serial Plebotomy in the Sprague-Dawley Rat, (1997) *Laboratory Animal Science*, 47, 293-299.

Pihlstrom, B.L., Hargreaves, K.M., Bouwsma, O., Myers, W.R., Goodale, M., and Doyle, M.J. Pain Following Peridontal Scaling and Root Planing (1999) *Journal of the American Dental Association*, Vol. 130, 801-807.

Brown, J.P., Chines, A.A., Myers, W.R., Eusebio, R.A., Ritter-Hrncirik, C. and Hayes, C.W. Improvement of Pagetic Bone Lesions with Risedronate Treatment: A Radiologic Study (Submitted)

Borah, B., Dufresne, T., Cockman, M., Gross, G., Sod, E., Myers, W., Combs, K., Higgins, R., Pierce, S. and Stevens, M. Evaluation of Changes in Trabecular Bone Architecture and Mechanical Properties of

Minipig Vertebrae by Three-Dimensional Magnetic Resonance Microimaging and Finite Element Modeling (2000*) Journal of Bone and Mineral Research*, Vol. 15, 1786-1797.

Gomez, E., Williams, M., Kuznicki, J., Myers, W., Zoller, S., Bixler, C. and Winkler, L. Application and Maintenance Habits Do Make a Difference in Adhesion of Alora Transdermal Systems, (2000), *Maturitas*, Vol. 35, 57-64.

Blank,M.A., Gibson,G.W., Myers,W.R., Dierckman,R., Phipps,R.J. and Smith, P.N. Gastric Damage in the Rat with Nitrogen-containing Bisphosphonates Depends on pH (2000), *Aliment Pharmacology Therapy*, Vol. 14, 1215-1223.

McCargar, L., Crail, D., Dansereau, R., Myers, W. and Lane, M. The in-vitro Porcine Adhesion Model is not Predictive of the Esophageal Transit of Risedronate Tablets in Humans, (2001) *International Journal of Pharmaceutics*, 191-197.

Selected Invited Presentations

Presented at University of Wisconsin-Madison School of Computer, Data and Information Sciences RED talk series (2022), "Statistics & Data Science: A Key Ingredient for Innovation at The Procter & Gamble Company"

Panel Discussion on Careers in Risk Analysis in the Era of Data Science (2021) – Sponsored by The Section on Risk Analysis; Co-sponsored by the Quality & Productivity Section and The Section on Physical & Engineering Sciencs

ASA Georgia Winter Lecture Series (2020), "Robust Experimental Designs for Model Calibration"

William R. Myers

myersw@miamioh.edu

513-218-6956

Statistically Speaking JMP series (2020), "An Introduction to Machine Learning & More" (virtual/online event for Southeast Asia)

Design & Analysis of Experiments Conference (2019), "Robust Experimental Designs for Model Calibration" (University of Tennesse, Knoxville, TN)

Spring Research Conference (2019), "Robust Experimental Designs for Model Calibration" (Virginia Tech, Blacksburg, VA)

University of Georgia Industry Statistics Day (2018)

- Seminar – "A Sequential Maximum Projection Design Framework for Computer Experiments with Inert Factors"
- Student Lunch Presentation – "What Is It Like to Be a Statistician in Industry: A P&G Perspective"

Fall Technical Conference SPES Special Session Panel Discussion (2017), Statistics Training for Industry: Up-to-Date or Out-of-Date? (Philadelphia, PA)

Joint Statistics Meeting (2017), "A Sequential Maximum Projection Design Framework for Computer Experiments with Inert Factors" (Baltimore, MD)

Statistical Perspective of Uncertainty Quantification Conference (2017), "Robust Parameter Design Using Computer Experiments" (Georgia Institute of Technology, Atlanta, GA)

Marquardt Memorial Industry Speaker (2017), "New Experimental Design Methods for Computer Experiments" (Virginia Tech, Blacksburg, VA)

College of William & Mary Mathematics Colloquium (2016), "The Role of Statistics/Analytics in Industry" (Williamsburg, VA)

Spring Research Conference (2016), "Addressing Current Challenge of Computer Experiments in Industry" (Illinois Institute of Technology, Chicago, IL)

Design & Analysis of Experiments Conference (2015), "Current Challenges and the Application of Computer Experiments in Industry" (Cary, NC)

Georgia Institute of Technology ISyE Seminar (2014), "The Role of Statistics in Solving Today's Challenges in Industry: A P&G Perspective" (Atlanta, GA)

Fall Technical Conference (2012) "The Unique Challenges of Computer Experiments: An Industry Perspective" (St. Louis, MO)

Joint Statistics Meeting (2012) "Model Robust Experimental Design" (San Diego, CA)

Department of Statistics Colloquium, Virginia Tech (2011), "Statistics at The Procter & Gamble Company" (Blacksburg, VA)

Miami University Statistics Seminar Series (2011), "Statistics at The Procter & Gamble Company" (Oxford, OH)

Panel Discussion at Fall Technical Conference (2007), "Enhancing the Statistics Education of Practicing Engineers" (Jacksonville, FL)

Quality & Productivity Research Conference (2007), "A Structural Approach to Design of Experiments for Robust Parameter Design (Santa Fe, NM)

William R. Myers

myersw@miamioh.edu

513-218-6956

Fall Technical Conference (2005), “Dual-Response Approach to Robust Parameter Design for a Generalized Linear Model” (St. Louis, MO)

Fall Technical Conference (2003) “Robust Paramter Design with Categorical Noise Variables” (El Paso, TX)

16th Annual Ohio Statistics Conference, Ohio State University (1999)**,** “The Use of Generalized Estimating Equations: A Pharmaceutical Industry Perspective” (Columbus, OH)

13th Annual Ohio Statistics Conference (1996)**, “**The Role of a Statistician in the Pharmaceutical Industry: A Procter & Gamble Perspective (Columbus, OH)

Joint Meeting of the Biometric Society, Eastern North American Region (1996) "Ridge Estimation for Generalized Estimating Equations and other Complex Covariance Structures", (Richmond, VA)

Joint Meeting of the Biometric Society, Eastern North American Region, (1995) "Ridge Estimation for Generalized Estimating Equations and other Complex Covariance Structures" (Birmingham, AL)

Midwest Biopharmaceutical Statistics Workshop (1992), "Construction of Optimal Designs for the Logistic Model", (Muncie, IN).

Joint Meeting of the Biometric Society, Eastern North American Region, (1992), "Optimal Experimental Designs for Fitting the Logistic Regression Model", (Cincinnati, OH)

The Joint Statistical Meetings (1991), "Construction of Optimal Designs for the Logistic Model", (Atlanta, GA)

The Virginia Academy of Science Meetings (1991), "Construction of Optimal Designs for the Logistic Model" (Blacksburg, VA).