

# Dagstuhl Seminar

## Game Theory Meets Computational Learning Theory

June 19 - 23, 2017

### Lightning talks:

- On Monday Morning there will be a session called “Lightning Talks”
- You don’t need to prepare a slide for this
- We have compiled a set of slides, one for each participant
- Your slide will have your name and your affiliation
- We will go through them in alphabetical order
- When it’s your turn, please stand up introduce yourself, and say a few words about your area of research

### Plans for the Program:

- There will be five tutorials (each about 1.5-2h)
  - One longer, keynote talk
  - And 10-15 contributed talks (each 25 minutes)
- We still have space for additional talks  
Either email Paul Duetting ([p.d.duetting@lse.ac.uk](mailto:p.d.duetting@lse.ac.uk))  
Or use the sign-up sheet
- We are thinking about having group discussions / a panel discussion
  - Hopefully, plenty of time for discussions and collaboration

## Monday June 19, 2017

07:30-08:45 Breakfast

09:00-09:15 Welcome + Organization

09:15-10:00 Lightning Talks

10:00-10:15 Coffee Break

10:15-11:15 Sven Seuken, University of Zurich  
Design of Machine Learning-Based Mechanisms

11:15-12:15 Yaron Singer, Harvard University  
Learning, Optimization, and Noise (1/2)  
(1 hour)

12:15 Lunch Break

14:30-15:30 Yaron Singer, Harvard University  
Learning, Optimization, and Noise (2/2)  
(1 hour)

15:30 Coffee and Cake

16:00-16:25 Sebastien Lahaie, Google NYC  
Bayesian Methods for Clearing Markets

16:30-16:55 Yakov Babichenko, Technion  
Forecast Aggregation

17:00-17:25 Bernhard von Stengel, LSE  
Learning Mastermind

## Tuesday June 20, 2017

07:30-08:45 Breakfast

09:00-09:15 Organization

09:15-10:00 Claudio Gentile, Universita dell'Insubria  
No Regret and Sequential Prediction (1/2)

10:00-10:30 Coffee Break

10:30-11:15 Claudio Gentile, Universita dell'Insubria  
No Regret and Sequential Prediction (2/2)

11:15-11:40 Ariel Procaccia, CMU  
Weighted Voting via No-Regret Learning

11:45-12:10 Thomas Kesselheim, TU Dortmund  
Best-Response Dynamics in Combinatorial Auctions with Item Bidding

12:15 Lunch Break

14:00-14:25 Andres Munoz, Google  
Revenue Optimization with Approximate Bid Predictions

14:30-14:55 Greg Valiant, Stanford  
Learning with Adversarial Data

15:00-15:25 Amir Ban, Tel Aviv  
Aggregate Earnings per Share Estimates

15:30-16:00 Argyris Deligkas, Technion  
Distributed Methods for Computing Approximate Equilibria

16:00 Coffee and Cake

Free for research / discussions

## **Wednesday June 21, 2017**

07:30-08:45 Breakfast

09:00-10:30 Denis Nekipelov, University of Virginia  
Robust Inference for Non-Robust Models  
(90 minutes)

10:30-10:45 Coffee Break

10:45-11:10 Yair Zick, National University Singapore  
Learning Cooperative Solution Concepts

11:15-11:40 Jason Hartline, Northwestern  
Non-Revelation Mechanism Design

12:15 Lunch Break

Excursion in the afternoon

15:30 Coffee and Cake

## Thursday June 22, 2017

07:30-08:45 Breakfast

09:00-10:30 Jamie Morgenstern, University of Pennsylvania  
The Sample Complexity of Single-Parameter Auction Design  
(75-85 minutes)

10:30-10:45 Coffee Break

10:45-11:10 Hu Fu, UBC Vancouver  
Revenue Optimization for Correlated Bidders via Sampling

11:15-11:40 Ellen Vitercik, CMU  
Sample Complexity and Multi-Item Profit Maximization

11:45-12:10 Jens Witkowski, ETH Zurich  
A Quick Introduction to Peer Prediction

12:15 Lunch Break

14:00-14:25 Aleck Johnson, Northwestern  
Optimizing Worst-Case Benchmarks

14:30-14:55 Yishay Mansour, Tel Aviv  
Submultiplicative Glivenko-Cantelli and Uniform Convergence of Revenues

16:00 Coffee and Cake

## Friday June 23, 2017

07:30-08:45 Breakfast

09:00-10:30 Yakov Babichenko, Technion  
Informational Bounds on Equilibria, and its Relation to Learning  
(90 minutes)

10:30-10:45 Coffee Break

10:45-11:10 Peter Bartlett, UC Berkeley  
Optimal Strategies for Prediction Games

11:15-11:40 Greg Valiant, Stanford  
Generative Adversarial Networks

11:45-12:10 Paul Duetting, LSE  
Optimal Auctions through Deep Learning

12:15 Lunch Break