

'396' Undergraduate Research Project Application Form

Version: 200603

Office for Undergraduate Research in Science
Tel.: 514-398-5964 / Fax: 514-398-8102 / Dawson Hall, Room 211
Email: victor.chisholm@mcgill.ca Web: www.mcgill.ca/science/ours/

INSTRUCTIONS FOR STUDENTS

- **All fields are required, unless indicated otherwise.**
- Download and print this form. Complete Section C and sign.
- See "How students can apply" instructions in Section B.
- Your supervisor or department will tell you if you are selected for this project. If so, you will receive a code to register for a '396' course on MINERVA.

SECTION A: SUPERVISOR INFORMATION

Name: Muhammad Abu Bakar **Email:** abubakr@cs.mcgill.ca
Phone: 514-398-7071 Ext. 00115 **Website:** www.cs.mcgill.ca/~abubakar
Supervisor's Department or Unit: Quantum Information Processing Group and Center for Intelligent Machines, School of Computer Science, McGill University. **Course Number:** COMP 396

SECTION B: PROJECT INFORMATION

Term: Summer 2008 **Project start & end dates:** June 1 – August 30, 2008
Project title: Efficient Quantum Compilation
Project description: In this project, student will investigate different techniques of compilation in quantum computing. She will be required to find the most efficient technique (either by herself or by the current literature), and implement it as a general purpose simulation software. The supervisor will use her findings in the design of NMR pulse sequences and in other applications of quantum control and quantum computing.
Prerequisites: 1 term completed at McGill + CGPA \geq 3.0; or permission of instructor.
Grading scheme: 50% Report, 35% Simulation Software and 15% Participation in group activities.
Other:
Status: Mark with an x. This project is...
[] Open to applicants
[X] Already taken; no more positions available this term
[] Taken, but contact me for other possible projects this term
Ethics, safety, and training Which of the following, if any, is involved? Mark with an x.
[] Animal subjects
[] Human subjects
[] Biohazardous substances
[] Radioactive materials
[] Handling chemicals
[] Using lasers
For undergraduate students, ethics and safety compliance is the supervisor's responsibility.
How students can apply: Bring this application form and your advising transcript to me during office hours.

SECTION C: STUDENT INFORMATION. (1) PRINT LEGIBLY AND SIGN. (2) SEE "HOW STUDENTS CAN APPLY" IN SECTION B.

Name: _____ **McGill ID:** _____
Email: _____@mail.mcgill.ca **Phone:** _____
Program: _____ (e.g., B.Sc. Maj. Chem. Minor Biology) **Level:** _____
I have not applied for another 396 course in this term. **(circle one)** U0 / U1 / U2 / U3
Student signature: _____ **Date:** _____

SECTION D: APPROVALS. (1) PRINT NAMES & SIGN. (2) NOTIFY OFFICE FOR UNDERGRADUATE RESEARCH IN SCIENCE. (3) GIVE STUDENT CODE TO REGISTER FOR COURSE ON MINERVA.

Supervisor: _____ **Date:** _____
Unit Chair, Director, or designate - I certify that this project conforms to departmental requirements for 396 courses. _____ **Date:** _____