40th ACM Symposium on Theory of Computing (STOC 2008)

Saturday, May 17, 2008	
7:00pm – 10:00pm	**Registration (Conference Centre)**
8:00pm – 10:00pm	**Reception (Palm Court)**

Sunday, May 18, 2008		
8:00am – 5:00pm	**Registration (Conference Centre)**	
8:10am – 8:35am	**Breakfast (Conference Centre)**	
	Session 1A (Theatre) *Chair*: Venkat Guruswami (University of Washington and Institute for Advanced Study)	**Session 1B (Saanich Room)** *Chair:* David Shmoys (Cornell University)
8:35am - 8:55am	*Parallel Repetition in Projection Games and a Concentration Bound* Anup Rao	*The Complexity of Temporal Constraint Satisfaction Problems* Manuel Bodirsky, Jan Kara
9:00am - 9:20am	*SDP Gaps and UGC Hardness for Multiway Cut, 0-Extension and Metric Labeling* Rajeskar Manokaran, Joseph (Seffi) Naor, Prasad Raghavendra, Roy Schwartz	*An Effective Ergodic Theorem and Some Applications* Satyadev Nandakumar
9:25am – 9:45am	*Unique Games on Expanding Constraint Graphs are Easy* Sanjeev Arora, Subhash A. Khot, Alexandra Kolla, David Steurer, Madhur Tulsiani, Nisheeth Vishnoi	*Algorithms for Subset Selection in Linear Regression* Abhimanyu Das, David Kempe
9:45am - 10:10am	**Break**	
	Session 2 (Theatre) *Chair*: Joan Feigenbaum (Yale University)	
10:10am - 11:10am	**Rethinking Internet Routing** **Invited talk by** Jennifer Rexford (Princeton University)	
11:10am - 11:20am	**Break**	
	Session 3A (Theatre) *Chair*: Xiaotie Deng (City University of Hong Kong)	**Session 3B (Saanich Room)** *Chair:* Anupam Gupta (Carnegie Mellon University)
11:20am – 11:40am	*Interdomain Routing and Games* Hagay Levin, Michael Schapira, Aviv Zohar	*The Pattern Matrix Method for Lower Bounds on Quantum Communication* Alexander A. Sherstov

11:45am – 12:05pm	*Optimal approximation for the Submodular Welfare Problem in the value oracle model* Jan Vondrak	*Classical Interaction Cannot Replace a Quantum Message* Dmitry Gavinsky
12:10pm – 12:30pm	*Optimal Mechanism Design and Money Burning* Jason Hartline, Tim Roughgarden	*Span-program-based quantum algorithm for evaluating formulas* Ben W. Reichardt, Robert Spalek
12:30pm - 2:00pm	**Lunch (Palm Court)**	
	Session 4A (Theatre) *Chair*: Rafael Pass (Cornell University)	**Session 4B (Saanich Room)** *Chair:* Shuchi Chawla (University of Wisconsin, Madison)
2:00pm – 2:20pm	*Delegating Computation: Interactive Proofs for Muggles* Shafi Goldwasser, Yael Tauman, Guy Rothblum	*An $O(\log^2 k)$-approximation algorithm for the k-vertex connected subgraph problem* Jittat Fakcharoenphol, Bundit Laekhanukit
2:25pm – 2:45pm	*Universal Semantic Communication I* Brendan Juba, Madhu Sudan	*Minimum k-way cuts via deterministic greedy tree packing* Mikkel Thorup
2:50pm – 3:10pm	*Infeasibility of Instance Compression and Succinct PCPs for NP* Lance Fortnow, Rahul Santhanam	*Network Design for Vertex Connectivity* Tanmoy Chakraborty, Julia Chuzhoy, Sanjeev Khanna
3:15pm – 3:35pm	*A (De)constructive Approach to Program Checking* Shafi Goldwasser, Dan Gutfreund, Alex Healy, Tali Kaufman, Guy Rothblum	*A Fixed-Parameter Algorithm for the Directed Feedback Vertex Set Problem* Jianer Chen, Yang Liu, Songjian Lu, Barry O'Sullivan, Igor Razgon
3:35pm - 4:05pm	**Break**	
	Session 5A (Theatre) *Chair*: Cynthia Dwork (Microsoft Research)	**Session 5B (Saanich Room)** *Chair:* Martin Dyer (University of Leeds)
4:05pm-4:25pm	*Lossy Trapdoor Functions and Their Applications* Chris Peikert, Brent Waters	*Tight RMR Lower Bounds for Mutual Exclusion and Other Problems* Hagit Attiya, Danny Hendler, Philipp Woelfel

4:30pm – 4:50pm	*Trapdoors for Hard Lattices and New Cryptographic Constructions* Craig Gentry, Chris Peikert, Vinod Vaikuntanathan	*Randomized K-Server on Hierarchical Binary Trees* Aaron Cote, Adam Meyerson, Laura Poplawski
4:55pm – 5:15pm	*Finding Short Lattice Vectors within Mordell's Inequality* Nicolas Gama, Phong Q. Nguyen	*Randomized Competitive Algorithms for Generalized Caching* Nikhil Bansal, Niv Buchbinder, Joseph (Seffi) Naor
5:15pm - 5:25pm	**Break**	
5:25pm - 6:25pm	**Session 6 (Theatre)** *Chair*: David Shmoys, Cornell University	
	Algorithms and Inapproximability Results For Every CSP? Prasad Raghavendra	
	Optimal Hierarchical Decompositions for Congestion Minimization in Networks Harald Räcke	
9:00pm-11:00pm	**Business Meeting (Saanich Room)**	

Monday, May 19, 2008

8:00am - 5:00pm	**Registration (Conference Centre)**	
7:50am - 8:15am	**Breakfast (Conference Centre)**	
	Session 7A (Theatre) *Chair*: Venkat Guruswami (University of Washington and Institute for Advanced Study)	**Session 7B (Saanich Room)** *Chair:* Xiaotie Deng (City University of Hong Kong)
8:15am – 8:35am	*List-Decoding Reed-Muller Codes over Small Fields* Parikshit Gopalan, Adam R. Klivans, David Zuckerman	*Balanced Outcomes in Social Exchange Networks* Jon Kleinberg, Eva Tardos
8:40am – 9:00am	*Decodability of Group Homomorphisms beyond the Johnson Bound* Irit Dinur, Elena Grigorescu, Swastik Kopparty, Madhu Sudan	*Pricing Combinatorial Markets for Tournaments* Yiling Chen, Sharad Goel, David Pennock
9:05am – 9:25am	*Combinatorial Construction of Locally Testable Codes* Or Meir	*Fast-Converging Tatonnement Algorithms for One-Time and Ongoing Market Problems* Richard Cole, Lisa Fleischer

9:25am – 9:50am	Break	
	Session 8A **(Theatre)** *Chair*: Konstantin Makarychev (IBM)	**Session 8B** **(Saanich Room)** *Chair:* Joan Feigenbaum (Yale University)
9:50am – 10:10am	*Combinatorial construction of almost-Ramanujan graphs using the zig-zag product* Avraham Ben-Aroya, Amnon Ta-Shma	*Inapproximability of Pure Nash Equilibria* Alexander Skopalik, Berthold Vöcking
10:15am – 10:35am	*An optimal SDP algorithm for Max-Cut, and equally optimal Long Code tests* Ryan O'Donnell, Yi Wu	*The Myth of the Folk Theorem* Christian Borgs, Jennifer Chayes, Nicole Immorlica, Adam Tauman Kalai, Vahab Mirrokni, Christos Papadimitriou
10:40am – 11:00am	*On Hardness of Learning Intersection of Two Halfspaces* Subhash Khot, Rishi Saket	*Regret Minimization and the Price of Total Anarchy* Avrim Blum, MohammadTaghi Hajiaghayi, Katrina Ligett, Aaron Roth
11:00am - 11:25am	Break	
	Session 9A **(Theatre)** *Chair*: Ronitt Rubinfeld (MIT)	**Session 9B** **(Saanich Room)** *Chair*: Rafael Pass (Cornell University)
11:25am-11:45am	*Testing Symmetric Properties of Distributions* Paul Valiant	*Complete Fairness in Secure Two-Party Computation* S. Dov Gordon, Carmit Hazay, Jonathan Katz, Yehuda Lindell
11:50am-12:10pm	*Every Minor-Closed Property of Sparse Graphs is Testable* Itai Benjamini, Oded Schramm, Asaf Shapira	*Games for Exchanging Information* Gillat Kol, Moni Naor
12:15pm – 12:35pm	*Algebraic Property Testing: The Role of Invariance* Tali Kaufman, Madhu Sudan	*Cryptography with Constant Computational Overhead* Yuval Ishai, Eyal Kushilevitz, Rafail Ostrovsky, Amit Sahai

12:35pm - 2:00pm	Lunch (Palm Court)	
	Session 10A (Theatre) *Chair*: Anupam Gupta (Carnegie Mellon University)	**Session 10B (Saanich Room)** *Chair*: Martin Dyer (University of Leeds)
2:00 pm – 2:20pm	*The VPN Conjecture is True* Navin Goyal, Neil Olver, F. B. Shepherd	*Fast polynomial factorization and modular composition in small characteristic* Christopher Umans
2:25pm – 2:45pm	*Faster Approximate Lossy Generalized Flow via Interior Point Algorithms* Samuel I. Daitch, Daniel A. Spielman	*A quadratic lower bound for the permanent and determinant problem over any characteristic ≠ 2* Jin-Yi Cai, Xi Chen, Dong Li
2:50pm – 3:10pm	*On Partitioning Graphs via Single Commodity Flows* Lorenzo Orecchia, Leonard Schulman, Umesh V. Vazirani, Nisheeth K. Vishnoi	*Fast Integer Multiplication Using Modular Arithmetic* Anindya De, Piyush P Kurur, Chandan Saha, Ramprasad Saptharishi
3:15pm – 3:35pm	*Graph and Map Isomorphism and All Polyhedral Embeddings In Linear Time* Ken-ichi Kawarabayashi, Bojan Mohar	*Read-once Polynomial Identity Testing* Amir Shpilka, Ilya Volkovich
3:35pm - 4:00pm	Break	
	Session 11A (Theatre) *Chair*: : Shai Ben-David (University of Waterloo)	**Session 11B (Saanich Room)** *Chair*: Luca Trevisan (University of California, Berkeley)
4:00 pm – 4:20pm	*The Chow Parameters Problem* Ryan O'Donnell, Rocco Servedio	*Inverse Conjecture for the Gowers norm is false* Roy Meshulam, Shachar Lovett, Alex Samorodnitsky
4:25pm – 4:45pm	*Agnostically Learning Decision Trees* Parikshit Gopalan, Adam Tauman Kalai, Adam R. Klivans	*Unconditional pseudorandom generators for low degree polynomials* Shachar Lovett

4:50pm – 5:10pm	*Random projection trees and low dimensional manifolds* Sanjoy Dasgupta, Yoav Freund	*Graph Sparsification by Effective Resistances* Daniel Spielman, Nikhil Srivastava
8:00 pm – 9:30pm	**Session 12 (Theatre)** *Chair:* Shuchi Chawla (University of Wisconsin, Madison)	
	Some Topics in Analysis of Boolean Functions **Tutorial by** Ryan O'Donnell (Carnegie Mellon University)	

Tuesday, May 20, 2008

8:00am-12:00pm	**Registration**	
7:50am- 8:20am	**Breakfast**	
	Session 13A (Theatre) *Chair*: Ronitt Rubinfeld (MIT)	**Session 13B (Saanich Room)** *Chair*: Shuchi Chawla (University of Wisconsin, Madison)
8:20am – 8:40am	*Uniform Direct-Product Theorems: Simplified, Optimized, and Derandomized* Russell Impagliazzo, Ragesh Jaiswal , Valentine Kabanets, Avi Wigderson	*A Learning Theory Approach to Non-Interactive Database Privacy* Avrim Blum, Katrina Ligett, Aaron Roth
8:45am – 9:05am	*Hardness Amplification Proofs Require Majority* Ronen Shaltiel, Emanuele Viola	*Evolvability from Learning Algorithms* Vitaly Feldman
9:10am – 9:30am	*Direct Product Theorems for Classical Communication Complexity via Subdistribution Bounds* Rahul Jain, Hartmut Klauck, Ashwin Nayak	*On Agnostic Boosting and Parity Learning* Adam Tauman Kalai, Yishay Mansour, Elad Verbin
9:30am - 9:50am	**Break**	
9:50am - 10:50am	**Session 14 (Theatre)** *Chair*: Cynthia Dwork (Microsoft Research)	
	Computing How We Became Human **Invited talk** by David Haussler, University of California Santa Cruz	
10:50am - 11:10am	**Break**	

	Session 15A (Theatre)	Session 15B (Saanich Room)
	Chair: : Steve Chien (Microsoft Research)	*Chair*: Konstantin Makarychev (IBM)
11:10am – 11:30am	*Robust Lower Bounds for Communication and Stream Computation* Amit Chakrabarti, Graham Cormode, Andrew McGregor	*A Learning Theoretic Framework for Clustering with Similarity Functions* Maria-Florina Balcan, Avrim Blum, Santosh Vempala
11:35am – 11:55am	*Sketching in Adversarial Environments* Ilya Mironov, Moni Naor, Gil Segev	*Multi-Armed Bandits on Metric Spaces* Robert Kleinberg, Aleksandrs Slivkins, Eli Upfal
12:00pm – 12:20pm	*Communication in the Presence of Replication* Omer Barkol, Yuval Ishai, Enav Weinreb	*Stateless distributed gradient descent for positive linear programs* Baruch Awerbuch, Rohit Khandekar
12:20pm -1:50pm	**Lunch (Palm Court)**	
	Session 16A (Theatre)	Session 16B (Saanich Room)
	Chair: Luca Trevisan, University of California, Berkeley	*Chair*: Steve Chien (Microsoft Research)
1:50m – 2:10pm	*Towards an Optimal Separation of Space and Length in Resolution* Jakob Nordström, Johan Håstad	*Optimal Query Complexity Bounds for Finding Graphs* Sung-Soon Choi, Jeong Han Kim
2:15pm – 2:35pm	*Elusive Functions and Lower Bounds for Arithmetic Circuits* Ran Raz	*Additive Approximation for Bounded Degree Survivable Network Design* Lap Chi Lau, Mohit Singh *Additive Guarantees for Degree Bounded Directed Network Design* Nikhil Bansal, Rohit Khandekar, Viswanath Nagarajan
2:40pm – 3:00pm	*On the constant-depth complexity of k-clique* Benjamin Rossman	*Logconcave Random Graphs* Alan Frieze, Santosh Vempala, Juan Vera

3:05pm – 3:25pm	*Algebrization: A New Barrier in Complexity Theory* Scott Aaronson, Avi Wigderson	*Graphs, polymorphisms and the complexity of homomorphism problems* Libor Barto, Marcin Kozik, Todd Niven
3:30pm – 3:50pm	*Hardness-Randomness Tradeoffs for Bounded Depth Arithmetic Circuits* Zeev Dvir, Amir Shpilka, Amir Yehudayoff	
-------Schedule Ends------		