



QMC Program Opening Workshop
August 28-September 1, 2017
SCHEDULE

Monday, August 28, 2017

Penn Pavilion, Duke University

8:30	Registration
9:00-9:15	Introductions and Welcome, Ilse Ipsen , SAMSI Session Chair: Ilse Ipsen , SAMSI
9:15-10:15	Tutorial: Art Owen , Stanford University <i>"Introduction to Quasi-Monte Carlo"</i>
10:15-10:30	Break
10:30-11:30	Tutorial: Pierre L'Ecuyer , University of Montreal <i>"Lattice Rules for Quasi-Monte Carlo"</i>
11:30-1:00	Lunch Session Chair: Pierre L'Ecuyer , University of Montreal
1:00-2:00	Tutorial: Fred Hickernell , Illinois Institute of Technology <i>"Error Analysis for Quasi-Monte Carlo Methods"</i>
2:00-2:15	Working Groups at SAMSI: Ilse Ipsen , SAMSI
2:15-2:30	Break
2:30-3:30	Tutorial: Frances Kuo , UNSW Sydney <i>"Application of QMC to PDEs with Random Coefficients -- a survey of analysis and implementation"</i>
3:30-4:00	Break
4:00- 5:00	Tutorial: Clémentine Prieur , Grenoble Alpes University <i>"Introduction to Global Sensitivity"</i>
5:00 -7:00	Poster Session and Reception
7:00	Shuttle to Hotel

Tuesday, August 29, 2017

Penn Pavilion, Duke University

8:30-9:00

Registration

Session Chair: **Frances Kuo**, UNSW Sydney

9:00-9:30

Chris Oates, Newcastle University

“Bayesian Probabilistic Numerical Methods (Part I)”

9:30-10:00

Tim Sullivan, Free University of Berlin / Zuse Institute Berlin

“Bayesian Probabilistic Numerical Methods (Part II)”

10:00-10:30

Break

10:30-11:00

Jose Blanchet, Stanford University

“New Problems and Algorithms at the Interface of Optimal Transport, Statistics and Operations Research”

11:00-11:30

Discussion/Open Problems

11:30-1:00

Lunch

Session Chair: **Art Owen**, Stanford University

1:00-1:30

Lester Mackey, Microsoft Research

“Measuring Sample Quality with Stein's Method”

1:30-2:00

James (Mac) Hyman, Tulane University

“High Accuracy Algorithms for Interpolating and Integrating Multivariate Functions Defined by Sparse Samples in High Dimensions”

2:00-2:30

Break

2:30-3:00

Simon Mak, Georgia Institute of Technology

“Support Points - a new way to compact distributions, with small-data and big-data applications”

3:00-5:00

Short Intros to Existing WGs/Ideas for Other WGs

5:00

Shuttle to Hotel

Wednesday, August 30, 2017

Penn Pavilion, Duke University

- 8:30-9:00 Registration
- Session Chair: **Fred Hickernell**, Illinois Institute of Technology
- 9:00-9:30 **Dongbin Xiu**, Ohio State University
 “*Sequential Function Approximation in High Dimensions with Big Data*”
- 9:30-10:00 **Clayton Webster**, Oak Ridge National Laboratory
 “*Sparse Polynomial Approximation via Compressed Sensing of High Dimension Functions*”
- 10:00-10:30 Break
- 10:30-11:00 **Guannan Zhang**, Oak Ridge National Laboratory
 “*Probabilistic Numerical Methods for High-Dimensional Partial Integral Differential Equations*”
- 11:00 -11:30 Discussion/Open Problems
- 11:30-1:00 Lunch
- Session Chair: **Pierre L'Ecuyer**, University of Montreal
- 1:00-1:30 **Grzegorz Wasilkowski**, University of Kentucky
 “ *∞ -Variate Integration*”
- 1:30-2:00 **Henryk Wozniakowski**, Columbia University
 “*Quasi-polynomial Tractability of Linear Tensor Products using Function Values*”
- 2:00-2:30 Break
- 2:30-3:00 **Mathieu Gerber**, University of Bristol
 “*Introduction to Sequential quasi-Monte Carlo*”
- 3:00-5:00 Initial WG Formation/Discussion
- 5:00 Shuttle to Hotel

Thursday, August 31, 2017

Penn Pavilion, Duke University

- 8:30-9:00 Registration
- Session Chair: **Frances Kuo**, UNSW Sydney
- 9:00-9:30 **Roshan Vengazhiyil**, Georgia Institute of Technology
 “*Deterministic Sampling for Bayesian Computation*”
- 9:30-10:00 **Peter Kritzer**, Austrian Academy of Sciences
 “*Numerical Integration in Hermite Spaces*”
- 10:00-10:30 Break
- 10:30-11:00 **Florian Puchhammer**, University of Montreal
 “*Lower Bounds for the Discrepancy of Point Sets and Sequences*”
- 11:00-11:30 Discussion/Open Problems
- 11:30-1:00 Lunch
- Session Chair: **Art Owen**, Stanford University
- 1:00-1:30 **Dirk Nuyens**, KU Leuven
 “*Higher-order Convergence for Integration on R^N* ”
- 1:30-2:00 **Mahadevan Ganesh**, Colorado School of Mines
 “*A Sign-definite Heterogeneous Media Wave Propagation Model*”
- 2:00-2:30 Break
- 2:30-5:00 Final WG formation/Discussion
- 5:00 Shuttle to Hotel

Friday, September 1, 2017

Penn Pavilion, Duke University

- 8:30-9:00 Registration
- Session Chair: **Fred Hickernell**, Illinois Institute of Technology
- 9:00-9:30 **Christoph Schwab**, SAM, ETH Zurich
 “*Multilevel QMC for Forward and Inverse UQ*”
- 9:30-10:00 **Mike Giles**, Oxford University
 “*QMC and Thinning for Empirical Datasets*”
- 10:00-10:30 Break
- 10:30-11:00 **Ian Sloan**, UNSW Sydney
 “*Generating Random Fields the Circulant Way*”
- 11:00-11:30 Wrap Up and “How to Proceed from Here”
- 11:30-1:30 Lunch
- 13:00 Shuttle to RDU Airport