

DAE 2017 INVITED TALKS

———— Day 1: Thursday, October 12, 2017 ————

Session 1. INTERNET EXPERIMENTS

Organizer and Chair: David Steinberg, Tel Aviv University, Israel

Thompson Sampling for Infinite Armed Bandits

Steven Scott, *Google*

Sliced Designs for Multi-Platform Online Experiments

Soheil (Sol) Sadeghi, *Microsoft Corporation*

Trustworthy analysis of online A/B tests: Pitfalls, challenges and solutions

Jiannan Lu, *Microsoft Corporation*

Session 2. COMPUTATIONAL METHODS IN DESIGN OF EXPERIMENTS

Organizer and Chair: Dave Woods, University of Southampton, UK

New methods for approximating the expected utility in Bayesian design for nonlinear models

Yiolanda Englezou, *University of Southampton, UK*

The Construction of Missing-Robust Experimental Designs and their Comparison to Classical and Optimal Designs

Byran Smucker, *Miami University (Oxford, OH)*

Computation of Optimal Experimental Design for Estimating Conditional Effects

Bradley Jones, *JMP Division/SAS*

Session 3. NEW APPLICATIONS OF FACTORIAL EXPERIMENTS

Organizer and Chair: Jessica Jaynes, California State University, Fullerton

Order of Addition Modeling

Robert Mee, *University of Tennessee*

Application of Kriging Models for a Drug Combination Experiment on Lung Cancer

Qian Xiao, *University of Georgia*

Using blocked fractional factorial designs to construct discrete choice experiments

Jessica Jaynes, *California State University, Fullerton*

Session 4. DESIGNS FOR NON-NORMAL DATA

Organizer and Chair: Abhyuday Mandal, University of Georgia

Robust Dose-level Designs for Binary Responses

Wanchunzi Yu, *Arizona State University*

Constructing Efficient Designs for a Ballooned Beta-Logistic Model in Toxicology

Seung Won Hyun, *North Dakota State University*

D-optimal Designs for Multinomial Logistic Models

Jie Yang, *University of Illinois at Chicago*

DAE 2017 INVITED TALKS

———— Day 2: Friday, October 13, 2017 ————

Session 5. DESIGN AND ANALYSIS OF COMPUTER EXPERIMENTS

Organizer and Chair: Peter Qian, University of Wisconsin-Madison

Data farming research: opportunities for the design and analysis of large-scale simulation experiments

Susan Sanchez, *The Naval Postgraduate School*

A Stochastic Process Approach to Generating Designs

Matthew Pratola, *The Ohio State University*

Predictive Distribution for Gaussian Process Models with Design-Based Subbagging

Linglin He, *Rutgers University*

Session 6. RECENT ADVANCES IN ORTHOGONAL ARRAYS AND COVERING ARRAYS

Organizer and Chair: Frederick Phoa, Academia Sinica, Taiwan

Strong Orthogonal Arrays of Strength Two Plus

Boxin Tang, *Simon Fraser University, Canada*

Geometric Orthogonal Array (GOA): A new class of space-filling designs with good uniformities in multiple dimensions

Frederick Kin Hing Phoa, *Academia Sinica, Taiwan*

High Index Covering Array: A Useful Class of Cost-Efficient and Outlier-Resistant Designs With Repeated Tuple Observations

Yasmeen Akhtar, *Academia Sinica, Taiwan*

Session 7. INFERENCE FOR ADAPTIVE DESIGNS

Organizer and Chair: Nancy Flournoy, University of Missouri

Blinded and Unblinded Sample Size Recalculation for generalized linear models

Sergey Tarima, *Medical College of Wisconsin*

Adaptive Procedures for Optimum Observed Fisher Information

Adam Lane, *Cincinnati Children's Hospital Medical Center*

Optimal Adaptive Subsampling under the A-optimality Criterion for Logistic Regression

Haiying Wang, *University of Connecticut*

Session 8. COMPUTER EXPERIMENTS AND UNCERTAINTY QUANTIFICATION

Organizer: Ying Hung, Rutgers University

Chair: C. Devon Lin, Queen's University, Canada

Exact Knowledge Gradient-Based Sequential Data collection for Optimal Decision Making

Qiong Zhang, *Virginia Commonwealth University*

Invariance-Preserving Emulation for Computer Models, with Application to Structural Energy Prediction

Peter Qian, *University of Wisconsin-Madison*

Local Gaussian Process Model for Large-scale Dynamic Computer Experiments

C. Devon Lin, *Queen's University, Canada*

DAE 2017 INVITED TALKS

———— Day 3: Saturday, October 14, 2017 ————

Session 9. **ADVANCES IN OPTIMAL DESIGN OF DOSE RANGING STUDIES**

Organizer and Chair: Valerii Fedorov, ICONplc, USA

Operational tuning optimal design of clinical trials "time-to-event" endpoints to increase operational probability of success

Xiaoqiang Xue, *QuintilesIMS*

Optimal model-based design, dose ranging, and population pharmacokinetic measures

Sergei Leonov, *ICON Clinical Research*

A universal approach to optimal design of experiments based on the use of elemental information matrices

Valerii Fedorov, *ICONplc, USA*

Session 10. **INFORMATION-BASED OPTIMAL SUBDATA SELECTION FOR BIG DATA**

Organizer and Chair: Min Yang, University of Illinois at Chicago

Optimal design of sampling survey for efficient parameter estimation

Wei Zheng, *University of Tennessee*

On Data Reduction of Big Data

Min Yang, *University of Illinois at Chicago*

Information-Based Optimal Subdata Selection for Big Data Lasso Regression

Xin Wang, *University of Illinois at Chicago*

DAE 2017 INVITED POSTERS

———— Day 1: Thursday, October 12, 2017 ————

Optimal design involving profile factors

Maria Adamou, *University of Southampton, UK*

A Bayesian-inspired minimum aberration criterion for two-level multi-stratum factorial designs

Ming-Chung Chang, *Academia Sinica, Taiwan*

Hybrid numerical optimization algorithms for generating optimal discrimination designs

Ping-Yang Chen, *National Cheng Kung University, Taiwan*

Algorithms for searching saturated D-Optimal designs for two level factorial designs

Kouakou Francois Domagni, *University of Illinois, Chicago*

CV, ECV, and Robust CV designs for replications under a class of linear models in factorial experiments

Subir Ghosh, *University of California, Riverside*

Simulation-Based Optimal Bayesian Design for Sequential Experiments

Xun Huan, *Sandia National Laboratories*

Power and Practicality of Large Supersaturated Designs

Varun Khemani, *University of Maryland*

Robust Design of Generalized Linear Model

Yiou Li, *DePaul University*

Augmenting Definitive Screening Designs for Estimating Quadratic Models

Abigael Nachtsheim, *Arizona State University*

On A-efficient treatment-control designs constructed by generalized cyclic designs

Kazuhiro Ozawa, *Gifu College of Nursing, Japan*

Design of Order-of-Addition Experiments

Jiayu Peng, *Penn State University*

An algebra for conditional main effects

Arman Sabbaghi, *Purdue University*

Differential Evolution for Optimal Design Creation

Zack Stokes, *UCLA*

Finding D-Optimal Designs for High Dimensional Logistic Models via Two-Layer Tournament Swarm Optimization

Zizhao Zhang, *UCLA*

Individual Factor Word Length Pattern For Nonregular Fractional Factorial Designs

Qi Zhou, *Tianjin University of Finance and Economics, China*

DAE 2017 INVITED POSTERS

———— Day 2: Friday, October 13, 2017 ————

Purely sequential estimation of a negative binomial mean with applications in ecology
Sudeep R. Bapat, *University of California, Santa Barbara*

Information-Based Optimal Subdata Selection for Big Data Logistic Regression
Qianshun Cheng, *University of Illinois at Chicago*

Comparison of Gaussian process modeling software
Collin Erickson, *Northwestern University*

Replication or exploration? Sequential design for stochastic simulation experiments
Jiangeng Huang, *Virginia Tech*

The application of design of experiments to precision medicine clinical trial
Kim May Lee, *University of Cambridge, UK*

Hellinger information and optimal designs for nonregular models
Yi Lin, *University of Illinois at Chicago*

Experimental Design with Circulant Property and its Application to fMRI Experiment
Yuan-Lung Lin, *Academia Sinica, Taiwan*

d -QPSO: A Quantum-Behaved Particle Swarm Technique for Finding D -Optimal Designs for Models with Mixed Factors and a Binary Response
Abhyuday Mandal, *University of Georgia*

Construction of Covering Arrays Using Parallel Strength Two Covering Arrays
Kevin Quinlan, *Penn State University*

Geometric Orthogonal Array (GOA): A new class of space-filling designs with good uniformities in multiple dimensions
Cheng-Yu Sun, *Simon Fraser University, Canada*

Super-simple bipartite orthogonal array
Yu Tang, *Soochow University, China*

Two-Level Designs Constructed by Concatenating Orthogonal Arrays of Strength Three
Alan Vazquez-Alcocer, *University of Antwerp, Belgium*

Optimal maximin L_1 -distance Latin hypercube designs based on good lattice point designs
Lin Wang, *UCLA*

Locally D-optimal Designs for Multiple-covariate Generalized Linear Models
Zhongshen Wang, *Arizona State University*

Local Variable Selection in Experimental Design
Munir Winkel, *North Carolina State University*

Functional F tests for orthogonal designs
Bairu Zhang, *Queen Mary, University of London*