



**Western**  
The Brain and  
Mind Institute

## Visiting Speaker

### Patrice Voss

MNI and BRAMS  
McGill University, Montreal

#### **Sensory deprivation as a unique window into brain function and organisation**

It has long been believed that the brain is hard-wired in a predetermined manner, mainly shaped by evolution. However, more recent findings acquired in the past few decades have in fact shown that both the developing brain and the adult brain have a remarkable ability to remodel and restructure the different circuits within it through learning and sensory experience. This appears to be particularly true in the case of prolonged sensory deprivation, where massive crossmodal changes take place within the deafferented sensory areas of the brain. In this talk, I will present some of our recent work with blind individuals demonstrating that brain areas normally dedicated to vision are seemingly taken over by non-visual sensory processes. Using a wide range of brain imaging measures, we show that these crossmodal plastic changes take place both on a functional and anatomical level. Furthermore, we show that this restructuring of brain function and structure is intrinsically linked to perceptual enhancements observed in the remaining sensory modalities of these visually deprived individuals. Overall, this work sheds important light on the principles governing brain organisation and function, on the brain's ability to reshape itself when the sensory inputs are drastically changed, and on our ability to relate specific cortical features to perceptual abilities.

**Date: Wednesday, July 22, 2015**

**Time: 11:30 am**

**Location: Room 100,  
Physics and Astronomy**

*If you require information in an alternate format or if any other arrangements can make this event accessible to you, please contact Denise Soanes at [dsoanes4@uwo.ca](mailto:dsoanes4@uwo.ca)*