

Université de Montréal

Summer School on  
**QUANTUM INFORMATION PROCESSING**  
16-20 July, 2002

**Organizer**  
Gilles Brassard (Montréal)

**PROGRAM**

(Lecture Room: M-415, Pavillon Principal, Université de Montréal)

**TUESDAY, JULY 16**

08:30 - 09:30 Registration and Morning breakfast

09:30 - 10:30 Gilles Brassard

["Introduction to Quantum Information Processing"](#)

10:30 - 11:00 Coffee Break

11:00 - 12:00 Gilles Brassard

["Introduction to Quantum Information Processing"](#)

13:45 - 14:45 Gilles Brassard

["Introduction to Quantum Information Processing"](#)

14:45 - 15:15 Coffee Break

15:15 - 16:15 Peter Høyer

["Simple Quantum Algorithms"](#)

16:15 - 16:30 Break

16:30 - 17:30 Alain Tapp

["Quantum Searching and Applications"](#)

17:30 Reception (Hall d'honneur, Pavillon Principal)

**WEDNESDAY, JULY 17**

08:30 - 09:30 Morning breakfast

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09:30 - 10:30 John Watrous  
["The Quantum Fourier Transform and Factorization"](#)

10:30 - 11:00 Coffee Break

11:00 - 12:00 John Watrous  
["The Quantum Fourier Transform and Factorization"](#)

13:45 - 14:45 Peter Høyer  
["Amplitude Amplification and Applications"](#)

14:45 - 15:15 Coffee Break

15:15 - 16:15 Richard Cleve  
["Nonlocality and Quantum Communication Complexity"](#)

16:15 - 16:30 Break

16:30 - 17:30 Richard Cleve  
["Nonlocality and Quantum Communication Complexity"](#)

## **THURSDAY, JULY 18**

08:30 - 09:30 Morning breakfast

09:30 - 10:30 Daniel Gottesman  
["Introduction to Quantum Error Correction and Fault-Tolerance"](#)

10:30 - 11:00 Coffee Break

11:00 - 12:00 Daniel Gottesman  
["Introduction to Quantum Error Correction and Fault-Tolerance"](#)

13:45 - 14:45 Raymond Laflamme  
["Physical Implementations of Quantum Information Processors"](#)

14:45 - 15:15 Coffee Break

15:15 - 16:15 Charles Bennett  
["Quantum Channels"](#)

16:15 - 16:30 Break

16:30 - 17:30 Charles Bennett  
["Quantum Channels"](#)

## FRIDAY, JULY 19

08:30 - 09:30 Morning breakfast

09:30 - 10:30 Claude Crépeau  
["Theory of Quantum Cryptography"](#)

10:30 - 11:00 Coffee Break

11:00 - 12:00 Claude Crépeau  
["Theory of Quantum Cryptography"](#)

13:45 - 14:45 Nicolas Gisin  
["Implementation of Quantum Cryptography"](#)

14:45 - 15:15 Coffee Break

15:15 - 16:15 Harry Buhrman  
["Quantum Lower Bounds \(Polynomial Method\)"](#)

16:15 - 16:30 Break

16:30 - 17:30 Andris Ambainis  
["Quantum Lower Bounds \(Adversary Method\)"](#)

## SATURDAY, JULY 20

More-Advanced-Topics Day

08:30 - 09:30 Morning breakfast

09:30 - 10:30 Andris Ambainis  
["Quantum Coin Flipping"](#)

10:30 - 11:00 Coffee Break

11:00 - 12:00 Raymond Laflamme  
["Quantum Information Processing and Linear Optics"](#)

13:45 - 14:45 Nicolas Gisin  
["Quantum Privacy Amplification"](#)

14:45 - 15:15 Coffee Break

15:15 - 16:15 John Watrous  
["Quantum Interactive Proofs"](#)

