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Welcome to the CanWheel Corner!
A place to find out what is going on in the CanWheel world.

ANNOUNCEMENTS

Dr. Joelle Pineau from the Department of Computer Science at McGill University, although already a valued member of our team since 2011, has *officially* become a Co-Investigator on the CIHR CanWheel Emerging team in Wheeled Mobility for Older Adults grant.

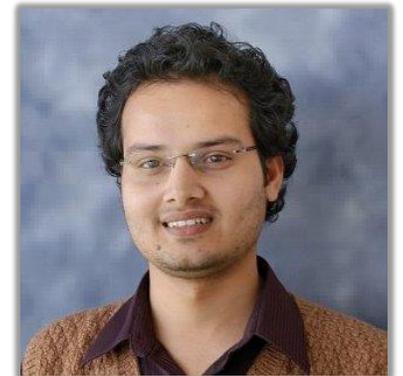
2013 CANWHEEL ANNUAL TEAM MEETING

This year's CanWheel Annual Team Meeting will occur on June 21st in Vancouver, with a dinner planned on the evening of June 20th. This one-day meeting will be held at ICORD, with individual project meetings being held in the morning and the AGM in the afternoon. This will align with the RESNA/ICORR meeting on June 19-26 in Seattle. Project Leads please contact Kate at kate.keetch@vch.ca to make travel arrangements.

TEAM UPDATE

We welcome new team members:

Bikram Adhikari is a graduate student working under supervision of Dr. Alan Mackworth in Laboratory of Computational Intelligence at UBC. He holds a Master's degree in Biological Systems Engineering from Washington State University. His research work at WSU focused on reconstructing 3D models of fruit trees for robotic manipulations. He received his Bachelor's degree in Electronics and Communication Engineering from Tribhuvan University, Nepal. His research interests include machine vision, machine learning and mobile robotics.



PROJECT UPDATES

P1-P3

P1 and P3 have converged into one project, P1-P3. Preparation of the "Wizard of Oz" (WoO) study is underway by the team. This WoO project aims to improve independent mobility for older adults with cognitive impairment in long-term care facilities through the development of intelligent wheelchairs. Ethics is in progress and piloting will be completed over the summer.

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**P2**

Recruitment for P2 officially ended at all sites on December 31st, 2012, having 128 wheelchair users and 36 caregivers enrolled in the study. Preliminary T1 and T2 data has been collected and is currently being analyzed for manuscripts and presentations being prepared in 2013.

P4

A scoping review of the literature of data-logger research is underway examining what outcome measures are most useful and effective. Results of the scoping review will help inform design on our smart-wheelchair in P3.

P5

All sites have begun recruitment and everything is running smoothly so far. To date, 33 participants have completed T1, 24 have completed T2, and 8 have completed T3. It is anticipated that with recruitment closed for P2, that more participants will be enrolled in this project.

CANWHEEL ADVISORY COMMITTEE (CAC)

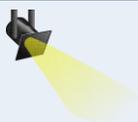
Four individuals have been identified and agreed to be on the CAC until 2015: [Robert Levy](#), the managing director in Criterion Health USA; [Francois Michaud](#) from the University of Sherbrooke; [Ase Brandt](#) from the Danish Centre for Assistive Technology R&D; and [Andrew Frank](#) from Northwick Park Hospital, UK. An initial CanWheel Advisory Committee teleconference meeting was held on March 12th, 2013. It was a great opportunity for introductions and deciding on terms of reference for the committee. The insight and expertise of the committee members will prove to be very helpful in providing feedback on aspects of each of our projects and future collaboration opportunities.

**CANWHEEL TRAINEE JOURNAL CLUB**

A monthly Journal Club has been implemented in 2013. The purpose is to promote our learning and understanding of topics related to wheeled mobility with an emphasis on powered mobility between trainees. Given the interdisciplinary nature of the group it will also enable us to develop an understanding and appreciation of our different backgrounds and science. The primary goal is to learn from each other and stay up to date with the literature. So far, Pooja Viswanathan and Ben Mortenson have shared articles from their particular areas of research on our Wikispace. We want to make this new club as interactive and informative as possible so we would love to hear your feedback. If you would like have access to the Wikispace or have ideas – please contact Kate at kate.keetch@vch.ca.

CANWHEEL FACEBOOK PAGE

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

TRAINEE SPOTLIGHT *NEW SECTION!*

Krista Best (PhD Candidate, Rehabilitation Sciences, University of British Columbia)



Tell me a bit about the research you're currently working on.

I developed an intervention called WheelSee, which is a self-efficacy enhanced wheelchair training program that is designed to improve self-efficacy for using a manual wheelchair. The premise for this research is that if wheelchair users have higher self-efficacy for using their wheelchair, they may use it more independently and more often.

There are two projects currently ongoing that are exploring the feasibility of WheelSee in younger and older manual wheelchair users. I am currently collecting data and continuing to recruit for this project. Preliminary results from the pilot work look promising so far.

What would you say are the implications of this research?

I think the novelty of this training study is that it is facilitated by a peer trainer who is himself a manual wheelchair user. Some of the wheelchair training that has been done in the past has relied on access to a clinician or expert trainer to facilitate the training. We're hoping that our peer-lead training program may be implemented into the community similar to other peer-mentorship programs. This could reduce some of the burden on the clinicians while enabling wheelchair mobility through improved self-efficacy. While our program does include some mobility and skills training, it goes beyond the technical skills and targets some other areas that people might feel are challenging when using their wheelchair, such as problem solving, managing emotions, and managing social situations.

What got you into this line of research?

I did my Masters at Dalhousie with Lee Kirby, where I implemented the Wheelchair Skills Training Program in a community-based setting. After working with Lee and discovering that we could indeed improve wheelchair skills in a community environment, I collaborated with Paula Rushton after the development of the WheelCon (a standardized measure of self-efficacy for wheelchair use). My thinking was that although we can improve wheelchair skills, people may not implement them to their full potential if they have low self-efficacy for using their wheelchair. We wanted to look further into that.

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

I'm also currently working on a survey examining the existing wheelchair training curriculum in Canadian universities, and the current clinical practice for wheelchair skills training across Canadian rehabilitation centers. Some preliminary findings are showing that there is not a lot of evidence-based wheelchair training being done in rehab, so new wheelchair users likely are not receiving as much training as they should be. This suggests there may be a need for the implementation of evidence-based wheelchair training into the curriculum, as well as in post-secondary training. The survey analysis is ongoing and full results are pending.

Tell me a "fun fact" about you.

So far I have visited 12 European countries...I hope to add to that list after an upcoming move to Norway!

CONFERENCES

[RESNA 2013 Annual Conference](#)

June 19-24, 2013
Hyatt Regency Bellevue
Seattle, Washington



Two team workshop abstracts have been accepted:

- Kirby RL, Smith C, Rushton PW, Auger C, Demers L. Overview of a Power Wheelchair Outcomes Tool Kit.
- Kim B, Mihailidis A, Mitchell IM, TalebiFard P, Viswanathan P, Wang RH. Collaboratively Controlled Intelligent Robotic Wheelchairs: Capabilities and User Interfaces.

[ICORR World Congress on Gerontology and Geriatrics](#)

June 14-26, 2013
University of Washington
Seattle, Washington

One team workshop abstract has been accepted:

- Viswanathan P, Wang R, Urdiales Garcia C, Mandel C, Routhier F, Arthanat S, Moffatt K. Evaluation of Intelligent Powered Wheelchairs.

[AAATE Conference](#)

September 19-22, 2013
Hotel Tivoli Marina Vilamoura
Algarve, Portugal



One abstract has been submitted for P2:

- Rushton PW, Demers L, Miller WC, and CanWheel Research Team. Changes that Occur Among New and Experienced Older Adult Power Wheelchair Users: A One-Year Longitudinal Study.

The CanWheel Research team will also be presenting two posters at the Crossroads of Knowledge 2013 Conference in Montreal, QC, April 9, 2013.

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KUDOS

We have many reasons to offer congratulations to members of our CanWheel Research Team!

- Dr. Alex Mihailidis was invited to give the Keynote address on CanWheel at this year's Symposium on Special Seating, Wheeled-Mobility and Advanced Technology in February in Hong-Kong.
- Dr. Claudine Auger is now an Assistant Professor at the Université de Montréal and emerging researcher at the Centre for Interdisciplinary Rehabilitation Research of Greater Montreal site Lucie-Bruneau Rehabilitation Center as of January 2013.
- Drs. Alex Mihailidis and William Miller, as well as Alan Mackworth, for being awarded an CIHR/NSERC Collaborative Health Research Project, "A Modular Intelligent Power Wheelchair System to Enhance Mobility, Safety and Participation of Users" (2013-2015).
- Dr. Alan Mackworth as part of the ICICs group received a grant from Telus on "People and planet friendly homes initiative. Part of this grant will offer opportunity for collaborative work with smart-wheelchair technology in homes.
- Sarah McCuaig, a superb Research Assistant at our Vancouver site, has been accepted into the Diagnostic Medical Sonography program at BCIT starting September 2013.
- Dr. William Miller has been appointed to the position of Associate Dean, Health Professions Education in the UBC Faculty of Medicine effective March 1, 2013.

Well done everyone! ☺



**Happy Spring from
the CanWheel Research Team!**



Please contact Kate Keetch (kate.keetch@vch.ca) with comments, questions or Kudos for the next newsletter.

**For more news and updates, please be sure to check out our website at
<http://www.canwheel.ca>**

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