# New Frontiers in Robust Statistics: Workshop Schedule

**Wednesday (June 12)**

9:00-9:20 Continental Breakfast

9:20-9:30 Address by Avrim Blum

**Mixture Models and List-Decodable Learning**

9:30-10:15:  He Jia (Northwestern/IDEAL)
           Robustly Learning Mixtures of Arbitrary Gaussians

10:15-11:00 Allen Liu (MIT)
           Clustering Mixtures with Almost Optimal Separation in Polynomial Time
           via Implicit Moment Estimation

11:00-11:15 Coffee Break

11:15- 12:00 Jasper Lee (UW Madison)
           Clustering Mixtures of Bounded Covariance Distributions Under Optimal Separation

12:00-12:45: Ainesh Bakshi (MIT)
           Clustering Mixture Models: Beyond Gaussians

1:00-2:00 Lunch at TTIC

**Optimization and Robust Statistics**

2:00-3:00  Yu Cheng (Brown)
           Bridging High-Dimensional Robust Statistics and Non-Convex Optimization

3:00-4:00  Kevin Tian (UT Austin)
           Matrix Multiplicative Weights and Nearly-Linear Time Robust Statistics

4:00-4:15  Coffee Break

4:15 - 5:15  Ankit Pensia (IBM)
            Robust Sparse Estimation


**Thursday (June 13)**

8:45-9:15 Continental Breakfast

**Privacy and Robust Statistics**

9:15-10:15 Sam Hopkins (MIT)
　　　　Privacy to Robustness and Back Again

10:15-11:00 Lydia Zakynthinou (Berkeley)
　　　　A Black-Box Transformation from Robust to Private Estimators

11:00-11:15 Coffee Break

11:15 - 12:00 Mahbod Majid (CMU)
　　　　Private and Efficient Algorithm Design from Robust Estimators

12:00-12:45  Gavin Brown (UW)
　　　　Stable Estimators for Fast Private Statistics

1:00-2:00 Lunch at TTIC

**New Models of Robustness**

2:00-2:30 Chao Gao (U. Chicago)
　　　　Is Adaptive Robust Confidence Interval Possible?

2:30-3:00 Sushrut Karmalkar (UW Madison)
　　　　Regression in the Presence of Additive Oblivious Corruptions

3:00-3:20 Coffee Break

3:20-3:50 Jerry Li (MSR)
　　　　Avoiding Generative Overfitting in Algorithm Design via Semi-random Models

3:50-4:20 Stas Minsker (USC)
　　　　The median of means estimator: old and new

4:30-5:30 **Open Problems Session**

**Friday (June 14)**

9:00-9:30 Continental Breakfast

**Information-Computation Tradeoffs**

9:30-10:20 Ilias Diakonikolas (UW Madison)
Information-Computation Tradeoffs via Non-Gaussian Component Analysis

10:30-11:30 Aaron Potechin (U Chicago)
Sum of Squares Lower Bounds Versus Low-Degree Polynomial Lower Bounds

11:30-11:45 Coffee Break

11:45-12:45 Shuo Pang (U. Copenhagen)
Sum-of-Squares Lower Bounds for Non-Gaussian Component Analysis:
Challenges and New Techniques

1:00-2:00 Lunch at TTIC

2:00-3:30 **Spotlight Talks**

3:30-4:30 Working Groups