Advances in Complexity Theory
July 3 - 8, 2004

MEALS
(Saturday dinner to Thursday lunch are included in workshop)

Breakfast (Continental): 7:00 – 9:00 am, 2nd floor lounge, Corbett Hall, Sunday-Thursday
*****Lunch (Buffet): 11:30 am – 1:30 pm, Donald Cameron Hall, Sunday-Thursday
*****Dinner (Buffet): 5:30 – 7:30 pm, Donald Cameron Hall, Saturday-Wednesday
Coffee Breaks: As per daily schedule, 2nd floor lounge, Corbett Hall
***Please remember to scan your meal card at the host/hostess station in the dining room for each lunch and dinner.**

MEETING ROOMS

All lectures will be held in Max Bell 159. *Please note that the meeting space designated for BIRS is the lower level of Max Bell, Rooms 155-159. Please respect that all other space has been contracted to other Banff Centre guests, including any Food and Beverage in those areas.*

SCHEDULE

Saturday, July 3

17:30-19:30	Dinner, Donald Cameron Hall

Sunday, July 4

7:00-8:45	Breakfast, 2nd floor lounge, Corbett Hall
8:45-9:00	Introduction and Welcome to BIRS, Max Bell 159
9:00-9:50	Irit Dinur & Omer Reingold: Towards a combinatorial proof of the PCP theorem
9:55-10:45	Eli Ben-Sasson: Simple PCPs with poly-log rate and query complexity
10:45-11:05	Coffee Break, 2nd floor lounge, Corbett Hall
11:05-12:00	Guy Kindler: Conditional optimal inapproximability results for MAX-CUT
12:00-13:30	Lunch
13:30-14:30	Guided Tour of the Banff Centre; meet in the 2nd floor lounge, Corbett Hall

Monday, July 5

9:00 - 9:50	Ronen Shaltiel, Deterministic extractors for bit-fixing sources by obtaining an independent seed
9:55 - 10:45	Avi Wigderson, Gems of Additive Number Theory
10:45 - 11:05	Coffee break
11:05 - 12:00	Russell Impagliazzo, Deterministic extraction from a constant number of independent sources

Tuesday, July 6

9:00-9:50	Steve Cook, Making sense of Bounded Arithmetic
9:55-10:45	Sam Buss, Bounded Arithmetic and Constant Depth Proofs
10:45-11:05	Coffee Break
11:05-12:00	Toni Pitassi, Learnability and Automatizability

Wednesday, July 7

9:00-9:50	Ran Raz, Multilinear formulas for Permanent and Determinant are of superpolynomial size
9:55-10:45	Pavel Pudlak, Pseudorandom sets and explicit constructions of Ramsey graphs
10:45-11:05	Coffee Break
11:05-12:00	Eric Allender, Toward a topology for NC^1
2:00 - 2:30	Mark Braverman: Computability of Real Sets
2:35 - 3:05	Josh Buresh-Oppenheim: BT Algorithms for SAT
3:10 - 3:45	Coffee Break, Corbett Hall Lounge
3:45 - 4:15	Antonina Kolokolova: A Second Order Theory for NL
4:20 - 4:50	Tsuyoshi Morioka: Witnessing Theorems for Quantified Propositional Calculus
4:55 - 5:25	Alan Skelley: Theories and Proof Systems for PSPACE and Beyond
8:00 pm	Guy Kindler: Ramsay Graphs, Dispersers, and Breaking the n/2 Barrier

Thursday, July 8

9:00:9:50	Oded Regev, Lattice based cryptography, quantum and some learning theory
9:55-10:45	Mario Szegedy, Quantum speedup of classical walk-based algorithms
10:45-11:05	Coffee Break
11:05-12:00	Chris Umans, A group-theoretic approach to fast matrix multiplication
	Checkout by 12:30 pm
11:30-13:30	Lunch (last meal included in the workshop)