

## Graduate Student Position at the University of Manitoba, Winnipeg Canada

Graduate student positions (at MSc. and Ph. D level) are available in the Dynamic Spintronics Group within the Department of Physics and Astronomy at the University of Manitoba. Successful candidates will pursue their degrees via interdisciplinary research of solid state microwave sensors and microwave imaging techniques through either the physics or electrical engineering department. The main goal of these positions is to measure scattered microwave fields using an array of solid state microwave sensors to create images of hidden structures for both medical and industrial applications. A knowledge of solid state devices, micro-device fabrication, microwave testing, and image reconstruction will be acquired in these studies. Although the general theme of the project is fixed, the work plan is flexible and can be adjusted to fit the candidate's expertise and progress. Specific research projects include:

- Designing novel solid state microwave sensors;
- Developing new microwave imaging techniques;
- Developing solid sensor array for microwave imaging applications;
- Creating microwave imaging reconstruction algorithms for both medical and industrial applications

The candidate for these positions should have

- A bachelor degree (for MSc. level) and/or a master degree (Ph. D level) in electrical engineering, applied physics, physics or related fields;
- A strong background in microwave engineering, numerical mathematics, scientific computing and/or algorithm development. Knowledge in digital signal processing and synthetic aperture radar signal processing is not required but helpful
- Excellent implementation skills in programming languages and/or Matlab; skill with COMSOL multi-physics is not required but helpful.
- Excellent communication skills (in English).

Initial application should include a cover letter and a detailed resume. Received applications will be reviewed immediately. Prospective students are advised to contact Prof. Dr. Can-Ming Hu for more information.

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Web: <http://www.physics.umanitoba.ca/~hu/>

The University of Manitoba, in Winnipeg, Canada, was established in 1877 and is the largest university in the province of Manitoba. It is also Manitoba's most comprehensive and research-intensive institution. Located in the famous Red River Valley, Winnipeg is a cosmopolitan city known for its rich cultural environment, including symphony, opera, dance, theatre, and ethnic festivals. It provides a high quality of life at modest expense and offers access to some of the most beautiful lake country in North America, including Lake Winnipeg, the world's eleventh largest. The region also offers ample opportunities for outdoor recreation in all seasons (e.g. camping, swimming, hiking, canoeing, skiing, skating, snowmobiling, ice fishing). More information about the university and the city can be found at <http://www.umanitoba.ca>; and <http://www.winnipeg.ca/>.