

This information is addressed to potential graduate students who would like to work with me. Please read it carefully before sending me an application letter and make sure that it fits your needs.

I accept, from time to time, MS and PhD students based on our current projects and funding availability. Candidates are expected to have a good background in relevant electrical engineering and mathematics disciplines. This includes the following

- Electrical engineering: signal & systems, communication systems, wireless/mobile communications, antennas and propagation
- Mathematics: calculus, linear algebra (matrices), probability theory and/or random processes, numerical techniques
- Computer skills: basic programming skills in mathematical packages like MathCAD or Matlab.

It is understood that the actual knowledge may vary on the case by case basis. Hence, you are not required to know everything perfectly, but you must have at least a basic knowledge of these subjects and, additionally, you must have a good knowledge of some of them. You should also be able to pick up some additional knowledge or refresh existing one when required.

I expect you to be able your work with a large degree of independence (with proper supervision, of course), and to solve all “small” problems on your own. Normally, we organize a seminar each 2-3 weeks to discuss the progress made and possible problems/solutions.

The most important thing is that you are really interested in research you are going to do. Hence, study all the relevant information on my web page. When working with enthusiasm, results can be achieved much faster than when just doing work to get a degree. I expect that you have a certain degree of enthusiasm and that you are interested more in research than in simply getting a degree.

My current research area is multiple-input multiple-output (MIMO) systems, which belongs to a broader area of wireless communications (physical layer). The entire area (MIMO) has been discovered just 10 years ago and is now considered to be a new paradigm in wireless communications. The area is new and, hence, many new discoveries are to be made. You may take a part in it. More detailed description can be found at Bell Labs web site: <http://www.bell-labs.com/project/blast/> . In particular, I'm interested in studying the effect of propagation channel on the system performance, in developing appropriate propagation channel models (which are system-level models, not to be confused with numerical electromagnetics), in system performance analysis (i.e. BER etc.) and in establishing a link between information theory and the laws of electromagnetism.

I normally invite every candidate for a personal interview. The purpose of the interview is to make sure that you have appropriate knowledge and skills, a piece of enthusiasm, and that you are ready to attack a complex problem with a reasonable probability of success. It is very important that you have a proper background so you are able to finish your work on time and to avoid any disappointment.

If you wish to do your graduate studies under my supervision, you should have a good average (80% and higher). If this is the case, please apply to our graduate program in electrical engineering (<http://www.site.uottawa.ca/school/grad/index.shtml>). You may indicate me as your potential supervisor. If you do so, however, please send me an email, indicating your application number (when you receive it). Funding is available on a case by case basis to outstanding students (i.e. with the average of 85% and higher). Due to a large number of applications, I will contact only successful applicants.