

Design of Experiments: New Challenges

Plans d'expériences : nouveaux défis

30 April - 4 May 2018

Conference Program

Monday, April 30

9:15 – 9:30 Welcome & opening session

9:30 – 10:30 Data selection

J. Stufken, Information-based optimal subdata selection

H. Wang, Statistical inference based on optimal subdata

Coffee break

11:00 – 12:00 Optimal design 1: polynomial models

F. Gamboa, Approximate optimal designs for multivariate polynomial regression

H.P. Wynn, Hilbert series and polynomial models for Smolyak-type sparse grid designs

Lunch break

14:30 – 16:00 Algorithmic constructions

U. Grömping, An algorithm for generating good mixed level factorial designs

R. Harman, Computing D-optimal designs of experiments on finite spaces: a survey and comparison of algorithms

S. Leonov, Implementation of algorithms of optimal experimental design on a quantum computer

Coffee break

16:30 – 17:30 Optimal design 2

A.C. Atkinson, Experiments for determining non-isothermal kinetic rates

K. Schorning, Optimal designs for enzyme inhibition kinetic models

Tuesday, May 1

9:00 – 10:30 Randomization

W.F. Rosenberger, Randomization-based inference: the forgotten component of randomized clinical trials

T. Dasgupta, Randomization based perspectives of randomized block designs and a new test statistic for the Fisher randomization test

R.-D. Hilgers, Evaluation of randomization procedures for clinical trial design optimization with various clinical trial layouts

Coffee break

11:00 – 12:00 Clinical trials 1

R. Bailey, Designs which allow each medical centre to treat only a limited number of cancer types with only a limited number of drugs

F. Hu, Statistical inference of covariate-adaptive randomized studies

Lunch break

14:30 – 16:30 Clinical trials 2

V.V. Fedorov, Optimal designs for dose-response models with partially observed interim/hidden layers

N. Flournoy, Statistical implications of informative dose allocation in binary regression

J. Kunert, Efficient designs for the estimation of mixed and self carryover effects

D.K.J. Lin, Design of order-of-addition experiments

Coffee break

17:00 – 18:30 Poster session

Wednesday, May 2

9:00 – 10:30 Optimal design 3

S. Biedermann, Optimal designs for experiments with mixtures

A. Giovagnoli, Compound utility functions in Bayesian randomized adaptive designs

W.G. Müller, Copula-based robust optimal block designs

Coffee break

11:00 – 12:30 Optimal design 4

D. Ucinski, Optimum experimental design for infinite-dimensional inverse problems

W. Zheng, Optimal design of sampling survey for efficient parameter estimation

G. Sagnol, Using the S-Lemma to design robust experiments

Lunch break & free afternoon

Thursday, May 3

9:00 – 10:30 Optimal design 5

R. Schwabe, Simplify designs: reduction principles revisited

R. Yue, Design admissibility, invariance and optimality in multiresponse linear models

W.-K. Wong, Optimal experimental designs for complex or high dimensional statistical models

Coffee break

11:00 – 12:00 Optimal design 6: kernel methods

A.A. Zhigljavsky, Energy functionals, minimizing measures and kernel herding

B. Gauthier, Sampling and spectral approximation

Lunch break

14:30 – 16:00 Nonlinear mixed-effect models and longitudinal studies

F. Mentré, Optimal designs for trials with discrete longitudinal data analyzed by nonlinear mixed effect models

T. Mielke, Model-based design of dose-finding studies using longitudinal response modelling

A. Hooker, Optimization of dose finding studies for fixed dose combinations using nonlinear mixed-effect models

Coffee break

16:30 – 18:00 Computer experiments 1

W.J. Welch, Computer experiments with big n: has Gaussian process computation been tamed?

C.D. Lin, Recent development on design for computer experiment with mixed inputs

V. Kraft, The "When and why?" about definitive screening designs

Friday, May 4

9:30 – 10:30 Computer experiments 2: sequential design

J. Bect, Uncertainty functionals and the greedy reduction of uncertainty

V. Picheny, Sequential design of experiments for estimating quantiles of black-box functions

Coffee break

11:00 – 12:00 Computer experiments 3

C. Prieur, Sampling issues for robust inversion

B. Tang, Second order saturated designs and strong orthogonal arrays

Closing session

Lunch