Complexity Theory
23-26 July 2018
University of Oxford, L2

Monday, 23 July

8:30	Registration
9:00	Welcome and introduction
9:30-10:30	Jan Krajicek, *The Nature of Proof Complexity*
10:30-11:00	Tea/coffee
11:00-12:00	Sasha Razborov, *Grand Challenges in Complexity Theory through the Lens of Proof Theory*
12:00-12:30	Pavel Pudlak, *An Approach to Proving Better Lower Bounds on Bounded Depth Frege Proofs*
12:30-14:00	Lunch
14:00-15:00	Josh Grochow, *Complexity in Ideals of Polynomials*
15:00-15:30	Tea/coffee
15:30-16:00	Michal Koucký, *Lower Bounds for Combinatorial Algorithms for Boolean Matrix Multiplication*
16:00-16:30	Valentine Kabanets, *The Power of Natural Properties as Oracles*
16:30-17:00	Antonina Kolokolova, *Does Looking Inside a Circuit Help?*

Tuesday, 24 July

9:30-10:30	Daniel Kane, *Fooling Fourier Shapes*
10:30-11:00	Tea/coffee
11:00-12:00	Ryan O'Donnell, *Fooling Polytopes*
12:00-12:30	Yuval Ishai, *Cryptography and Complexity Theory: Recent Interactions*
12:30-14:00	Lunch
14:00-15:00	Arkadev Chattopadhyay, *A Short List of Equalities Induces Large Sign Rank*
15:00-15:30	Tea/coffee
15:30-16:30	Avishay Tal, *Oracle Separation of BQP and the Polynomial Hierarchy*
16:30-17:00	Lance Fortnow, *Some Observations on the Raz-Tal Oracle Separating BQP from PH*
17:00-18:00	Open problems session

Wednesday, 25 July

9:30-10:30	Toniann Pitassi, *BPP Lifting in Communication Complexity*
10:30-11:00	Tea/coffee
11:00-11:30	Srikanth Srinivasan, *A Near-Optimal Depth-Hierarchy Theorem for Small-Depth Multilinear Circuits*
11:30-12:30	Neeraj Kayal, *Proper Learning Algorithms from Lower Bounds for Arithmetic Circuits*
12:30-14:00	Lunch

Thursday, 26 July

9:30-10:30	Ryan Williams, *Lower Bounds by Algorithm Design: A Progress Report*
10:30-11:00	Tea/coffee
11:00-11:30	Virginia Vassilevska Williams, *Towards Tight Approximation Bounds for Graph Diameter and Eccentricities*
11:30-12:30	Josh Alman, *Limits on All Known (and Some Unknown) Approaches to Matrix Multiplication*
12:30-14:00	Lunch
14:00-14:30	Ben Rossman, *Sharper Bounds and Faster #SAT for Regular AC^0 Formulas*
14:30-15:00	Igor Oliveira, *Hardness Magnification for Natural Problems*
15:00-15:30	Tea/coffee
15:30-16:00	Andrea Lincoln, *Tight Hardness for Shortest Cycles and Paths in Sparse Graphs*
16:00-16:30	Marco Carmosino, *Hardness Amplification for Non-Commutative Arithmetic Circuits*
16:30	Closing remarks