MARY A. MARION, B.A.(Mathematics), M.Sc.(Statistics), M.Sc.(Applied Statistics)
934 Marsac Street marymarion@protonmail.com, U.S. citizen
Charlottesville, Virginia 22901-9055 703-851-0446 Voice, 888-368-4856 Fax

PROFESSIONAL EXPERIENCE

Tutoring

I have tutored students in statistics and mathematics while attending graduate classes at The George Washington University, George Mason University and Kansas State University.

Teaching

Northern Virginia Community College. I have served as an instructor in statistics and mathematics at the college level. This included course preparation, test construction, tutoring and counseling of students. Class strategies were developed to get students to learn.

Statistics

Graduate Studies in Statistics, Biostatistics and Engineering.
Most recent: M.S. Applied Statistics, Rochester Institute of Technology 2023

Statistician, U.S. EPA. I served as a member of the biostatistics team providing statistical advice and consultation to toxicologists, biologists, and chemists with respect to the design and interpretation of toxicological studies particularly with regard to pesticides. While there I obtained a CBI clearance. I contributed to Monte-Carlo guidance documents. Statistical and probabilistic contributions were made to qualitative and quantitative risk assessments. Research in mathematical statistics was conducted to advance the state of the art of the computation of the benchmark dose for a variety of different chemicals. There was a strong focus on modeling.

Mathematical Statistician and President: Statistics Unlimited. I provided experimental design and analysis procedures to various clients. Statistical analysis plans and sampling methodologies were prepared for federal contract proposals.

General Statistician: U.S. Army Operational Test and Evaluation Agency. Mathematical and statistical support was provided to the Science and Technology Division for the design and evaluation of operational tests. The results were summarized in technical reports. After training in the Design of Experiments with Dr. George Box, I contributed to the NATO Small Arms Trials Analysis and Evaluation Methodology. This required extensive research on innovative statistical experimental designs. The work was coordinated with other countries in meetings of the Results Analysis Panel held at USAOTEA, NATO Headquarters at Brussels, Belgium as well as at field sites in Europe. Outstanding Performance Award was granted by the Department of the Army and OTEA on 19 October, 1978. I have held top secret and top secret NATO clearances.

Mathematical Statistician: U.S. Army Research Institute. Social science research included the verification, edit and analysis of scientific data and interpretation of statistical results.

Research Assistant: Analytic Services. Analyses of advanced weapons systems and epidemiology were performed for the USAF on material classified up to and including top secret. Scientific and statistical programming involved numerical methods problems and their solution.

MEMBERSHIPS / AWARDS

The Physical and Engineering Section (SPES) of the American Statistical Association (ASA-GStat)
The American Society for Quality (ASQ) – former member
Toastmasters International Advanced Communicator Gold Certificate
Oxford scholar of mathematics at George Mason University
Former Clearances: Top Secret, NATO, CBI
Financial Awards: College of St. Teresa, The George Washington University, Kansas State University.

EDUCATION

I have over 250 credit hours and 21 official audit hours in mathematics, statistics, biostatistics, and industrial engineering. I have obtained specialized training in SAS, JMP, R, RStudio, Mathematica, Matlab, Design Expert, Minitab, and Microsoft Office. I hold M.S. degrees in Statistics and Applied Statistics and a B.A. in Mathematics.

Website: https://mmstat.github.io/MMSTAT/

PUBLICATIONS, PRESENTATIONS, COPYRIGHTED RESEARCH

Technical Reports (provided support and wrote portions of):

Monte-Carlo guidance document outlining key criteria which provide an adequate risk assessment was prepared for the U.S. EPA Office of Pesticide Programs -Health Effects Division.

NATO Small Arms Trials Analysis and Evaluation Methodology was prepared for the U.S. Army Operational Test & Evaluation Agency, Brussels, Belgium in 1978.

Presentations

Marion, Mary A.,2014, Yates' Method for Computing Sums of Squares for Nonreplicated Experiments. In JMS Proceedings, Physical and Engineering Sciences Section. Alexandria,VA: American Statistical Association.2991-3005.

Marion, Mary A.,2011, Designing Using Pseudo-factors. In Virginia Journal of Science, Statistics Section. Held at U. of Richmond, Richmond, VA: Virginia Academy of Science.Vol 62, No 1&2. page 86.

Marion, Mary A. (2001, September 13), Fieller's Theorem -Theory and Application with Computations in SAS, Statistics Seminar at Kansas State University.

Marion, Mary A. (1997, June 18), Severity Analysis Using Ridits. Washington Statistical Society.

Marion, Mary A. (1997, April 1-3), Severity Analysis Using Ridits. 12th Annual EPA Conference on Environmental Statistics presented in Richmond, Virginia

Marion, Mary A.,1996, Severity Analysis Using Ridits. In SAS Users Group International 21. This was presented at the poster session in Chicago, Illinois.

Marion, Mary A. (1995, October 21), Severity Analysis Using Ridits. Mid-Atlantic Regional Probability and Statistics Day held at The George Washington University.

Marion, Mary A. (1995, February 27-March 2), Benchmark Dose in an Acute Toxicity Study. -an unpublished paper presented at 11th Annual EPA Conference on Statistics

Copyrighted Research (not peer-reviewed but used in my practice)

Marion, Mary A. (2013, June 19), Statistical Techniques used in Acceptance Sampling and Quality Control.

Marion, Mary A. (2012, August 17), General Linear Model Approach to the Analysis of Variance

Marion, Mary A. (2010, December 04), Statistical Hypothesis Testing Using R

Marion, Mary A. (2002, January 14), Achieving Balance Using Incidence Matrices in the Design of Experiments.