

Program in Brief

The program outline appears below. We welcome technical papers discussing methods or applications with a *potential* tie to defense and security issues. More details on the conference will be available. Check <http://www.armyconference.org> for official updates.

- **Welcome:**

Douglas C. Montgomery, Professor of Industrial & Management Systems Engineering, Arizona State University

- **Short Course:**

A short course on "Categorical Data Analysis" offered by Brian Marx of Louisiana State University will precede the conference on 19-20 October.

- **Invited Speakers:**

- Michael Jordan (UC Berkeley) *Keynote*
Combinatorial Stochastic Processes and Bayesian Nonparametrics
- Douglas C. Montgomery (Arizona State)
Modern Experimental Design Methods
- Rebecca Goldin (George Mason)
Spinning Heads and Spinning News: the Use and Abuse of Statistics in the Media
- Heike Hofmann (Iowa State)
Graphical Data Explorations of Very Large Databases: the ASA Data Expo 2009

- **Banquet Speaker:**

- Sarah Bradon, NASA

- **Special Sessions:**

- **Agent Based Modeling and Simulation**

Organizers: Edward J. Wegman & Yasmin Said (George Mason)

Gary An, MD (Northwestern)

Beyond Correlation: Examining Causality with Agent-based Hypothesis Instantiation

Aaron Bramson (Michigan)

Measures of Tipping Points, Robustness, and Path Dependence

Marco Janssen (Arizona State)

Combining ABM and Behavioral Experiments

- **Army Challenges for Statistics**

Organizers: COL Andrew Glen and COL Rodney Sturdivant (United States Military Academy)

Dwayne Nuzman (US Army Materiel Systems Analysis Activity)

An Accumulate-toward-the-Mode Approach to Confidence Intervals and Hypothesis

Tests and an Application to Binomially Distributed Data

John Nierwinski, Jr. (US Army Materiel Systems Analysis Activity)
Confidence Interval Methodology for Ratio Means (CIM4RM)

MAJ Matthew Benigni (United States Military Academy) and Reinhard Furrer
(Colorado School of Mines)
Periodic Spatio-Temporal Improvised Explosive Device Attack Pattern Analysis

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Text and Data Mining with Applications

Organizers: Edward J. Wegman & Yasmin Said (George Mason)

Jeffrey L. Solka, Nick Tucey* and Avory Bryant (Naval Surface Warfare Center)
*Text Data Mining for Better Understanding of the Science and Technology
Landscape*

George Runger (Arizona State) and Eugene Tuv (Intel Corporation)
Feature Selection for Complex Systems

Yasmin Said (George Mason)
Approaches to Text Mining that Preserve Semantic Content

● **Contributed Speakers:**

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- *An Approach to Corroborating the Impact of Recruit Quality and Recruiting Mission on Resource Requirements*
Robert Clemence, Jeremy Heusner, Robert Love, Raissa Nourieva, and Meredith Sachs (Booz Allen Hamilton, Inc.)
- *Assessing Management and Statistical Risks in the OCONUS Immersion Experiment with Variations of Cohen's d (effect size) as a Tool for Decision-making*
Raymond T. Mirikitani (Defense Language Institute)
- *Predicting Linguists' Training Outcomes with Linear Regression Models Constructed Using a Single and Double Cross-validation Design*
Raymond T. Mirikitani (Defense Language Institute)
- *Mine Clearing Efficiency Analysis*
Rebecca E. Wentz (US Army Materiel Systems Analysis Activity)
- *Information Exchange Between Complex Networks*
Bruce J. West (US Army Research Office)
- *A Control-Stopping Differential Game for Stochastic Systems with Memory*
Mou-Hsiung (Harry) Chang (US Army Research Office)
- *Power Electronics System Compatibility Assessment using Statistical Design Methods*
Sydney Lofton and William C. Thomas (Raytheon Missile Systems)

- *General Orthogonal Solutions in Multivariate Regression*
Jerry Alderman and William C. Thomas (Raytheon Missile Systems)
- *Robust Estimation of Mixtures of Heavy-tailed Distributions*
A. M. Santos (IBM and UC-Denver)
Karen Kafadar (Indiana)
- *Statistical Issues in the Comparison of Multi-dimensional Profiles*
Karen Kafadar, Indiana University
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- *Overview of Modeling and Analyzing Complex System Reliability Using the Los Alamos Developed Software Tool, SRFYDO*
Christine M. Anderson-Cook (Los Alamos National Laboratory)
- *Oh Say Can You GEE: Analysis of Visual Acuity Data*
Robyn Lee, Brian Hatch, David Hilber, James Elledge, and James Stout
(US Army Center for Health Promotion and Preventive Medicine)
- *Variable Selection in Nonparametric Regression with Very Many Noise Variables*
Wei-Yin Loh, (Wisconsin-Madison)
- *Regression-Based Inverse Distance Weighting with Applications to Computer Experiments*
V. Roshan Joseph and Lulu Kang (presenter) (Georgia Institute of Technology)
- *Conditional Logistic Modeling for Unbalanced Nested Case Control Studies with Bias Correction*
Yuanzhang Li (1) , David Cowan (1), Robert Yolken (2), Natalya Weber (1), and David Niebuhr(1)
(1) Walter Reed Army Institute of Research, (2) Johns Hopkins University
- *Bayesian Reliability Analysis: The Concept of Borrowing Power*
David King, Charles A. Pace, and Allan T. Mense (Raytheon Missile Systems), Gary Glover and Benny Phillips (Tinker Air Force Base)
- *Laser Scanner Certification Study for Body Armor Back Face Deformation Measurement*
Barbara J. Gillich, W. Scott Walton, Craig Miser, Adam Fournier, Jeffrey Hosto, Jeffrey Huber, Ward Boughers, and Craig Andres (Aberdeen Test Center)
- *Image Fusion and the Method of Paired Comparisons: Experiments, Evaluation, and Open Questions*
Murray Loew, James Bonick, and Clarence Walters (U.S. Army Night Vision and Electronic Sensors Directorate, Ft. Belvoir)
- *Graph Theoretical Methods for Cluster Verification*
Bernard Harris (Wisconsin-Madison)
- *The Joint Signature of Systems with Shared Components*
Francisco J. Samaniego (UC Davis)

- *Decision Support – Statistical Analysis of Seismic Stabilization Slurry Walls*
Kathleen E. Lust and Geoffrey J. Henggeler (U.S. Army Corps of Engineers) and Kelly D. Moses (Booz Allen Hamilton)
- *Comparison of Prediction Accuracy of Surrogate Models Developed Using Nested Latin Hypercube Designs - "How Many Simulation Experiments Do I Need to Run?"*
Tom Donnelly (SAS Institute Inc.)
- *Length Bias in the Measurements of Carbon Nanotubes*
Paul Kvam (Georgia Tech)
- *Optimizing Computer Networks for Robustness and Efficiency*
Edward J. Wegman (George Mason), Hadi Rezazad (Orchidtech Technology and Management), and Roger W. Shores (U.S. Census Bureau)
- *Bayesian Reliability Analysis: A Tool for the Analyst*
Allan T. Mense, David King, and Charles A. Pace (Raytheon Missile Systems), Benny Phillips and Garry Glover (Tinker Air Force Base)
- *A Probabilistic Approach to Extracting Symbols from Blueprints*
Richard Warren and Robert S. Woodley (Century Systems, Inc.)
- *Stochastic Modeling and Applications*
G.S. Ladde and Ling Wu (South Florida)
- *A Computer-Aided D-Optimal Design for Improving Ballistic Performance*
David W. Webb and Brian M. Powers, (U.S. Army Research Laboratory)
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- **Events:**
 - Social: Tuesday, October 20
 - Wilks Award Banquet: Wednesday, October 21