

# FINAL AGENDA

Fourteenth Army Conference on Applied Statistics

Virginia Military Institute

22-24 October 2008

*Hosted by the Department of Mathematics and Computer Science*

## **Monday, October 20**

0800 – 0830 Registration (414 Mallory Hall)

0830 – 1200 Tutorial

*An Introduction to R*

Di Cook, Iowa State University

1200 – 1300 Lunch

1300 – 1600 Tutorial

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## **Tuesday, October 21**

0830 – 1200 Tutorial (414 Mallory Hall)

*An Introduction to R*

Di Cook, Iowa State University

1200 – 1300 Lunch

1300 – 1600 Tutorial

1830 – Social and Registration (Moody Hall, 2<sup>nd</sup> floor)

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## **Wednesday, October 22**

0745 – 0815 Registration (135 Mallory Hall)

0815 – 0830 Call to Order (135 Mallory Hall)

COL Lee Dewald, Head of Mathematics and Computer Science Department, Virginia Military Institute

COL William J. Stockwell, Acting Deputy Superintendent for Academics and Acting Dean of the Faculty, Virginia Military Institute

0830 – 0915 General Session I (Keynote Address) (135 Mallory Hall)

Chair: Linda Moss, US Army Research Laboratory

*Risk and Extremes*

Richard L. Smith, University of North Carolina

0915 – 0930 Break

0930 – 1100 Special Session I (Risk Analysis for the Military) (135 Mallory Hall)

Chair: David Cruess, Uniformed Services University of the Health Sciences

*Multi-agency Coordination and Response: Case Study of the London Tube Bombings*

Joe Eyerman, RTI International

*Adversarial Risk Analysis*

David Banks, Duke University

*Statistical Issues in Soft Error Rate Estimation*

Sarah Michalak, Michael Hamada, Nick Hengartner, Los Alamos National Laboratories

1100 – 1115 Break

1115 – 1215 Contributed Session I (*Parallel Session*) (413 Mallory Hall)

Chair: Carl Russell, CTR Analytics

*A Brief History of DoD Data Analysis and Statistical Modeling*

James R. Thompson, Rice University

*A Comparison of Major Machine Learning Methods in Classification of Anthrax Time Series from Inhalation Anthrax Models*

Rui Xu, Robert S. Woodley, Donald C. Wunsch II, Missouri University of Science & Technology

1115 – 1215 Contributed Session II (*Parallel Session*) (135 Mallory Hall)

Chair: COL Andrew Glen, United States Military Academy

*Optimal Fits to Lambda Distributions*

Jerry Alderman and Allan T. Mense, Raytheon Missile Systems

*Comparing the Johnson and Generalized Lambda Distributions*

Allan T. Mense, Jerry Alderman, and David King, Raytheon Missile Systems

1215 – 1315 Lunch

1315 – 1445 Special Session II (Mitigation of Technology Surprise) (135 Mallory Hall)

Chair: Jeff Solka, Naval Surface Warfare Center

*Technology Tensors*

Steve Thompson, Defense Intelligence Agency

*Semantic Analysis of the Term-Document Matrix*

Avory Bryant, Naval Surface Warfare Center

*Trend Analysis for the Mitigation of Technology Surprise*

Nick Tucey, Naval Surface Warfare Center

1445 – 1500 Break

1500 – 1700 Contributed Session III (*Parallel Session*) (135 Mallory Hall)

Chair: Art Frees, Institute for Defense Analyses

*A Reliability Growth Simulation Test Bed*

Paul Ellner and Martin Wayne, US Army Materiel Systems Analysis Activity

*Small Arms Dust Test Reliability Analysis Approach*

Kristin Hogg and Andrew Rose, US Army Evaluation Center

*On Estimating Component Characteristics from System Failure-Time Data*

Francisco J. Samaniego, University of California, Davis

*Complex Dependence Structure and its Effect on Risk Assessment*

Katherine B. Ensor, Rice University

1500 – 1700 Contributed Session IV (*Parallel Session*) (119 Mallory Hall)

Chair: Barbara Gillich, U.S. Aberdeen Test Center

*Netcentric Systems Evaluations*

Jock O. Grynovicki, US Army Research Laboratory

*Challenges in Assessing Tactical Behaviors for Unmanned Ground Vehicles*

Barry A. Bodt, US Army Research Laboratory

*Missile Battery Experiment*

William C. Thomas, Raytheon Missile Systems

*An Automated Tool for Developing Experimental Designs: CADRE*

Robert C. Williges, Virginia Tech

Sam Middlebrooks, US Army Research Laboratory

1830 -- 2100 Wilks Award Banquet (Moody Hall, 1st floor)

1830 – Social

1930 – Dinner

2015 – Banquet Address: *A College for the Future: General Francis H. Smith and the Creation of the Virginia Military Institute*

Edward (Ed) L. Dooley, Jr., Special Assistant to the Superintendent, VMI

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## Thursday, October 23

0830 – 0915 General Session II (135 Mallory Hall)

Chair: David Banks, Duke University

*Applications of a Probability Programming Language*

Andrew G. Glen, United States Military Academy

Diane Evans, Rose-Hulman Institute of Technology

John Drew and Larry Leemis, College of William and Mary

0915 – 0930 Break

0930 – 1130 Special Session III (Statistics and Stochastics for Network Science) (135 Mallory)

Chair: Yasmin Said, George Mason University

*Compression and Analysis of Golden Gate Bridge Sensor Data*

Bin Yu, University of California-Berkeley

*Energy-efficient Multi-target Tracking Using Sensor Networks*

Venu Veeravalli, Illinois University at Urbana-Champaign

*Network Routing in a Dynamic Environment*

Nozer D. Singpurwalla, George Washington University

*Dynamic Network Science: Stochastic Modeling and Statistical Analysis*

Gangaram Ladde, University of South Florida

1130 – 1215 VMI Tour

1215 – 1330 Lunch

1330 – 1415 General Session III (135 Mallory Hall)

Chair: LTC Rodney Sturdivant, United States Military Academy

*Text Mining and Social Networks: Some Unexpected Connections*

Edward Wegman, George Mason University

1415 – 1430 Break

1430 – 1600 Contributed Session V (*Parallel Session*) (135 Mallory Hall)

Chair: Nancy Dunn, US Army Evaluation Center

*Fusion of Asynchronous Parallel Unreliable Data Streams*

Ann E.M. Bornstein, John H. Brand, and Michelle C. McVey, US Army Research Laboratory

*Streaming Poisson Data*

David W. Scott, Rice University

*Detecting Tiny Signals in Massive Data: The Dual of the Problem Addressed by Robust Methods*

Karen Kafadar, Indiana University, Bloomington

Robert L. Jacobsen, University of California-Berkeley

1430 – 1600 Contributed Session VI (*Parallel Session*) (119 Mallory Hall)

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

*New Developments in Classification Trees*

Wei-Yin Loh, University of Wisconsin-Madison

*Scan Statistics for Bio-Warfare Monitoring*

George Terrell, Virginia Tech

*Two Useful Descriptive Statistical Techniques*

Carl T. Russell, CTR Analytics

1600 – 1615 Break

1615 – 1700 General Session IV (135 Mallory Hall)

Chair: David Webb, US Army Research Laboratory

*Breaking the (Benford) Law: Statistical Fraud Detection*

Wendy Tam Cho (University of Illinois Urbana-Champaign)

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**Friday, October 24**

0800 – 0845 General Session V (135 Mallory Hall)

Chair: Edward Wegman, George Mason University

*Ranked Set Sampling: What, Why, When, and How*  
Douglas Wolfe, Ohio State University

0850 – 0950 Contributed Session VII (*Parallel Session*) (135 Mallory Hall)

Chair: COL Lee Dewald, Virginia Military Institute

*Hybrid Influence Diagrams for Threat Identification*  
Barry R. Cobb, Virginia Military Institute

*Correct Specification of Bayes Hierarchical Models*  
Jayaram Sethuraman, Florida State University

0850 – 0950 Contributed Session VIII (*Parallel Session*) (119 Mallory Hall)

Chair: Eric Snyder, U.S. Army Research Laboratory

*Data Augmentation for Quantal Response Estimation*  
David W. Webb and Scott E. Schoenfeld, US Army Research Laboratory

*Unusual and Statistically Significant Changes in Age-distribution of Last Year's Influenza Epidemic (Similar to the Spanish Flu) Warrants Re-evaluation of Vaccine Prioritization Policy*  
Barbara Billauer, Institute of World Politics

0950 -1000 Break

1000 – 1130 Contributed Session IX (135 Mallory Hall)

Chair: Barry Bodt, US Army Research Laboratory

*From Wealth to Democracy? An Analysis Using Multi-State Event History Models*  
Carol Atkinson, Giacomo Chiozza, Vanderbilt University

*A Family of Combinatorial Identities with Applications*  
Bernard Harris, University of Wisconsin-Madison

*Global Warming as a Problem in Statistical Physics*  
Bruce West, US Army Research Office

1130 Adjourn