

**Thanks for checking out the CanWheel Newsletter!
A place to find out what is going on in the CanWheel world.**

CONTENTS

[Team Update](#) 1

[Project Updates](#) 1

[P1-P3](#) 1

[P2](#) 1

[P4](#) 1

[P5](#) 2

[Trainee Spotlight](#)..... 2

[Kudos](#).....3

[CanWheel Website](#)3

[CanWheel Facebook Page](#)3

[Conference Corner](#) 3

TEAM UPDATE

It was great to see Dr. Rosalie Wang in Vancouver when she came to GF Strong to present her work **“Development of a Robotic System for Upper Limb Therapy Post-Stroke”** at the monthly Rehab Research Rounds put on by the UBC Division of Physical Medicine and Rehabilitation. What an excellent presentation!!

PROJECT UPDATES

P1-P3

Data collection for the Wizard of Oz (WoO) study and the back-in parking sub-study have been completed. Several manuscripts are currently in preparation to showcase the findings of these studies. Recently, several of our team members and trainees organized and ran a workshop at the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2014 conference entitled “A Wizard-of-Oz Intelligent Wheelchair Study with Cognitively-Impaired Older Adults: Attitudes toward User Control” which was well-attended and well-received! In the fall, trainee Emma Smith started work on her dissertation by conducting a qualitative study interviewing clinicians to determine important parameters for the development of a therapist interface for a shared control power wheelchair training program called CoPILOT.

P2

We are excited to announce that as of November 2014, Vancouver has completed data collection to the two year mark, which concludes the data collection for P2 at all sites! In total we have collected data from 129 wheelchairs users and 34 caregivers in this longitudinal study, including qualitative interviews of a sub-sample of 20 individuals. Currently, several measurement properties papers are in progress and two have been published:

- *Mortenson WB, Miller W, Miller Polgar J. Measurement Properties of the Late Life Disability Index among individuals who use Power Wheelchairs as their primary means of mobility. Archives of Physical Medicine and Rehabilitation. 2014 Oct;95(10):1918-24. doi:10.1016/j.apmr.2014.05.020.*
- *Rushton PW, Kirby RL, Routhier F, Smith C. Measurement properties of the Wheelchair Skills Test Questionnaire for powered wheelchair users. Disability and Rehabilitation: Assistive Technology, Early Online: 1-7. 2014 Nov 20; 1748-3115. doi: 10.3109/17483107.2014.984778.*

We will be working on the longitudinal data analyses next!

P4

Team members are currently preparing two manuscripts based on information gleaned from a scoping review of data-logger use literature in manual wheelchairs and power wheelchairs. A data-logger is a collection of sensors and storage system, which can be attached to a wheelchair and can record a variety of aspects of wheelchair behavior (e.g., how fast or far the wheelchair goes over the course of several days). The next step is to develop a series of surveys, informed by the scoping review, to gain the perspectives and feedback of consumers, clinicians and researchers interested in data-logger use.

P5

We are excited to announce that as of September 2014, data collection has been completed at all sites across Canada! In total we have collected data from 105 new and experienced wheelchairs users, including satisfaction survey data in a sub-sample of participants. The team is currently working on data analyses, manuscript preparation and plans to present the main findings at RESNA 2015! We are also currently exploring some ideas for additional sub-studies related to P5.

TRAINEE SPOTLIGHT**Debbie Field (PhD Candidate, University of British Columbia)****Tell me a bit about the research you're currently working on.**

I'm in the midst of conducting my third study towards my PhD thesis, measuring participation in everyday life for young people who need or use power mobility.

The first study involved a 4 round modified Delphi survey with an international panel of parents, therapists and researchers. Consensus was reached on 21 important elements for measuring participation in everyday life for children who need or use power mobility. Our findings have just been published:

<http://onlinelibrary.wiley.com/doi/10.1111/dmcn.12645>

We used these elements to compare available participation tools, with panelists ranking those tools they thought were most suitable for inclusion in a measurement toolkit. I'm now using these tools in my second and third studies. These studies have several aims: first, to explore the feasibility of conducting research over multiple sessions with children who have significant disabilities, along with their families; second, to explore measurement properties for participation tools – as well as other wheeled mobility measures - with this population; and third, to describe how young people, who use power mobility, participate in their daily life.

What would you say are the implications of this research?

The findings will contribute to our knowledge base about how young people who use power mobility engage in meaningful everyday activities. It provides valuable information about the measurement tools, and lays the foundation for larger, multi-site studies to evaluate the effectiveness of power mobility interventions. This research will help us improve equipment recommendations and training strategies as well as develop programs and resources to better support and empower young people and their families.

What got you into this line of research?

Over the last 25 years I've worked as a clinician supporting children and adults in the use of assistive technologies in order to achieve their aspirations. I recognized the limited research evidence in this specialized field of practice, especially in regards to pediatric applications.

Is there anything else you'd like to say about your research?

I'm excited to share with others who are interested in advancing knowledge and practical strategies for participation and wheelchair use with children who need or use power mobility.

Tell me a "fun fact" about you.

Before starting my PhD, my husband and I traveled with our four children backpacking through Europe. I'm looking forward to rewarding myself and my family with travels to Australia once my thesis is completed. It will be fun to return to where my second son was born, and where I worked briefly as an OT.

[Back to Top](#)

KUDOS

A huge amount of applause are in order for several of our team members!

- Dr. Krista Best successfully defended her doctoral dissertation in October 2014 at UBC with Dr. Bill Miller. She will continue research as a Postdoctoral Fellow at Laval University with Dr. Francois Routhier.
- Dr. Rosalie Wang officially started her tenure track assistant professor position in the faculty of Occupational Science and Occupational Therapy at the University of Toronto as of January 2015.
- Drs. Alex Mihailidis and Andrew Sixsmith for becoming the scientific directors of the successful Network Centres of Excellence – [AGE-WELL](#). Almost all of our CanWheel investigators are involved in this NCE and we look forward to continuing our collaborations and research over the next 5 years!

CANWHEEL WEBSITE

We are excited to announce that our [website](#) has been given a make-over!!! Check it out and let us know what you think!

CANWHEEL FACEBOOK PAGE

CanWheel is getting social! Please "Like" our Facebook page here:
<https://www.facebook.com/canwheel>



CONFERENCE CORNER

THIRTY-FIRST INTERNATIONAL SEATING SYMPOSIUM

When: February 26-28, 2015

Where: Gaylord Opryland Resort and Convention Center, Nashville, TN
USA

An instructional workshop has been accepted:

- **Authors:** William Miller, Paula Rushton, Ben Mortenson, Emma Smith and the CanWheel Research Team
- **Title:** CanWheel: A Canadian Research Initiative to Improve Power Wheeled Mobility"



[Back to Top](#)

RESNA

When: June 10-14, 2015

Where: Sheraton Hotel, Denver, Colorado, USA

The P5 team has submitted an abstract to present our preliminary findings:

- **Authors:** R. Lee Kirby, William Miller, Francois Routhier, Louise Demers, Alex Mihailidis, Jan Miller-Polgar, Paula Rushton, Laura Titus, Cher Smith, Mike McAllister, Chris Theriault, Kara Thompson, Bonita Sawatzky
- **Title:** Effectiveness of a Wheelchair Skills Training Program for Powered Wheelchair Users: A Randomized Controlled Trial



[Back to Top](#)

All the best to you in 2015 from the CanWheel Research Team!



Please contact Kate Keetch (kate.keetch@vch.ca) with comments, questions or Kudos ☺

[Back to Top](#)