

DEPARTMENT OF MATHEMATICAL SCIENCES

QIT Thinking – Quantum Information Theory Seminar

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WPI

Title: Some elementary quantum gates and quantum algorithms

Abstract: This talk only assumes a background in linear algebra. From the viewpoint of a mathematician interested in quantum algorithms, the CPU of a quantum computer is a tensor product of n 2-dimensional complex vector spaces (n *qubits*). An algorithm consists of a sequence of unitary operators and measurements on the CPU, with branching only based on the classical outcomes of previous measurements. I will present some 1- and 2-qubit quantum gates and at least two (rather trivial) algorithms. This basic talk has been given many times at WPI but repeat attendees are always welcome. This seminar on Quantum Information Theory will assume these basics for the remainder of the academic year.

Thursday, October 1

3:00 – 3:50 pm

Stratton 313



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