

**International Conference on  
Design of Experiments (ICODOE-2022) May 8-11, 2023  
Department of Mathematical Sciences, University of Memphis  
FedEx Institute of Technology, University of Memphis**

**TZ:** The Zone conference room, first floor; **MPT:** Methodist Presentation Theater, first floor;  
**FB:** Fishbowl (Room 203/205), second floor

**Monday, May 8**

**6—7 PM Registration (Holiday Inn)**

**7—9 PM Reception Dinner (Holiday Inn, Shelby Ballroom)**

**Tuesday, May 9**

**7—8 AM Breakfast (Holiday Inn, Shelby Ballroom)**

**8 AM Registration (FedEx Institute Lobby)**

**8:15 AM Inauguration (TZ)**

**8:30—10.00 AM Session 1 (TZ): Opening Session**

Organizer: The Scientific Program Committee

Chair: John Stufken, George Mason University

8:30—9 AM Qing Liu, University of Wisconsin.

A Representative Sampling Method for Peer Encouragement Designs in Network Experiments

9—9:30 AM Jonathan Stallrich, NC State University.

Optimal Supersaturated Designs for Lasso Sign Recovery

9:30—10 AM Torsten Reuter, Otto von Guericke University, Magdeburg, Germany.

D-Optimal Subsampling Design for Big Data Regression

**10—10:30 AM Coffee Break (FedEx Institute Lobby)**

**10:30 AM—12:30 PM Session 2a (TZ): Adaptive Designs.**

Organizer: Nancy Flournoy, University of Missouri

Chair: Sergei Leonov, CSL Behring

10:30—11 AM Zhantao Lin, Eli Lilly

Inference for a Two-Stage Enrichment Design

11—11:30 AM Adam Lane, University of Cincinnati

Optimal Relevant Subset Designs in Nonlinear Models

11:30 AM—NOON Nancy Flournoy, University of Missouri

Optimality of Sequential Likelihood Ratio Tests Given an  $\alpha$ -Spending Function and Interim Sample Sizes

NOON—12:30 PM Sergey Tarima, Medical College of Wisconsin

Cost of Sequential Adaptations

**10:30AM—12:30 PM Session 2b (MPT): Screening Experiments.**

Organizer: Angela Dean, The Ohio State University.

Chair: Angela Dean, The Ohio State University

10:30—11 AM Yasmee Akhtar, Birla Institute of Technology and Science, Goa, India  
Locating Arrays for Design Selection and Analysis of Screening Experiments

11—11:30 AM Hongquan Xu, UCLA  
Designs for Order-of-Addition Screening Experiments

11:30 AM—NOON Rakhi Singh, Binghamton University  
Design Selection for Multi- and Mixed-Level Supersaturated Designs

NOON—12:30 PM Eric Schoen, KU Leuven, Belgium  
Systematic Enumeration of Two-Level Even-Odd Designs of Strength 3

**12:30—2 PM Lunch (Holiday Inn, Shelby Ballroom)**

**2—3:30 PM Session 3a (TZ): DOE in the Pharmaceutical Industry.**

Organizer: Sergei Leonov, CSL Behring

Chair: Nancy Flournoy, University of Missouri

2—2:30 PM Inna Perevozskaya, GSK  
Applying Quantitative Decision-Making to Prediction of Clinical Trial Recruitment

2:30—3 PM Jinesh Shah, CSL Behring  
Framework to design a Bayesian Group Sequential Clinical Study

3—3:30 PM Sergei Leonov, CSL Behring  
On a Longitudinal Mixed Effects Model for a Dose-Finding Study

**2—3:30 PM Session 3b (MPT): Variational Methods for Optimal Experimental Design**

Organizer: Xun Huan, University Michigan

Chair: Xun Huan, University Michigan

2—2:30 PM Fengyi Li, Massachusetts Institute of Technology  
Transport Map-Based Bayesian Optimal Experimental Design

2:30—3 PM Jiayuan Dong, University of Michigan  
Variational Bayesian Optimal Experimental Design with Normalizing Flows

3—3:30 PM Ahmed Attia, Argonne National Laboratory, U.S.,  
Robust Optimal Experimental Design for Bayesian Inverse Problems

**3:30—4 PM Coffee Break (FedEx Institute lobby)**

#### **4—5 PM Session 4a (TZ): Design of Experiments for Functional Data Analysis**

Organizer: Ming-Hung (Jason) Kao, Arizona State University

Chair: Russell Barton, The Pennsylvania State University

4—4:30 PM Cai Li, St. Jude Children's Research Hospital.

Optimal design for functional data

4:30—5 PM Ming-Hung (Jason) Kao, Arizona State University

Optimal Designs for Functional Principal and Empirical Component Scores

#### **5—6 PM Session 4b (TZ): Design in Business Decision Making Processes**

Organizers: Weitao Duan & Shan Ba, LinkedIn, and Xinwei Deng, Virginia Tech

Chair: Russell Barton, The Pennsylvania State University

5—5:30 Ying Jin, Stanford University

Selection by Prediction: Machine-assisted Candidate Screening with Conformal p-Values

5:30—6 PM Yixin Tang, DoorDash

Business Policy Experiments using Factorial Designs

#### **4—6 PM Session 4c (MPT): Contributed Session**

Chair: David Edwards, Virginia Commonwealth University

4—4:30 PM Jay Beder, University of Wisconsin – Milwaukee

The story of a Wikipedia article

4:30—5 PM Olga Egorova, King's College London, UK.

Sequential multi-objective design of multistratum experiments

5—5:30 Kade Young, North Carolina State University

Comparing Supersaturated Screening Designs using Exact Screening Probabilities

5:30—6PM Alexandre Bohyn, KULeuven, Belgium.

Design and analysis of a microplate assay in the presence of multiple restrictions on the randomization

***7.00-8.30 PM Conference Banquet (Holiday Inn, Shelby Ballroom)***

#### **Wednesday, May 10**

***7:15—8:15 AM Breakfast (Holiday Inn, Shelby Ballroom)***

**8:30—10 AM Session 5a (TZ): Recent Advances in Order-of-Addition Experiments**

Organizer: Dennis K.J. Lin, Purdue University.

Chair: Ching-Chi Yang, University of Memphis

8:30—9 AM Frederick Phoa, Academia Sinica, Taiwan

A Systematic Design Construction and Analysis for Cost-Efficient Order-of-addition Experiment

9—9:30 AM Xueru Zhang, Purdue University

Analysis of Order-of-addition experiments

9:30—10 AM Dennis K.J. Lin, Purdue University,

Order-of-addition Experiments: Design and Analysis

**8:30—10 AM Session 5b (MPT): Computational Methods for Bayesian Optimal Experimental Design**

Organizer: Youssef Marzouk, MIT

Chair: Luc Pronzato, CNRS, France

8:30—9 AM Alen Alexanderian, North Carolina State University

Optimal Design of Large-Scale Bayesian Inverse Problems under Model Uncertainty

9—9:30 AM Desi R. Ivanova, University of Oxford, UK

Deep Adaptive Design

9:30—10 AM Jayanth Jagalur-Mohan, Lawrence Livermore National Laboratory

Randomized Algorithms for Design of Experiments in High-Dimensions

***10—10:30 AM Coffee Break (FedEx Institute Lobby)***

**10.30 AM—12:30 PM Session 6a (TZ): Computer Experiments.**

Organizer: Max Morris, Iowa State University

Chair: Max Morris, Iowa State University

10:30—11 AM Roshan Joseph, Georgia Institute of Technology

Maximum One-Factor-At-A-Time Designs for Screening in Computer Experiments

11—11:30 AM Russell Barton, The Pennsylvania State University

Experiment Designs for Inverse Approximations

11:30 AM—NOON Isaac Michaud, Los Alamos National Laboratory

Designing Integral Experiments to Eliminate Compensating Nuclear Data Errors

NOON—12:30 PM Alan Vazquez, University of Arkansas

An integer programming algorithm for constructing maximin distance designs from good lattice point sets

### **10:30 AM—12:30 PM Session 6b (MPT): Reinforcement Learning.**

Organizer: Wei Zheng, University of Tennessee.

Chair: Jonathan Stallrich, NC State University.

10:30—11 AM Linglong Kong, University of Alberta, Canada

Damped Anderson Mixing for Deep Reinforcement Learning: Acceleration, Convergence, and Stabilization

11—11:30 AM. Xun Huan, University of Michigan.

Variational Bayesian Sequential Optimal Experimental Design via Policy Gradient

11:30 AM—NOON Haoda Fu, Eli Lilly.

Multi-arm single step reinforcement learning through a direct learning algorithm.

NOON—12:30 PM Wei Zheng, University of Tennessee.

Thompson Sampling with Discrete Prior

### ***12:30—2 PM Lunch (Holiday Inn, Shelby Ballroom)***

### **2—3:30 PM Session 7a (TZ): Factorial Experiments**

Organizer: Robert Mee, University of Tennessee

Chair: Hongquan Xu, UCLA

2—2:30 PM Lin Wang, Purdue University

Group-Orthogonal Subsampling for Non-independent Data Based on Linear Mixed Models

2:30—3 PM David Edwards, Virginia Commonwealth University

Structure of Nonregular Two-Level Designs

3—3:30 PM Robert Mee, University of Tennessee

Split Plot Parallel Flats Designs

### **2—3:30 PM Session 7b (MPT): Advances in the Design and Analysis of Modern Experiments and Observational Studies.**

Organizer: Arman Sabbaghi, Unlearn.AI.

Chair: HaiYing Wang, University of Connecticut

2—2:30 PM Iavor Bojinov, Harvard University

Design of Panel Experiments with Spatial and Temporal Interference

2:30—3 PM Nicole Pashley, Rutgers University

Estimating Heterogeneous Treatment Effects in Conjoint Analysis

3—3:30 PM Yuki Ohnishi, Purdue University

A Bayesian Analysis of Two-Stage Randomized Experiments in the Presence of Interference, Treatment Nonadherence, and Missing Outcomes

### ***3:30—4 PM Coffee Break (FedEx Institute Lobby)***

#### **4—6:00 PM Session 8a (TZ) Design of Experiments in Industry: Still Solving Important Business Problems .**

Organizer: William Myers, Miami University

Chair: Qing Liu, University of Wisconsin.

4—4:30 PM Yanran Wei and Xinwei Deng, Virginia Tech.

An Efficient Filtering Approach for Model Estimation in Sparse Regression'.

4:30—5 PM Nathaniel Stevens, University of Waterloo, Canada.

An Overview of Statistical Challenges in Online Controlled Experiments

5—5:30 PM William Fisher, Clemson University

Non-Myopic Methods in Bayesian Sequential Preference Learning with Application to Tradespace Exploration for Vehicle Concept Design

5:30—6 PM Caroline Kerfonta, Clemson University

Sequential Selection for Minimizing the Variance with Application to Crystal Formation Experiments

#### **4—5:30 PM Session 8b (MPT): Design and Causal Inference.**

Organizer: Xinran Li, University of Illinois Urbana-Champaign

Chair: Xinran Li, University of Illinois Urbana-Champaign

4—4:30 PM Fredrik Sävje, Yale University.

Balancing Covariates in Randomized Experiments with the Gram-Schmidt Walk Design

4:30—5 PM Yuhao Wang, Tsinghua University

Rerandomization with Diminishing Covariate Imbalance and Diverging Number of Covariates

5—5:30 PM Adam Kapelner, Queens College, City University of New York

The Role of Pairwise Matching in Experimental Design for an Incidence Outcome

### **Thursday 11 May 2023**

***7:15—8:15 AM Breakfast (Holiday Inn, Shelby Ballroom)***

#### **8:30—10 AM Session 9a (TZ): Discrete Choice Experiments**

Organizer: Deborah Street, University of Technology Sydney, Australia

Chair: Deborah Street, University of Technology Sydney, Australia

8:30—9 AM Peiwen Jiang, University of Technology Sydney, Australia

How Much Overlap is Just Right? Comparing Stated Preference with Model Consistency

9:30—10 AM Juan Marcos Gonzalez, Duke University

Patient preferences in regulatory decision-making

9—9:30 AM Martina Vandebroek, KU Leuven, Belgium

New Sample Size Selection Methods for Discrete Choice Experiments

**8:30—10 AM Session 9b (MPT): Kernel and Sampling Methods for Design**

Organizer: Luc Pronzato, CNRS, France

Chair: Jayanth Jagalur-Mohan, Lawrence Livermore National Laboratory

8:30—9 AM Simon Mak, Duke University

Stacking designs: designing multi-fidelity computer experiments with confidence

9—9:30 AM Luc Pronzato, CNRS, France

Incremental Space-filling Design

9:30—10 AM Ayoub Belhadji, ENS de Lyon, France

Function Reconstruction using Determinantal Sampling

***10—10:30 AM Coffee Break (FedEx Institute Lobby)***

**10:30 AM—12:30 PM Session 10a (TZ): Recent Developments on Subsampling Methods**

Organizer: HaiYing Wang, University of Connecticut

Chair: Lin Wang, Purdue University

10:30—11 AM JooChul Lee, University of Pennsylvania

Model Calibration and Evaluation via Optimal Sampling Using Electronic Health Record Data

11—11:30 AM Jing Wang, University of Connecticut

Scale-Invariant Optimal Sampling and Variable Selection with Rare-Events Data

11:30 AM—NOON HaiYing Wang, University of Connecticut

A Note on Centering in Subsample Selection for Linear Regression

NOON—12:30 PM Amalan Mahendran, Queensland University of Technology, Australia

A Model Robust Subsampling Approach for Generalised Linear Models in Big Data Settings

**10:30 AM—12:30 PM Session 10b (MPT): Optimal Design of Experiments**

Organizer: Jesús Lopez Fidalgo, University of Navarra, Spain

Chair: Jesús Lopez Fidalgo, University of Navarra, Spain

10:30—11 AM Carlos De-La-Calle-Arroyo, University of Navarra, Spain

Augmenting Designs with Controlled Efficiency

11—11:30 AM Sergio Pozuelo-Campos, University of Castilla-La Mancha, Spain

Optimal Designs for Detecting and Characterizing Hormesis in Toxicological Tests

11:30 AM—NOON Alvaro Cia-Mina, University of Navarra, Spain

Optimal Subdata Selection for Random-X Linear Regression

NOON—12:30 PM Irene Mariñas-Collado, University of Oviedo, Spain

Optimal Designs for Non-Standard Alcohol Clearance Models

***12:30—1:30 PM Lunch (Holiday Inn, Shelby Ballroom)***

**1:30PM —3:10 PM Session 11a (TZ): Contributed Session.**

Chair: Alan Vazquez, University of Arkansas

1:30—1.50 PM Adetola Adediran, University of Southampton, UK.

Designing follow up samples – A comprehensive approach to detect MNAR missingness efficiently

1.50—2:10 PM Thomas Coons, University of Michigan

A Multi-Fidelity Approach to Bayesian Optimal Experimental Design

2:10—2.30 PM Samuel Onyambu, University of California, Los Angeles.

Kriging Based Sequential Region Perturbation and Shrinkage with EGO For Hyper-parameter Optimization

2.30—2.50PM Jose Toledo, University of California, Los Angeles.

Enhancing Efficient Global Optimization through a Kriging Based Space Reduction

2.50—3:10 PM Yezhuo Li, Clemson University.

Uncertainty Quantification for Computer Experiments with transformed additive Gaussian process

**1:30PM —2.50 PM Session 11b (MPT): Contributed Session.**

Chair: Adam Lane, University of Cincinnati.

1:30—1.50 PM Marco Arndt, University of Stuttgart, Germany

Power and Accuracy Characterization of Regression Models in The Presence of Orthogonality Deviations in CCDs:

1.50—2:10 PM Miguel Fudolig, University of Nevada Las Vegas

Incomplete and Confounded Block Designs in Visual Inference Experiments

2:10—2:30 PM Mohammed Saif Ismail Hameed, KU Leuven, Belgium

D- and A- optimal screening designs. What if n is not a multiple of 4?

2:30—2.50 PM Aisaku Nakamura, Cincinnati Children's Hospital

Simultaneous Tolerance Intervals for Response Surface and Mixture Designs Using the Adjusted Product Set Method

**1:30PM —3:10 PM Session 11c (FB): Contributed Session.**

Chair: Rakhi Singh, Binghamton University

1:30—1.50 PM Kouakou Francois Domagni, California State University Northridge

One-pan  $SD$ -optimal weighing designs for 9 objects via  $E(s^2)$ -optimal supersaturated designs for 10 runs



1.50—2:10 PM Yao Shi, Qingdao University, China

Optimal Design for Generalized Linear Mixed Models Based on the Penalized Quasi-Likelihood Method

2:10—2:30 PM Yi Zhang, George Washington University

Independence-Encouraging Subsampling for Nonparametric Additive Models

2:30—2.50 PM Desi Ivanova, University of Oxford, UK

Are tighter mutual information bounds necessarily better?

2.50—3.10 PM Joseph Ayodele Kupolusi, Federal University of Technology Akure, Nigeria

Design optimality in the presence of non-normal overdispersion responses model

***End of Conference***