

PRELIMINARY AGENDA

17th Army Conference on Applied Statistics

O'Callaghan Hotel
Annapolis, Maryland
19-21 October 2011

Sponsored by the Interface Foundation of North America

Monday, October 17

0800 – 0830 Registration (Galway B)
0830 – 1200 Tutorial

Applied Logistic Regression
COL Rodney Sturdivant, United States Military Academy

1200 – 1300 Lunch
1300 – 1600 Tutorial

Tuesday, October 18

0830 – 1200 Tutorial (Galway B)

Applied Logistic Regression
COL Rodney Sturdivant, United States Military Academy

1200 – 1300 Lunch
1300 – 1600 Tutorial

1830 – Social and Registration (Federal House Bar & Grill)

Wednesday, October 19

0745 – 0815 Registration (Galway)

0815 – 0830 Call to Order (Galway)

Barry Bodt, Conference Chair, US Army Research Laboratory

Welcome: Gary O. Fowler, Department of Mathematics, United States Naval Academy

0830 – 1000 General Session I (Keynote Address) (Galway)

Chair: Barry Bodt, US Army Research Laboratory

Army Network Science and Statistics
Bruce J. West, U.S. Army Research Office

Social Media and the Egyptian Revolution
Maksim Tsvetovat, George Mason University

Wednesday, October 19 (continued)

1000 – 1015 Break

1015 – 1145 Contributed Session I (Galway A)

Chair:

Network Modeling of Insurgency and Counter-Insurgency Strategies and Operations
Chris Arney and Kathryn Coronges, United States Military Academy

Mathematical Classification of Computational Trust Models
Craig Lennon, United States Military Academy

A Mathematical Model of Network Communication
James Gatewood, United States Military Academy, and Donald Drew, Rensselaer Polytechnic Institute

1015 – 1145 Special Session I, Army Applications (Galway B)

Organizer: COL Andrew Glen, United States Military Academy

Chairs: COL Andrew Glen & COL Rodney Sturdivant, United States Military Academy

Trends in the Incidence of Traumatic Brain Injury and Related Conditions Among Active Duty U.S. Military Personnel Between 1997 and 2007

Kenneth L. Cameron*, Stephen W. Marshall**, Andrew E. Lincoln***, and COL Rodney X. Sturdivant****

*Keller Army Hospital, West Point

**University of North Carolina, Chapel Hill

***MedStar Health Research Institute

****United States Military Academy

Analyzing the Effectiveness of Commander's Emergency Relief Program (CERP) Spending in Iraq and Afghanistan

MAJ Christopher Eastburg, MAJ Benjamin Thirey, and MAJ Nicholas Clark, United States Military Academy

Applications of the Infinite Bootstrap: The Spare Tire Problem

MAJ Christopher Marks, MAJ Kevin Cumminsky, LTC Billy Kaczynski, and COL Andrew Glen, United States Military Academy

1145 – 1300 Lunch

1300 – 1500 Contributed Session II (Galway A)

Chair: Alyson Wilson, Institute for Defense Analyses

Measuring Cooperation in Networks
Elisha Peterson, Johns Hopkins University Applied Physics Laboratory

Modeling Cooperation in Networks, Organizations, and Systems
Brian MacDonald and Chris Arney, United States Military Academy, and Elisha Peterson, Johns Hopkins University Applied Physics Laboratory

Wednesday, October 19 (continued)

A Network View of Pessimism in Military Units

CDT Evan Szabrowski and Kathryn Coronges, United States Military Academy

A Spectral Technique to Explore the Asymmetric Flow of Information in Directed Networks

Karl Rohe, University of Wisconsin-Madison, and Bin Yu, University of California, Berkeley

1300 – 1500 Contributed Session III (Galway B)

Chair: Charles White, Walter Reed Army Institute of Research

Inferences for Matched Case-control and Stratified Semiparametric Two-sample Density Ratio Models

Tianqing Liu, Walter Reed Army Institute of Research, Zhaohai Li, George Washington University, and Yuanzhang Li, Walter Reed Army Institute of Research

Analysis of Massive Microarray Data for Understanding Effects of Water Environments to Beetle Tissues

Guilherme V. Rocha,* Karen Kafadar,* Armin Moczek,** Teija Kijimoto,** Emilie Snell-Rood,*** Justen Andrews** (* Department of Statistics, Indiana University) (** Center for Genomic Biology, Indiana University) (***) Department of Biology, University of Minnesota)

Design of Genomic Studies Using the Square Combining Table

Karen Kafadar and Guilherme V. Rocha, Indiana University

Detection of Subgroups for Differential Treatment Effects

Wei-Yin Loh, University of Wisconsin-Madison

1500 – 1515 Break

1515 – 1715 Contributed Session IV (Stochastic Optimization) (Galway A)

Organizer: Janet Spoonamore, US Army Research Office

Chair:

Combinatorial Framework for the Modeling and Solution of Probabilistic Optimization Problems

Miquel A. Lejeune, George Washington University

Stochastic Network Design for Disaster Preparedness

Xing Hong, George Washington University Ph.D. Student, Miguel A. Lejeune, George Washington University, and Nilay Noyan, Sabanci University, Turkey

Evaluating the Validity of Probability Assessments in Strategic and Realistic Environments

Prashant Doshi, Adam Goodie, Daniel Hall, Matthew Meisle, and Royi Ceren (University of Georgia)

Stochastic Resource-Constrained Project Scheduling and its Military Applications

Haitao Li and Keith Womer, University of Missouri, St. Louis

1515 – 1715 Contributed Session V (Galway B)

Chair: Allan T. Mense, Raytheon Missile Systems

Imputation of Missing Round Data with Acoustic Target Systems to Estimate Dispersion Characteristics

Craig D. Andres, Jenna L. Preston, and Paul S. Kruse, US Army Aberdeen Test Center

Wednesday, October 19 (continued)

Statistical Methods of Target Impact Dispersion Metric for Small-Arms MIL-HDBK Development
Douglas Ray, Mike Brown, and Chad Bareither, Armament Research, Development and Engineering Center

Aluminum 7020-T651 Characteristics and Ballistic Protection, with Regression Statistics of 5083 and 7039 Aluminum, and RHA Steel
John Chinella (US Army Research Laboratory)

The Application of Statistical Equivalence Testing by a Military Operational Test Agency
Brittney Cates (Marine Corps Operational Testing and Evaluation Activity)

1830 – 2100 Wilks Award Banquet (Galway)

1830 – Social

1930 – Dinner

2015 – Banquet Address: Jim Cheevers, Senior Curator and Associate Director, USNA Museum

2045 – Wilks Award

Thursday, October 20

0830 – 0915 General Session II (Galway)

Chair: Edward J. Wegman, George Mason University

Vertex Nomination

Carey Priebe, Johns Hopkins University

0915 – 0930 Break

0930 – 1130 Contributed Session VI (Galway A)

Chair: Lee Dewald, Virginia Military Institute

Pushing Geospatial Analytics to the Edge

MAJ Christopher Eastburg, United States Military Academy

An Analysis of Crime Using High Dimensional and Collinear Predictors

MAJ Nicholas Clark, United States Military Academy

Mixed Hidden Markov Models for Joint Outcomes

LTC John C. Jackson, United States Military Academy

Density Dependent Utilities with Transaction Costs

Julius N. Esunge, University of Mary Washington, and Eriyoti Chikadza, Great Zimbabwe University

Thursday, October 20 (continued)

0930 – 1130 Special Session II (Game Theory) (Galway B)

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

Network Routing in an Adversarial Environment

Nozer D. Singpurwalla, George Washington University

Game Theory for Security: Lessons Learned from Deployed Applications

Milind Tambe, University of Southern California

A Stochastic Differential Game for the Infinity Laplacian

Amarjit Budhiraja, University of North Carolina-Chapel Hill

Defending Critical Infrastructure Systems

David Alderson, Naval Postgraduate School

1130 – 1300 Lunch

1300 – 1430 Special Session III (Reliability) (Galway A)

Organizer: Francisco Samaniego, University of California, Davis

Chair: Carey Priebe, Johns Hopkins University

Prediction of Remaining Life of a Fleet of Assets Based on Left-Truncated, Right-Censored Data

William Q. Meeker, Iowa State University

The Failure Rate of Mixtures

Henry W. Block, University of Pittsburgh

Estimating the Reliability of Components Based on Failure Time Data from Varied Systems

Francisco J. Samaniego, University of California, Davis

1300 – 1500 Contributed Session VII (Inference Modeling) (Galway B)

Organizer: Janet Spoonamore, US Army Research Office

Chair:

A Decision Theoretic Approach to Stochastic Linear Programming

Joshua Landon and Nozer D. Singpurwalla, George Washington University

Stable Matchings with Additional Objectives

Craig Lennon, United States Military Academy

A Mixed-integer Programming Model for Enforcing Priority List Policies in Markov Decision Process Models

Laura A. McLay, Virginia Commonwealth University

Recent Advances in Reliability-based Design Optimization for Broader Army Applications

KK Choi, University of Iowa

1430 – 1445 Break (Galway A)

Thursday, October 20 (continued)

1445 – 1615 Contributed Session VIII (Galway A)

Chair:

Maintainability Data Decision Methodology (MDDM)

John Nierwinski, Jr., US Army Materiel Systems Analysis Activity

The Navy Officer Lateral Transfer Process and Retention: A Matched Analysis

Yevgeniya (Jane) Pinelis and Ann Parcell, CAN, Center for Naval Analyses

A Statistical Analysis of Proposed Military Retirement Plans

CDT Joseph Lucas, MAJ Kevin Cumminskey and Robert Wooster, United States Military Academy

1500 – 1515 Break (Galway B)

1515 – 1630 Clinical Session I (Galway B)

Chair: Arthur Fries, Institute for Defense Analyses

Evaluation of Weapons System Performance in a Limited-Data Environment: Estimating the Probability of Engagement Success for Missile Defense Systems

Carl Gaither, Institute for Defense Analyses

Uninformative Confidence Bands in a Probit Analysis

David Webb, US Army Research Laboratory

1630 – 1715 General Session III (Galway A)

Chair: Nozer D. Singpurwalla, George Washington University

Heavy Tailed Statistics for Modeling Network Sessions

Sidney Resnick, Cornell University

Friday, October 21

0830 – 0915 General Session IV (Galway)

Chair: David Webb, US Army Research Laboratory

Nested Latin Hypercube Designs

Peter Qian, University of Wisconsin, Madison

0915 – 0930 Break

0930 – 1100 Contributed Session IX (Galway A)

Chair: Tom Donnelly, SAS JMP

Large Fractional Factorial DIODE DOE

Curt Laumann & Bill Thomas, Raytheon Missile Systems

Friday, October 21 (continued)

Design of Experiments in Highly Constrained Design Spaces

Laura J. Freeman (Institute for Defense Analyses)

Prioritizing Unaided Human Search in Military Simulations

CPT James K. Starling (United States Military Academy)

0930 – 1100 Contributed Session X (Galway B)

Chair:

Distributed Modal Identification Using Restricted Auto-Regressive Models

Guilherme V. Rocha, Indiana University, Shamim Pakzad, Lehigh University, and Bin Yu, University of California, Berkeley

Symbolic ARMA Model Analysis

Keith H. Webb and Lawrence M. Leemis, College of William & Mary

A New General Purpose Method of Time Series Forecasting

Michael Frey, Bucknell University, and Kyle Caudle, South Dakota School of Mines and Technology

1100 – 1115 Break

1115 – 1200 General Session V (Galway)

Chair:

Info-Metrics and Estimation of Extreme Events

Amos Golan, American University

1200 Adjourn