VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Computer Science Seminar Series, 2009

National Capital Region

Adiabatic Quantum Computation

Speaker: Prof. Vicky Choi
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Virginia Tech

Friday, September 25, 2009
1:00PM- 2:00PM, NVC 325

Abstract

Adiabatic Quantum Computation (AQC) is a quantum model proposed by Farhi, *et al.*, in 2000, and has been proven to be equivalent to conventional quantum computation (quantum gate model). Unlike classical computation or conventional quantum (gate) model in which an algorithm is discrete, an adiabatic quantum algorithm is continuous. In this talk, I will give an introduction of AQC, in particular, on the design and analysis of adiabatic quantum algorithms for the NP-hard maximum independent set problem. I will also discuss the adiabatic quantum architecture design and minor-embedding problems.

Biography

Dr. Vicky Choi is an Assistant Professor of Computer Science at Virginia Tech. Her current research interests are in quantum computing. Her expertise is on the design, analysis, and implementation of algorithms.