

FINAL AGENDA

Sixteenth Army Conference on Applied Statistics

SAS Institute, Inc. JMP Division
Cary, NC

20-22 October 2010

*Sponsored by the Interface Foundation of North America
Cooperating Organizations: SAS Institute, Inc., Army Research Office*

Monday, October 18

0800 – 0830 Registration (V-333)

0830 – 1200 Tutorial

Design of Experiments: New Methods and How to Use Them

Douglas Montgomery, Arizona State University

Bradley Jones, SAS JMP

1200 – 1300 Lunch

1300 – 1600 Tutorial

Tuesday, October 19

0830 – 1200 Tutorial (V-333)

Design of Experiments: New Methods and How to Use Them

Douglas Montgomery, Arizona State University

Bradley Jones, SAS JMP

1200 – 1300 Lunch

1300 – 1600 Tutorial

1830 – Social and Registration (Spirits Pub & Grub)

Wednesday, October 20

0745 – 0815 Registration (V-Auditorium)

0815 – 0830 Call to Order (V-Auditorium)

Barry Bodt, Conference Chair, US Army Research Laboratory

Welcome: John Sall, Co-founder and Executive Vice President, SAS

Wednesday, October 20 (continued)

0830 – 1000 General Session I (Keynote Address) (V-Auditorium)

Chair: Barry Bodt, US Army Research Laboratory

A History of Experimental Design
J. Stuart Hunter, Princeton University

New Directions for Test & Evaluation: Design of Experiments in Defense Acquisition
Catherine Warner, Office of the Secretary of Defense, DOT&E

1000 – 1015 Break

1015 – 1145 Special Session I, Design of Experiments for Integrated Testing (V-Auditorium)

Organizer & Chair: Arthur Fries, Institute for Defense Analyses

A Framework for Using Design of Experiments Across and Within Test Events for DOD Systems Acquisition Testing
Nancy Dunn, US Army Evaluation Center

Integrated Test via a Grid of Well-Designed Experiments
Jim Simpson, 53rd Wing, Eglin Air Force Base

Evolutionary Test Design for Enhanced Binary Response
Donald P. Gaver and Patricia A. Jacobs, Naval Postgraduate School

1145 – 1300 Lunch

1300 – 1430 General Session II (V-Auditorium)

Chair: Allan T. Mense, Raytheon Missile Systems

Network Reliability: A Fresh Look at Some Basic Questions
Francisco Samaniego, University of California, Davis

Thinking Outside the Box: Toward an Enhanced Role for Statistical Modeling in Army Decision Processes
James R. Thompson, Rice University

1430 – 1445 Break

1445 – 1615 Special Session II, Case Studies in Army Applications of Statistics (V-Auditorium) (Parallel Session)

Organizers: COLs Andrew Glen and Rodney Sturdivant, United States Military Academy
Chair: COL Andrew Glen, United States Military Academy

Educating Army Leaders in the Use of Statistical Methods to Enable Counter IED Operations
LTC Paul Kucik, United States Military Academy

Wednesday, October 20 (continued)

Exact Customer Sojourn Time Distributions for the M/M/s Queue
LTC William Kaczynski, United States Military Academy

Modeling Officer Manpower
LTC Tina Hartley, LTC Scott Nestler, and LTC Andrew Hall, United States Military Academy

1445 – 1615 Contributed Session I, Failure Models for Complex Systems (V-333)
(Parallel Session)

Organizer & Chair: Mou-Hsiung (Harry) Chang, US Army Research Office

The Percolated Beta-Binomial Distribution
Nozer D. Singpurwalla, The George Washington University

Complex Failures in Fiber/Epoxy Composites under Tensile Load with an Application of Partition based Dirichlet Priors
Jayaram Sethuraman, Florida State University

Spectral Approximation of Infinite-Dimensional Black-Scholes Equation with Memory
Mou-Hsiung (Harry) Chang, US Army Research Office

1615 – 1630 Break

1630 – 1730 Contributed Session II (V-Auditorium)
(Parallel Session)

Chair: Terry Holdren, US Army Research Laboratory

3 Systems - 3 DOEs (UFHD / LVSR / CTN)
Swala Burns, Marine Corps Operational Testing and Evaluation Activity

Missile Fuse Experiment
William C. Thomas and Chris Schott, Raytheon Missile Systems

1630 – 1730 Contributed Session III (V-333)
(Parallel Session)

Chair: David Webb, US Army Research Laboratory

Random Contamination of Semiconductor Materials
Bernard Harris, Universities of Wisconsin and Nebraska

Modeling with "Infinite" Bootstrapping
COL Andrew Glen, MAJ Chris Marks, and CDT Matt Robinson, United States Military Academy

1830 – 2100 Wilks Award Banquet (Embassy Suites)

1830 – Social

1930 – Dinner

2015 – Banquet Address: Jon Weisz, Director of JMP Marketing, SAS Institute

2045 – Wilks Award

Thursday, October 21

0830 – 1000 General Session III (V-Auditorium)

Chair: Lee Dewald, Virginia Military Institute

Multiple Testing Using Sequential Permutation P-Values
Dan Nettleton, Iowa State University

Data Assimilation and Uncertainty Quantification for Complex Computer Models
Brian Williams and David Higdon (Los Alamos National Laboratory)

1000 – 1015 Break

**1015 – 1145 Special Session III, Social & Cultural Terrain (V-Auditorium)
(Parallel Session)**

Organizer & Chair: Edward J. Wegman, George Mason University

Understanding Afghanistan
Edward J. Wegman, Center for Computational Data Sciences, George Mason University

Data Acquisition and Data Employment Protocols for Multi-agent Modeling of Conflict
Armando Geller, Center for Social Complexity, George Mason University

Inferring Social Network Structure from Incident Size Distribution in Iraq
Tim Gulden, Center for Social Complexity, George Mason University

**1015 – 1145 Contributed Session IV (V-333)
(Parallel Session)**

Chair: Tom Donnelly, SAS JMP

Large-scale Experimental Designs for Simulation
Susan M. Sanchez, Thomas W. Lucas, Paul J. Sanchez, and Christopher J. Nannini, Naval Postgraduate School

Novel Experimental Design & Analysis Methods for Simulation Experiments Involving Algorithms
Terril N. Hurst, Chatterpaul Joseph, John S. Rhodes, and Keith Vander Putten, Raytheon Missile Systems

Meta-modeling of Personnel Entry into Collectively-Protected Shelters
Jack Edwards, Jung-I Choi, Jeffrey Eischen, Nathan Obringer, NC State University
Harold Barnette and Gaurang Dave, Naval Surface Warfare Center
Roger Gibbs, BSM, Inc.

1145 – 1300 Lunch

Thursday, October 21 (continued)

**1300 – 1500 Contributed Session V (V-Auditorium)
(Parallel Session)**

Chair: COL Rodney Sturdivant, United States Military Academy

Statistical Origins of Allometry

Bruce J. West (US Army Research Office)

Modeling, Simulating, Measuring, and Understanding Cooperation

Chris Arney, Kristin Arney, and Elisha Peterson, United States Military Academy

Regression Tree Models for Longitudinal Repeated Measures and Multivariate Response Data

Wei-Yin Loh, University of Wisconsin, Madison

Discovering Partially Ordered Patterns of Terrorism via Spatio-Temporal Data Mining

James A. Shine and James P. Rogers, US Army ERDC Topographic Engineering Center

Shashi Shekhar and Pradeep Mohan, University of Minnesota

**1300 – 1500 Contributed Session VI (V-333)
(Parallel Session)**

Chair: Nancy Dunn, US Army Evaluation Center

Design of Experiments for Test and Evaluation: Best Practices and Future Challenges

Laura Freeman, Institute for Defense Analyses

Comparison of Methods for Determining Sensitivity of Explosive Devices to Applied Stress

Allan T. Mense and Don Woolley, Raytheon Missile Systems

Jerry Alderman, St. Johns Research

Clay Calibration: Radial Dependence of Calibration Drop Depths for Body Armor Testing

Shane Esola, Barbara Gillich*, Ward Boughers, Sandra Meiselwitz, US Army Aberdeen Test Center

An Information Retrieval Framework for Assessing Intelligent Stare

Barry Bodt, US Army Research Laboratory

1500 – 1515 Break

**1515 – 1645 Special Session IV, Health Science and Statistics in the DoD (V-Auditorium)
(Parallel Session)**

Organizer & Chair: Robyn Lee, Center for Health Promotion and Preventive Medicine

Meta-Analysis to Determine if Assigning Running Shoes Based on Footprint Shape Reduces Injury Risk in Military Basic Training

JJ Knapik, DW Trone, L Brosch, KG Hauret, T Grier, SH Bullock, and BH Jones, US Army Center for Health Promotion and Preventive Medicine; Naval Health Research Center; Lackland Air Force Base

Effect of Insecticide-Treated Bed Nets on the Feeding Behavior of Sand Flies in the Laboratory

G. Zollner, Division of Entomology, Walter Reed Army Institute of Research

D. Brambilla and T. Nolan, RTI International

C. Lim, Walter Reed Army Institute of Research

Thursday, October 21 (continued)

SAS Enterprise Miner and Application to Health Sciences using the DMSS

Theresa Real, Armed Forces Health Surveillance Center / General Dynamics Information Technology

**1515 – 1645 Contributed Session VII, Adversarial Risk Analysis (V-333)
(Parallel Session)**

Organizer & Chair: David Banks, Duke University

Adversarial Risk Analysis: A Routing Game

Shouqiang Wang and David Banks, Duke University

Adversarial Risk Analysis: Borel Games

David Banks, Francesca Petralia, Shouqiang Wang, Duke University

Adversarial Risk Analysis in Bioterrorism

Juan Vivar, Duke University

Friday, October 22

0830 – 0915 General Session IV (V-Auditorium)

Chair: Douglas Tang, Uniformed Services University of the Health Sciences

RExcel for Experimental Design and Analysis

Richard Heiberger, Temple University

0915 – 0930 Break

**0930 – 1100 Contributed Session VIII (V-Auditorium)
(Parallel Session)**

Chair: Chai Lim, Walter Reed Army Institute of Research

Predictive Modeling with Wide Data: Cross-Validation Model Comparison and Learning Curves

Russ Wolfinger, Pei-Yi Tan, and Padraic Neville, SAS Institute, Inc.

Model Calibration through Minimal Adjustments

V. Roshan Joseph and Chia-Jun Chang, Georgia Institute of Technology

Detection of Outliers in Spatial-temporal Data

James P. Rogers, US Army ERDC Topographic Engineering Center

Friday, October 22 (continued)

0930 – 1100 Contributed Session IX (V-333)
(Parallel Session)

Chair: Linda Moss, US Army Research Laboratory

Fitting pdfs to Small Datasets

Jerry Alderman, St. Johns Research

Design of Experiments in the Department of Defense

W. Ward Vaughn, Office of the Secretary of Defense

Maximum Clarity: An Alternative to Minimum Aberration for Fractional Factorial Designs

Jose G. Ramirez, W.L. Gore and Associates, and Randall D. Tobias, SAS Institute, Inc.

1100 – 1115 Break

1115 – 1200 General Session V (V-Auditorium)

Chair: Barry A. Bodt, US Army Research Laboratory

Doing the Right Things: Experimenting So That Warriors Do Not

Greg Hutto, 53rd Wing Eglin Air Force Base

1200 Adjourn