

# Participate in Research Detecting a Fast Optical Signal for Brain-Computer Interface Communication

REB #: 15-584  
Last Revised: 25/05/2015

**Principal  
Investigator:  
Tom Chau**



## **CONTACT INFORMATION:**

## **TO ASK QUESTIONS OR TO SIGN UP, CONTACT**

**Nicole Proulx**  
MAsc Candidate  
PRISM Lab, Bloorview Research  
Institute  
416-425-6220 EXT: 3260  
nicole.proulx@mail.utoronto.ca

Date Posted:  
REB #: 15-584  
Revised: 25/05/2015

## **We invite you to take part in an research study to advance the development of a communication device**

### **What is this study about:**

Near-infrared spectroscopy (NIRS) can measure changes in brain oxygenation as well as changes in optical properties of brain tissue during performance of a mental task. Changes in brain optical properties occur faster than changes in brain oxygenation and could therefore improve the speed of communication of NIRS communication devices.

### **Who can participate?**

We are looking to recruit adults with the following profile:

- 18+ years of age
- Have normal or corrected-to-normal vision
- Can read and write in English
- Have no health issues that include: degenerative, cardiovascular, respiratory, psychiatric, metabolic or drug and alcohol-related conditions

### **What's involved?**

- You will be asked to **attend 5 sessions** (both weekdays and weekends are possible)
- **Each session will be about an hour and a half**
- A headband will be placed on your head with probes inserted in headband holes to touch your skin
- In 2 sessions, EEG electrodes will also be placed on your forehead, with conductive gel at each electrode
- You will perform blocks of mental tasks
- All sessions will be at Holland Bloorview

### **What are the benefits of participating?**

Participation in this study will help develop a communication device for individuals with severe motor impairment. **You will receive a \$25 gift card each session as a token of appreciation for your participation.**