Joint Research Conference Schedule: Monday, June 11

7:30-8:00 am	2nd Floor Hallway	**Registration**
8:00 am – 4:30 pm	Palace A/B	**Short Course:** **Bridging Statistics and Data Science** Instructors: Dr. Ming Li, Amazon Dr. Hui Lin. DowDuPont Includes: Morning Break @ 10:00 am Lunch @ 12:00 pm Afternoon Break @ 2:30
4:30-5:30 pm	2nd Floor Hallway	**Registration**
5:30-8:30 pm	Gather in the 2nd Floor Hallway Outside Palace A/B at 5:30 pm	**Welcome Outing for Early Conference Arrivals** **Meow Wolf** A unique opportunity to experience interactive exploration of art and technology

Joint Research Conference Schedule: Tuesday, June 12

7:00-8:00 am	2nd Floor Hallway **Registration**		
8:00-9:00 am	O'Keefe	**Welcome:** Joanne Wendelberger, JRC2018 Chair **Plenary Session:** Chair: Leslie Moore, Los Alamos **Conference Honoree Address** *A Brief, Incomplete, and Biased History of Computer Experiments* Max Morris, Iowa State University	
9:00-9:10 am		10 Minute Break	
9:10-10:40 am	Lamy **Invited Session:** **Modern Design of Experiments** Organizer: C. Devon Lin, Queen's University Chair: Brian Weaver, Los Alamos National Laboratory *Analysis-of-Marginal-Tail-Means – a New Method for Robust Parameter Optimization* Jeff Wu, Georgia Tech *Restricted Screening Designs* Ryan Lekivetz, JMP Division of SAS *Value of Feedback and Lookahead in Optimal Sequential Bayesian Experimental Design* Ryan Xun Huan, Sandia National Laboratory	Palace A **Invited Session:** **Lessons Learned from Data Challenges and Challenging Data** Organizer: Anne Hansen-Musakwa, Tuft & Needle Chair: Brian Weaver, Los Alamos National Laboratory *How Data-based Approaches Work Regardless of Corporate Culture* Anne Hansen-Musakwa, Tuft and Needle *The Value of the CDC's Influenza Forecasting Challenge: One Participant's Nuanced Perspective* David Osthus, Los Alamos National Laboratory *Data Competition Hosting: Getting More Than Just a Winner Through Strategic Design and Analysis* Christine Anderson-Cook, Los Alamos National Laboratory	Palace B **Invited Session:** **Uncertainty Quantification** Organizer: Matt Pratola, The Ohio State University Chair: Derek Bingham Simon Fraser University *Neural Networks for Flexible and Fast Emulation of Computer Experiments* Jaren Huling, The Ohio State University *Bayesian Gaussian Process Models for Dimension Reduction Uncertainties* Peter Marcy, Los Alamos National Laboratoy *Model Calibration and Validation with Count Data and Generalized Gaussian Process Emulation* Michael Grosskopf, Los Alamos National Laboratory
10:40-11:10 am		30 Minute Break	
11:10-11:55 am	Lamy **Contributed Session:** **Topics in Spatial Statistics**	Palace A **Contributed Session:** **Bayesian Perspectives**	Palace B **Contributed Session:** **General Interest**

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	Chair: Kim Kaufeld, Los Alamos National Laboratory *Comparison of Alternative Kriging Estimation Methods Including Cross-Validation* Long Wang, The Ohio State University *Anisotropic Functional Blind Deconvolution with Application to Seismic Inversion* Rida Benhaddou, Ohio U.	Chair: Mary Frances Dorn, Los Alamos National Laboratory *Bayesian-type change-point detection in statistical process control* Michael Baron, American University *Computing Tolerance Bounds Using Bayesian Tools* Jose Ramirez, Amgen	Chair: Abigael Nachtsheim, Arizona State University *The Art of Teaching and Communicating Design of Experiments to Non-Statisticians* Shari Kraber *Innovation, Entrepreneurship and Textiles* Samenah Pourmojib, North Carolina State University
12:00-1:30 pm	O'Keefe	**Lunch** **Mary G. and Joseph Natrella Scholarship Awards** Presenter: Scott Kowalski, Minitab **Special Invited Lunch Speaker** Chair: Joanne Wendelberger *Color in Scientific Visualization* Francesca Samsel U. of Texas at Austin	
1:30-2:00 pm	Lamy Minitab Software Demo	Palace A JMP Software Demo	
2:00-3:30 pm	Lamy **Mary G. and Joseph Natrella Scholarship Award Session** Chair: Scott Kowalski, Minitab *Monitoring Stochastic Textured Surfaces* Anh Bui, Northwestern University *Engineering-driven Data Analytics for Quality Improvement* Xiaowei Yu, Georgia Tech	Palace A **Invited Session** **Test Planning for Reliability** Organizer: Brian Weaver, Los Alamos National Laboratory Chair: Caleb King, Sandia Nat. Lab *New Developments on Binomial Demonstration Test Plans* Lu Lu, U. of South Florida *Mutual Information Design Criterion for Sensitivity Testing* Isaac Michaud, North Carolina State University *Challenges and New Methods for Designing Reliability Experiments* Laura Freeman, Institute for Defense Analysis	Palace B **Astrostatistics Interest Group Invited Session** Organizer: Jessi Cisewski, Yale Chair: Jogesh Babu, Penn State University *A New Spectrum Estimation Technique for Asteroseismology* Gwendolyn Eadie, U. of Washington *Hunting for Exoplanets Around Active Stars* David Stenning, Imperial College, London *Disentangling Astronomical Sources with Spatial, Spectral, and Temporal X-ray Data* Luis Campos, Harvard

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3:30-4:00 pm	30 Minute Break		
4:00-5:30 pm	Lamy **Contributed Session** **SPC to Knock Your Socks Off** Chair: Michael Fugate, Los Alamos National Laboratory *Quality Control Charts Not Based on Sigma Limits* Mian Adnan, Indiana University Bloomington *Weak Signal Detection Using SPC* Gejza Dohnal, Czech Technical University in Prague *One-Class Peeling for Outlier Detection in High Dimensions* Maria Weese, Miami University *The Structure of "Ultimate Intelligence" and A Possible Future for Optimal Experimental Design* Theodore Allen, The Ohio State University	Palace A **Contributed Session** **Screening and Surviving** Chair: Claire McKay Bowen, Los Alamos National Laboratory *Optimal Designs for Gamut Models* William Heavlin, Google, Inc. *Augmenting Definitive Screening Designs for Estimating Second-Order Models* Abigael Nachtsheim, Arizona State University *Minimum Contamination and Beta-Aberration Criteria for Screening Quantitative Factors* Po Yang, National Chung Hsing University, Taiwan *An Empirical Saddlepoint Approximation Method for Smoothing Survival Functions Under Interval-Censoring* Manjari Dissanayake, Texas Tech University	Palace B **Contributed Session** **Inference and Genomics** Chair: Alicia Dominguez, Los Alamos National Laboratory *Inference on Location Parameter Under Multivariate Skew Normal Setting* Ziwei Ma, New Mexico State University *Regularized Regression and Parameter Selection Methods in Genomic Data Classification and Disease Prediction* Karel Kupka, TriloByte *Same-Species Contamination Detection in Next Generation Sequencing* Tao Jiang, North Carolina State University *Parameter Inference in Generalized Population Genetics Models* Timothy Wallstrom, Los Alamos National Laboratory
5:30-6:00 pm		Palace A Poster Session	Palace B TriloByte Software Demo
6:00-6:25 pm		See below for Presenters and Titles	
6:30-8:30 pm	O'Keefe	**Banquet** Chair: Joanne Wendelberger *75 Years – A Brief History of Los Alamos National Laboratory* Alan Carr, Los Alamos National Laboratory Historian	

Joint Research Conference Schedule: Tuesday, June 12

Poster Session, 5:30-6:25 pm, Palace A

1. Mian Adnan, Indiana University Bloomington
Range Based Limits for Several Measures of Disperson, Comparisons and Association for Small Sample

2. Boian Alexandrov, Los Alamos National Laboratory,
Unsupervised Machine Learning for Phase Separation in Lipid Bilayers

3. Claire McKay Bowen, Los Alamos National Laboratory
Noisy Edges and Traits (NET): A Differentially Private Data Synthesis Method for Social Network Data

4. Ying Ju Tessa Chen, University of Dayton
A Data Analytic Framework for Physical Fatigue Management Using Wearable Sensors

5. David Collins, Los Alamos National Laboratory
Nonparametric Bagged Estimators for Binary Response Data

6. Peter Hovey, University of Dayton
Exploring and Investigating Contributing Factors of Injury Severity of Drivers of Emergency Vehicles in Ohio

7. Jiangeng Huang, Virginia Tech
Input-dependent Calibration for Large Computer Experiments

8. Curtis Miller, University of New Mexico
Marginal Probabilities for Conditionally Specified Logistic Regression: An Application With Public Health Data

9. Kevin Quinlan, Penn State
The Construction of ε-bad Covering Arrays

10. Richard Warr, Brigham Young University
A Bayesian Nonparametric Approach to Multistate Models

11. Joanne Wendelberger, Los Alamos National Laboratory
Resiliency Assessment for Automated Mobility

12. Li Xu, Virginia Tech
Parametric Analysis for the Variability in High-Performance Computing Systems Using Mixture Distributions

Joint Research Conference Schedule: Wednesday, June 13

7:30-8:00 am	2nd Floor Hallway **Registration**		
8:00-9:00 am	O'Keefe	**Plenary Session:** Chair: Earl Lawrence Los Alamos National Laboratory *Computer Model Calibration: Applications from the National Labs and a Protein Network* Derek Bingham, Simon Fraser University	
9:00-9:10 am		10 Minute Break	
9:10-10:40 am	Lamy **Invited Session:** **Celebrating 50 Years of the Journal of Quality Technology** Organizer/Chair: Biance Maria Colosimo, Politecnico Di Milano *The 50th Anniversary of the Journal of Quality Technology* Douglas Montgomery, Arizona State University *Estimating a Service-Life Distribution Based on Production Counts and a Failure Database* Michael Hamada, Los Alamos National Laboratory *Selecting an Informative/Discriminating Multivariate Response for Inverse Prediction* Ed Thomas, Albuquerque, New Mexico	Palace A **Invited Session** **Experiment Design for Big Data** Organizer: Xinwei Deng, Virginia Tech and C. Devon Lin, Queen's University Chair: Xinwei Deng, Virginia Tech *Projected Support Points – A New Method for High-Dimensional Data Reduction* Roshan J. Vengazhiyil, Georgia Tech *Discrepancy-based Completely Randomized Design for A/B Testing Experiments* You Li, DePaul University *Embracing Experimental Design Thinking for Large-Scale Statistical Analysis* Peter Chien, U. of Wisconsin-Madison	Palace B **Invited Session** **Data Science in New Mexico** Organizer: Emily Casleton, Los Alamos National Laboratory Chair: Emily Casleton, Los Alamos National Laboratory *Overfitting in Bayesian Model Calibration of Functional Data Under Misspecified Models* Lauren Hund, Sandia National Laboratory *gibbSeq: A Fully Bayesian Multiple Testing Method for Differential Gene Expression* Oleg Makhnin, New Mexico Tech *Using Approximate Bayesian Computation to Infer Evolutionary Trees* James Degnan, U. of New Mexico
10:40-11:10 am		30 Minute Break	

Joint Research Conference Schedule: Wednesday, June 13

11:10-11:55 am	Lamy **Contributed Session:** **Cool Case Studies in Prediction** Chair: Michael Grosskopf, Los Alamos National Laboratory *Machine Learning Approaches for NASA Mission Support and Financial Systems Data to Predict Employee Travel Expenses* Andy Ramlatchan, NASA Langley Research Center *Convex Clustering of Generalized Linear Model with Application on Purchase Likelihood Prediction* Shuyu Chu, Virginia Tech	Palace A **Contributed Session:** **Predicting the Future: Warranty and Shelf-Life** Chair: David Collins, Los Alamos National Laboratory *Simple Approach to Calculate Random Effects Model Tolerance Intervals to Set Release Limits and Shelf-life Specification Limits of Pharmaceutical Products* Richard Montes, Hospira/Pfizer *Warranty/Performance Text Exploration for Modern Reliability* Scott Wise, SAS Institute	Palace B **Contributed Session:** **Fun With Computer Models** Chair: Sham Bhat, Los Alamos National Laboratory *Optimal Calibration for Computer Model Prediction with Finite Sample* Xiaowu Dai, U. of Wisconsin-Madison *Functional Nonlinear Regression and Registration using Bayesian Adaptive Splines* Devin Francom, Los Alamos National Laboratory
12:00-1:30 pm	O'Keefe	**Lunch – QPRC/SRC** **Chair: Maria Weese** *JRC Student Awards* *Quality and Productivity Research Conference – 35 Years* *Jeff Hooper,* *QPRC Steering Committee* *Spring Research Conference – 25 Years* Xinwei Deng, SRC Management Committee	
2:00-7:00 pm	Bradbury Science Museum, Los Alamos	**Technical Tour and Reception** 2:00 pm Depart for Bradbury Science Museum from Drury Plaza Hotel via Bus/Van 3:00-5:00 pm Visit Bradbury Science Museum 5:00-6:00 pm Reception at Bradbury Science Museum 6:00 Depart for Drury Plaza Hotel from Bradbury Science Museum via Bus/Van	

Joint Research Conference Schedule: Thursday, June 14

7:30-8:00 am	2nd Floor Hallway **Registration**		
8:00-9:00 am	O'Keefe	**Plenary Session:** Chair: Brian Weaver, Los Alamos National Laboratory *Modeling Stress-Strain Fields in Polycrystalline Materials Statistical Art and Science* Scott Vander Wiel, Los Alamos National Laboratory	
9:00-9:10 am		10 minute break	
9:10-10:40 am	Lamy **Invited Session:** **Celebrating 60 Years of Technometrics** Organizer/Chair: Dan Apley Northwestern University *Replication or Exploration? Sequential Design for Stochastic Simulation Experiments* Mickael Binois, Argonne National Laboratory *Permutation and Grouping Methods for Sharpening Gaussian Process Approximations* Joseph Guiness, North Carolina State University *Gaussian Process Modeling of a Functional Output with Information from Boundary and Initial Conditions and Analytical Approximations* Matthias Tan, City University of Hong Kong	Palace A **Invited Session:** **The Latest in Statistical Process Control and Signal Detection** Organizer/Chair: Anne Hansen-Musakwa, Tuft & Needle *Repeated SPRT Charts for Monitoring INAR(1) Processes* Daniel Jeske, U. of California, Riverside *Anomaly Detection in Multivariate and Streaming Data* Karl Pazdernik, Pacific Northwest National Laboratory *Process Control Using Machine Learning* Xin Guan, Intel Corporation	Palace B **Contributed Session:** **Mixing It Up!** Chair: Elizabeth Kelly, Los Alamos National Laboratory *Development of improved statistical methodology for eyewitness identification* Alice Liu, U. of Virginia *Pointwise Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists* Kedai Cheng, U. of Kentucky *A Physics-specific Change Point Detection Method using Torque Signals in Pipe Tightening Processes* Juan Du, Peking University *Purely Sequential and Two-Stage Bounded-Length Confidence Interval Estimation Problems in Fisher's "Nile" Example* Yan Zhuang, U. of Connecticut
10:40-11:10 am		30 minute break	

Joint Research Conference Schedule: Thursday, June 14

11:10-11:55 am	Lamy **Contributed Session:** **All About CUSUMs** Chair: Robert Foster, Los Alamos National Laboratory *CUSUM and GLR charts for monitoring the scale parameter of right-censored Weibull lifetimes* Jaeheon Lee, Chung-Ang University *Performance of Risk-Adjusted CUSUM Chart Under an Incorrectly Specified Binary Logistic Regression Model* Philip Wittenberg, Helmut Schmidt University	Palace A **Contributed Session:** **More DOE Fun** Chair: Isaac Michaud, North Carolina State University *Multivariate Design of Experiments for Engineering Dimensional Analysis* Chris Nachtsheim, U. of Minnesota *Designing Experiments for Dynamic Responses* Rong Pan, Arizona State University	Palace B **Contributed Session:** **Exploring the Options** Chair: Jim Wendelberger, Los Alamos National Laboratory *Narrow Big Data in Streams and Kolmogorov Complexity* Michael Cerny, U. of Economics, Prague *Design of Experiments for Bimatrix Games with Military and Baseball Applications* Olivia Hernandez, The Ohio State University
12:00-1:30 pm	O'Keefe	**Lunch** **Special Invited Lunch Speaker** Chair: Max Morris, Iowa State *The Critical Role of Statistics in Development and Validation of Forensic Methods* Karen Kafadar, U. of Virginia	
1:30-3:00 pm		Palace A **Invited Session:** **Statistical Machine Learning** Organizers: C. Devon Lin, Queen's U. and Matt Pratola, The Ohio State University Chair: Xinwei Deng, Virginia Tech *Variable Selection for Mean and Volatility* Rob McCulloch, Arizona State *Adaptively Pruned Random Forests for Modeling Means and Variances Simultaneously* Thomas Logan, Simon Fraser U. *Survival Prediction and Model Assessment via BART Model Averaging* Nick Henderson, Johns Hopkins	Palace B **Invited Session:** **Computer Experiments** Organizer: Shan Ba, Procter & Gamble Chair: Brian Williams, Los Alamos National Laboratory *Practical Heteroskedastic Gaussian Process Modeling for Large Simulation Experiments* Robert Gramacy, Virginia Tech *A Latent Variable Approach for Handling Qualitative Factors in Gaussian Process Modeling of Computer Experiments*, Daniel Apley, Northwestern U. *Constructing Space Filling Designs with Categorical Factor and Factor Constraints* Bradley Jones, JMP