Dagstuhl Seminar “Optimal Algorithms and Proofs”

Monday, 13 October 2014

9:30 welcome and introduction
10:00 open problems I
10:30 coffee break
11:00 David Steurer: Survey on Approximations and Optimality
12:00 lunch break
15:00 Alan Selman: Disjoint NP-pairs and Propositional Proof Systems
16:00 break
16:45 Olaf Beyersdorff: Optimal Proof Systems - a Survey
18:00 dinner
19:30 opening of the art exhibit “über * oder über 1.”
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Tuesday, 14 October 2014

9:00   Pavel Pudlák: On some conjectures in proof complexity
10:00  coffee break
10:30  Dmitry Itsykson:
       On optimal heuristic computations and heuristic proofs
11:30  Dimitry Sokolov: Examples of heuristic proofs
12:00  lunch break
15:00  Rahul Santhanam:
       Hierarchies and Lower Bounds via Optimality: A Survey
16:00  break
16:30  Johan Håstad: On the correlation of parity and small-depth circuits
17:00  Igor Carboni Oliveira: Majority is incompressible by $\text{AC}^0[p]$ circuits
18:00  dinner
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Wednesday, 15 October 2014

9:00  **Yijia Chen:** A Parameterized Halting Problem
10:00 coffee break
10:30  **Mikoláš Janota:** QBF Solving and proof systems
11:00  **Leroy Chew:** Proof Complexity for Quantified Boolean Formulas
12:00 lunch break
13:30 hike
18:00 dinner
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Thursday, 16 October 2014

9:00 Andrew Drucker:
   On the Success Probability of Polynomial-Time SAT Solvers
10:00 coffee break
10:30 Alexander Kulikov: Circuit Lower Bounds
11:15 Benjamin Rossman: AC^0 complexity of subgraph isomorphism
12:00 lunch break
15:00 Ilario Bonacina: Total Space in Resolution
16:00 break
16:30 Massimo Lauria: Narrow Proofs May Be Maximally Long
17:00 Nicola Galesi: The space complexity of cutting planes refutations
17:30 Hunter Monroe:
   Speedup for Natural Computational Problems and Noncomputability
18:00 dinner
19:30 open problem session II
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Friday, 17 October 2014

9:00 **Sam Buss:**
Are there hard examples for Frege systems? — almost 20 years later

9:30 **Jochen Messner:** An observation on Levin’s algorithm
and a new (?) application to matrix multiplication

10:00 coffee break

10:30 **Zenon Sadowski:**
Characterising the existence of optimal proof systems

11:15 closing

12:00 lunch