



2017 CPSR Catalyst Grant Winners

- 1. Using Focused Ultrasound to Promote Functional Recovery by Reopening the Post-Stroke Window of Neuroplasticity** ***Top ranked grant & winner of Dr. Hakim Stroke Research Award***

Principal Investigators: **Dr. Dale Corbett, University of Ottawa & Dr. Kullervo Hynynen, Sunnybrook Research Institute**

Co-investigators: Dr. Isabelle Aubert (*Sunnybrook Research Institute*)

Brief Project Description: This study will test whether focused ultrasound can be optimized and used to stimulate additional brain recovery in rats whose recovery has already plateaued following stroke.

- 2. Feasibility of Rhythm Perception and Production Training in People with Stroke**

Principal Investigator: **Dr. Kara Patterson, Toronto Rehabilitation Institute, University Health Network**

Co-investigators: Dr. Joyce Chen (*Sunnybrook Health Sciences Centre*), Dr. Jessica Grahm (*Western University Brain and Mind Institute*)

Brief Project Description: This study will investigate the feasibility of a music training intervention to improve rhythm perception post-stroke as part of a program to improve gait post-stroke.

- 3. Can We Enhance Aphasia Treatment with Working Memory Training? A Feasibility Study**

Principal Investigators: **Dr. Elizabeth Rochon, Toronto Rehabilitation Institute – University Health Network, Dr. Carol Leonard, University of Ottawa, Dr. Gail Eskes, Dalhousie University**

Co-investigators: Dr. Sandra Black (*Sunnybrook Health Sciences Centre*)

Brief Project Description: This study will test whether a combination approach involving sound-based therapy and working memory therapy can improve communication abilities in stroke survivors with aphasia.

- 4. Effortful Swallow Training for the Rehabilitation of Aspiration Post-Stroke**

Principal Investigator: **Dr. Catriona Steele, Toronto Rehabilitation Institute, University Health Network**

Collaborator: Dr. Mark Bayley (*Toronto Rehabilitation Institute, University Health Network*)

Brief Project Description: The goal of this study is to explore the effectiveness of an intensive effortful swallowing therapy involving greater tongue force, designed to improve airway protection while swallowing after stroke.



5. Optimizing Optogenetic Enhancement of Stroke Recovery

Principal Investigator: **Dr. Paul Albert, Ottawa Hospital Research Institute**

Collaborators: Dr. Diane Lagace (University of Ottawa), Dr. Jean-Claude Beique (*University of Ottawa*)

Brief Project Description: This project will address whether directly stimulating brain activity can mediate stroke recovery using a new mouse model of post-stroke depression.

6. Therapeutic Brain Stimulation in a Mouse Model of Perinatal Stroke: Finding the Right Target

Principal Investigator: **Dr. Greg Silasi, University of Ottawa**

Collaborators: Dr. Adam Kirton (*University of Calgary*), Dr. Diane Lagace (*University of Ottawa*)

Brief Project Description: This project will test the effectiveness of combining brain stimulation and self-initiated rehabilitation training in young mice with stroke.

7. Altitude Training to Break Through the Recovery Plateau After Stroke: A Proof of Principle Study

Principal Investigator: **Dr. Michelle Ploughman, Memorial University of Newfoundland**

Co-investigators: Dr. Liam Kelly, *Memorial University*, Dr. Fabien Basset (*Memorial University*), Dr. Jason McCarthy (*Memorial University*)

Collaborators: Dr. Sheila Garland (*Memorial University*), Dr. Edward Randell (*Memorial University*), Dr. Chad Workman (*Eastern Health Authority*)

Brief Project Description: This study will test whether altitude training (i.e., breathing air with lower levels of oxygen than room air) combined with aerobic exercise enhances recovery in chronic stroke patients.



2017 CPSR Implementation Science Grant Winner

1. The Clinical Application of Virtual Reality for Stroke Rehabilitation: A Multi-Site Knowledge Translation Study

Principal Investigators: **Drs. Hillel Finestone & Heidi Sveistrup, *University of Ottawa***

Co-investigators: Dr. Christine Yang (*Bruyere Continuing Care*), Dr. Martin Bilodeau (*University of Ottawa*), Dr. Vivian Welch (*Bruyere Research Institute*), Dr. Jamie Brehaut (*Ottawa Hospital Research Institute*), Dr. Lisa Sheehy (*Bruyere Research Institute*)

Collaborators: Lori Stuart (*Timmins and District Hospital*), France LeBreton (*Reseau de Sante Vitalite Health Network*), Jacquie Levy (*Action Potential Rehabilitation*), Sandy Leznoff (*Providence Health Care*), Dr. Colleen O'Connell (*Dalhousie University*)

Brief Project Description: This study will investigate the use of a modified virtual reality training (VRT) intervention at five different stroke rehabilitation units located across Canada to evaluate the change in therapists' knowledge and self-reported skills, barriers and facilitators to VRT implementation, usability of the VRT system and frequency of continued use of VRT over six months.