

## Algorithmic Challenges in Protecting Privacy for Biomedical Data

Wednesday January 10, 2018

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–10:20 **Kobbi Nissim** (Georgetown University)  
*Differential privacy: A concise tutorial*
- 10:20–10:40 *Break*
- 10:40–12:00 **Balasubramanian Narasimhan** (Stanford University)  
*Distributed and Privacy-Preserving Computations in R*
- 12:00–1:30 *Lunch (on your own)*
- 1:30–1:50 **Jean-pierre Hubaux** (École Polytechnique Fédérale de Lausanne (EPFL))  
*Security and Privacy of P4 Medicine: Challenges and Possible Solutions*
- 1:50–2:10 **Gene Tsudik** (University of California, Irvine (UCI))  
*Security in Personal Genomics: Lest We Forget*
- 2:10–2:30 **Justin Wagner** (University of Maryland)  
*Using Secure Computation for Statistical Analysis of Genomic Assay Data*
- 2:30–2:50 *Break*
- 2:50–3:10 **Thomas Steinke** (IBM Almaden Research Center)  
*How well does privacy compose?*
- 3:10–3:30 **Sean Simmons** (Broad Institute)  
*Quantifying Patient Privacy in Public Disease Portals*
- 3:30–3:50 **Abhradeep Thakurta** (University of California, Santa Cruz (UC Santa Cruz))  
*Distributed Private Machine Learning*
- 3:50–4:10 *Break*
- 4:10–4:30 **Erman Ayday** (Case Western Reserve University)  
*Privacy Challenges of Genomic Data Sharing*
- 4:30–4:50 **Joseph Paulson** (Genentech, Inc.)  
*Sparse-aware methods for analyzing high-throughput sequencing assays*
- 4:50–5:10 **Chiara Sabatti** (Stanford University)  
*Knockoff genotypes: value in counterfeit*



## Thursday January 11, 2018

- 8:00–9:40 *Check-in/Breakfast (hosted by IPAM)*
- 9:40–10:00 **Aleksandra Slavković** (Penn State University)  
*Structure and Sensitivity in Differential privacy: Optimal K-norm mechanisms*
- 10:00–10:20 **Xiaoqian Jiang** (University of California, San Diego (UCSD))  
*Differentially private secure distributed logistic regression*
- 10:20–10:40 *Break*
- 10:40–12:00 **Noah Rosenberg** (Stanford University)  
*Genetic record matching using linkage disequilibrium: population genetics, statistical genetics, and forensic genetics*
- 12:00–1:30 *Lunch (on your own)*
- 1:30–2:50 **Eleazar Eskin** (University of California, Los Angeles (UCLA))  
*The mystery of missing heritability*
- 2:50–3:00 *Break*
- 3:00–4:20 **Kristin Lauter** (Microsoft Research)  
*Homomorphic Encryption as a tool for Protecting Genomic Privacy*
- 4:20–5:00 *Breakout Groups*
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

## Friday January 12, 2018

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–10:15 *Breakout Groups*
- 10:15–10:30 *Break*
- 10:30–10:50 **Cenk Sahinalp** (Indiana University)  
*PRESAGE: PRIVACY-PRESERVING GENETIC TESTING VIA INTEL SGX*
- 10:50–11:10 **Arif Ozgun Harmanci** (Yale University)  
*Quantifying Sensitive Information Leakage from Functional Genomics Data*
- 11:10–11:30 **Pragya Sur** (Stanford University)  
*On the Likelihood Ratio Test in High Dimensional Logistic Regression*
- 11:30–1:00 *Lunch (on your own)*
- 1:00–3:40 *Breakout Groups Report & Discussion*

