

LAURENCE MERCIER

<http://www.bic.mni.mcgill.ca/~laurence/>

laurence@bic.mni.mcgill.ca

home: +1 514-273-2812

CAREER OBJECTIVE

- To obtain a key position in the field of medical imaging in which I would work as the interface between surgeons/doctors and the technical development team.
 - To work in a position that takes advantage of my communication skills, my sense of initiative, leadership and my ability to solve complex problems.
-

TECHNICAL SKILLS

- Expert in neuronavigation and other image-guided surgery systems: patient registration, tracking systems, tools calibration.
 - Medical image processing:
 - Ultrasound: probe calibration, 3D reconstruction, US-US registration, MRI-US registration.
 - MRI: normalization, segmentation, classification, surface rendering, atlas creation, rigid and non-rigid registration.
 - Simulating ultrasound images from MR images.
 - Other: DTI, PET, fMRI, CT.
 - Programming: C/C++, Perl and web.
-

CLINICAL EXPERIENCE

- Work with neurosurgeons in the MNI's operating rooms since 2006.
 - Brain and spine anatomy: audited the 8-week CNS McGill lecture with medical students.
 - Neuropathology: brain tumors in particular, multiple sclerosis, epilepsy, etc.
-

EDUCATION

Doctor of Philosophy, Biomedical Engineering, McGill 2004-present

- Topics: Image-guided neurosurgery, MRI/ultrasound registration, simulating ultrasound images from MR images, cerebral tumors.
- Supervisor: Dr Louis Collins
- Collaborating neurosurgeons: Dr Rolando Del Maestro and Dr Kevin Petrecca.
- Scholarships: PhD - FQRNT (20 000\$/year), McGill Top-up (5000\$)

Master of Engineering, Biomedical Engineering, McGill 2002-2004

- Topics: ultrasound probe calibration, precision and accuracy evaluation of tracked ultrasound technology
- Supervisor: Dr Louis Collins

Bachelor, Computer engineering, Polytechnique of Montreal

1997-2001

- One year exchange at the University of Stuttgart (Germany)
-

WORK EXPERIENCE**National Research Council**

Summer 2008

Consultant

- During my PhD I was hired as a consultant by the NRC to work on their brain surgery simulator NeuroTouch. I introduced their engineers to the field of neurosurgery both from a clinical and from an image processing point of view.

Nortel Networks

2001

Software designer, 8-months internship,

- Programmer (C++, scripts, web)

Polytechnique of Montreal

2000-2001

Lab teacher for the computer Architecture lecture

- Responsible of all aspects of the labs: from presentation to correction

Chaire Marianne-Mareschal (Polytechnique of Montreal)

1999-2000

Web designer

- Elaborated the content and designed their first web site
-

EXTRA-CURRICULAR ACTIVITIES**Promoting the love of sciences**

- 2003 - Present: Numerous scientific presentations for elementary and high school students: Brain Awareness Week, Les filles et les sciences un duo électrisant, McGill Exploration Day, MNI Open House, MNI Discovery Day, etc.
- 2006-2007: Judge for the regional final of the Expo-Science for high school and elementary levels.

International cooperation project

- 1998: With eight other engineering students we raised 40000\$ and went to build a house in El Salvador where we stayed in local families for 11 weeks.
 - 1999-2006: Involved in the interview of new candidates, the selection process and the training of new participants.
-

LANGUAGES

French and English (fluent), German (advanced), Spanish (basic)

ACTIVITIES AND INTERESTS

- Travel overseas: Thailand, Australia, Vietnam, China, Morocco, France, Germany, Sweden, etc.
- Sports: bicycling, rollerblade, squash, hiking