



DHRN 2nd Annual Graduate Student Conference

Save the Date - January 19, 2009



The Disability Health Research Network (DHRN) and International Collaboration on Repair Discoveries (ICORD) are joining forces to cohost a trainee/graduate conference at ICORD's new Vancouver location, the Blusson Spinal Cord Centre.

The DHRN has invited exciting local & international keynote speakers, and will be hosting a unique skill-building presentation all about the Importance of Presentation Skills in your graduate student/trainee experience!

We are also inviting trainees and graduate students to present posters, and/or join in last year's very popular Project Show & Tell - the One-Minute /One PowerPoint Slide Research

Parade – to tell us all about what you are working on!

Keep your eyes open for full registration, conference program and member travel subsidy details on our website www.dhrn.ca coming in November, 2008! 

**Check out page 8 for details
on our new knowledge-
sharing initiatives for 2009!**

Our Mission:

To increase knowledge about biological, social, and community related factors in order to minimize further impairment, improve levels of ability, and enhance community participation of persons with disability.

INSIDE

Conference	p. 1
Speaker Series/Video	p. 2
Student Connections	p. 3
Community Connections	p. 4
Publication Profile	p. 5
Research Review	p. 6
New A/C Members	p. 7
Upcoming in 2009	p. 8
Conference Review	p. 8

DHRN Speaker Series / DHRN Video Project

DHRN 2nd Annual Graduate Student Conference

The Background

At the DHRN's 3rd Annual Conference and AGM Meeting, Disability & Technology: Qualities of Connection held on March 14th, 2008 we asked our members to take part in making plans for the future of the DHRN. This included making decisions about future directions, funding strategies and program development. Members were also asked to come prepared to share ideas about the development of a DHRN Speaker Series and a DHRN Video Project. We asked you how the DHRN could better facilitate research, who and how a speaker series might work best, and what exciting video project would assist your organization or community group to promote, train, or recruit researchers within the disability health research field. The results are in, and we wanted to

share them with you! What's more – we need YOU to join us in making these projects happen, when and where they should.

Getting Involved

Please contact our Speaker Series/ Video Project Coordinator, Levi Gahman, at levig@interchange.ubc.ca for details on funding availability, project participation and coordination support. Get your name or organization involved, gain experience and credit, widen the profile for your group or research, and contribute to information-sharing in the disabilities health community.

Results will be displayed in You Tube format and posted on the DHRN website. ➤*



Levi Gahman

Speaker Series / Video
Project Coordinator



Pamela Tudge

DHRN Web Mapping
Expert

TOP-RATED PROPOSED VIDEO PROJECTS

(Production Funding & Coordination Support Now Available)

\$5,000 will be awarded towards the production of the video

Length of Video: approx. 5:00 minutes

- Effective Use of Emerging Technology
- Ready to Roll? (WC's in Nursing Homes)
- Disabilities Awareness
- Fine Arts and Disability
- Disability Research Integration

TOP-RATED PROPOSED SPEAKER SERIES

(Sponsorship Funding & Coordination Support Now Available)

Honorarium, Travel Expenses Coordination Support Provided

- Self-Advocates – Panel of Presenters
- Panel Discussion of FASD Youth Speakers
- Disability Studies Scholars – Panel of Presenters
- Bonnie Klein
- Rita Charon
- Kelly Smith
- Christine Gordon
- Susan Wendell
- Simi Linton

Each Speaker or Panel – 2 Site Minimum Presentation

We are eager to move forward with this dhrn member-based initiative.

Please contact us as soon as possible about your plans for participation in these unique projects.

Student Connections

Stories of Experience:

DHRN 2008 Graduate Student Travel Subsidy Profiles

The DHRN is happy to profile two students who successfully applied to our Graduate Student Travel Subsidy Program in Spring 2008. Joanne McCartney, a masters student at the University of British Columbia and Leanne Ramer, a doctoral candidate at ICORD, based at the University of British Columbia, were asked to share their stories of how the DHRN Graduate Student Travel Subsidy Program assisted them in terms of networking and gaining experience in academic presentations.

Joanne McCartney

I am a student in the department of Educational and Counseling Psychology and Special Education at the University of British Columbia and am currently finishing a Master of Arts in Special Education.

I have been working in the field of special education for nine years, supporting young children with disabilities in their home and school programs. Throughout my graduate education, my research interests have centered on the use of assistive technology. In particular, I studied the use of word prediction and symbol-supported software programs to support writing for students with Down syndrome. The results of this research indicated that the use of word prediction software enhances spelling and grammar in the written output of beginning writers with Down syndrome and that symbol-supported writing software appears to have positive effects on the written output of students with Down syndrome in the early/emergent stage of literacy acquisition.

With the help of the DHRN travel subsidy, I was able to attend the ISAAC 2008 Biannual Conference in Montreal where I presented my research, along with my program supervisor and co-investigator, Dr. Pat Mirenda. This

25-minute presentation summarized the results of two years of data collection and allowed me to gain valuable experience presenting research to an audience of approximately 100 academics, professionals, and augmentative and alternative communication (AAC) users. At the conference, I also had an opportunity to attend a number of interesting presentations by leading experts in the field of AAC. I learned a great deal about the latest research regarding literacy and AAC, and came home with some new ideas for practical application.

The presentation, as well as the rest of the conference was a success and I am very grateful to DHRN for having provided me with the means to participate in this important educational experience.

Leanne Ramer

I am working toward my PhD in Zoology at the University of British Columbia, and I am a trainee at ICORD (the International Collaboration On Repair Discoveries).

My doctoral research focuses on cardiovascular dysfunction following spinal cord injury (SCI), and how control of blood pressure and heart rate changes after SCI. These changes can be profound, and can significantly impair quality of life. For example, many people with SCI do not have normal control over their blood pressure: it can rise quickly to dangerous levels, with a risk of stroke and even death. This condition is called autonomic dysreflexia (AD).

In one of our current research projects, we are using a technique called spectral analysis to examine cardiovascular function in rats with SCI. This technique provides information about the neural control of cardiovascular function by measuring the variability



Joanne McCartney



Leanne Ramer

Student Connections *continued*

in heart rate and blood pressure over time. Working with Dr. Victoria Claydon at Simon Fraser University, we have demonstrated that spectral analysis can be used to document cardiovascular dysfunction in rats with SCI, and can be used as a tool in SCI research.

I was fortunate to receive travel support from the DHRN to present our findings on spectral analysis at the annual meeting of the American Paraplegia Society (APS), held in Florida in August of this year. Our abstract was accepted for podium presentation, in a session dedicated to altered cardiovascular control following SCI. The session was well-attended by physicians and researchers in the field of SCI, and we received some great feedback on our

research.

Since all conference delegates stay on-site, this meeting provides ample opportunities for interactions between clinicians and researchers. Some of these interactions prove invaluable: this year, we established a new collaborative project. I will be traveling to the United States in the new year to get started on some of these experiments, investigating the effects of cycling exercise on cardiovascular dysfunction in rats with SCI.

The travel support provided by the DHRN is an invaluable resource for graduate students in BC, and I feel very fortunate to have had their support. ➔*

Looking for upcoming conferences.... check out our website for conferences in many locations

www.dhrn.ca

Community Connections

A DHRN Community Research Exchange (CRE) Profile

“The Influence of Contextual Factors on Health Work In Families with a Young Child with Special Needs” – Researchers awarded the CRE are Tanya Sather, the Executive Director for Burnaby Association for Community Inclusion (BACI) and Jennifer Baumbusch, a Doctoral Candidate with the School of Nursing at the University of British Columbia (UBC).

The DHRN is happy to be able to provide an avenue, through our Community Research Exchange (CRE) program, for community organizations to actively work with BC researchers on research that is meaningful and useful to all of the participants. The DHRN membership has identified the necessity to build bridges between academia, clinician/practitioners and the larger community; to reciprocally share knowledge and enhance understanding is a key goal of the DHRN. In this Fall 2008 issue of DHRN LINK we are happy to share with our readers a progress update of one of the Community Research Exchanges (CRE)s currently underway.

“The Influence of Contextual Factors on Health Work In Families with a Young Child with Special Needs” is the title of one CRE that the DHRN awarded in 2007. The research team for this project noted that there are a number of contextual factors that seem to impact the overall functioning of families with a young child with special needs. Particularly, they observed a gap in understanding the influence of overall family health and, by extension, the ability of families to participate in health promoting activities to achieve their own health potential. The aim of the pilot study: to gain a greater understanding of the influence of contextual factors on the health of Special Needs Families (SNF) such as access to services, social supports, felt stigma, and other mediating factors. The theoretical framework being used to assess the gap is the Developmental Health Model (DHM). In the DHM, health is seen as a characteristic of the family that is learned and shaped within family life. For these researchers the importance of using the DHM is the particular viewpoint it contributes to the

Let us know about what you would like to see on the DHRN Map!

email: info@dhrn.ca

Community Connections *continued*

study; by using this framework, they argue, it becomes possible for families to learn how to be healthy as they experience life events.

“We tried to be a normal family, but some parts of life just aren’t that normal.” According to researcher, Jennifer Baumbusch, this quote from a father who participated in the study echoes the messages of many parents of young children with special needs; these are extraordinary families living in an average world. These families regularly face enormous challenges in attaining their family health goals. To date, 30 parents have participated in the survey component of the study and 8 have participated in in-depth interviews. A few key issues arising from the data so far include:

- The benefits of early childhood intervention are often compromised because of lengthening waitlists, and a dependence on a bureaucratic system that relies on self-referral and/or parental advocacy for intervention.

- Lack of tangible supports for families in the form of: i) equitable financial support for interventions (consider example of autism funding); ii) case coordination; iii) respite, are contributing to enormous costs to family health, mental well-being and financial security.

- The uniqueness of each child and complexities of each family make the simplistic criteria for qualifying for services and resources problematic.

As part of the knowledge translation process, the study team has begun to share emerging findings with service

providers and decision makers, and presented their experiences with community-based research (CBR) at the CBR conference at Douglas College in May 2008. On the evening of January 30, 2009 we will be inviting the community to an evening of dialogue about the issues that come out of the study. Members of the DHRN who would like to attend this event can contact Jennifer Baumbusch at jbaumbusch@telus.net.

Research Team
Biography:

This CRE research team is comprised of researchers and community-based service providers who have come together because of a common interest in gaining greater understanding of the challenges confronting families with young children with special needs related to their family health. By working together on this community based research project, Baumbusch comments that “we are able to see the translation and uptake of research findings into practice by individuals working with these families as well as continuing to develop a research agenda in this area.” ✨

- Jennifer Baumbusch



photo by Dean Lastoria

Publication Profile

D . Skinner , S . Curwin (2007)

Assessment of fine motor control in patients with occupation-related lateral epicondylitis
Manual therapy

Summary: The purpose of this study was to examine for differences in fine motor control ability between subjects with Lateral epicondylitis (LE) and matched control subjects. ✨

Research Review

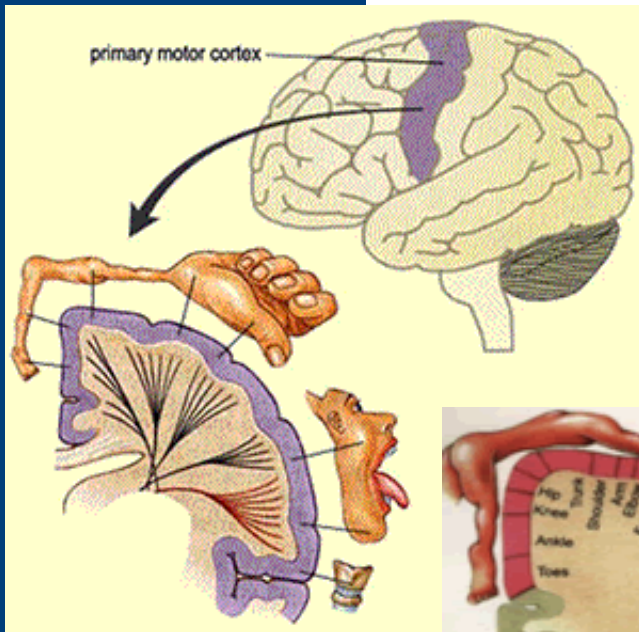
This article provides a brief examination of the important ongoing research of brain neuroplasticity and its specific effects on improvement in motor ability in stroke patients.

The concept of neuroplasticity has attracted significant research and public attention in the last decade and its relationship to the central nervous system (CNS), in particular, has important implications for recovery after stroke. In order to understand the term neuroplasticity some key information about the brain needs to be reviewed. The brain has two identical

hemispheres, left and right. The motor map undergoes changes throughout the life span; repeated sensory input, learning, experience, trauma and pathological changes, all leave their imprints. The result is that the particular representation area in the brain for a specific muscle may become bigger or smaller due to overuse or underuse, respectively. As an example, playing one-handed piano will enlarge the motor representation area of the trained hand in the brain, as opposed to the untrained hand representation area that does not grow larger. Increasing research suggests that the brain is, in fact, much more functionally adaptable than previously believed.

Recent research indicates that the brain can use the process now termed neuroplasticity to adjust itself functionally, by reorganizing the cortical maps discussed earlier. And how can this process potentially contribute to stroke recovery? A stroke causes brain damage and can result in the loss of cerebral function after damage to the motor cortex, changes in activation patterns in other motor areas have been observed. These changes can occur in areas of the non-affected hemisphere or in the intact cortex adjacent to the damage. These cortical reorganizations, which begin from one to two days after the stroke, and can be extended for months, can lead to patient recovery and the regaining, at least in part, of the abilities lost due to stroke damage. The brain can also reorganize itself in the affected hemisphere; meaning that after the stroke, and with time, the brain can show more or renewed activity in the affected hemisphere and further recovery may occur.

Neuro-imaging studies have revealed important information about recovery after the stroke; rehabilitation strategies are now being adapted and used to promote the neuroplasticity process, and recovery of motor function following a



hemispheres, left and right. All muscles within the human body have a local neural representation area in a specific part of the brain called primary motor cortex (M1). Muscles on the left side of the body have representation areas on the right M1 and muscles on the right side of the body have representation areas on the left M1. This means that there is essentially an identical spatial map of the body's musculature in the right and left primary M1 of the brain. This topographical map of the body surface, which is commonly called the motor map,

Research Review *continued*

stroke. One current popular rehabilitative technique after a stroke is bilateral movement therapy; this involves the practice of simultaneous motor actions in both the affected limb and intact limb. A variant of bilateral training was used in a study by Stinear et al (2008) in which a device was designed that enabled the passive movement of an impaired wrist; active flexing and extension movements practiced with the unimpaired hand were carried out to produce synchronous or asynchronous patterns. After 4 weeks of 60-minute active-passive bilateral therapy (APBT) per day, acute stroke patients showed improved upper limb motor function. Another rehabilitation technique, which has been shown to promote brain reorganization in a damaged brain hemisphere, is constrained- induced movement therapy (CIMT). In this technique an unaffected arm is immobilized in a sling for 90%

of waking hours while the affected arm receives intense rehabilitation training 6 hours per day. This treatment continues for 12 days. Brain imaging (fMRI) has conclusively reported that both CIMT and APBT therapy increases brain activity in the affected hemisphere and induce an improvement in motor function of stroke patients.

In conclusion, the research areas and potentially therapeutic opportunities that the neuroplasticity process can provide to stroke victims, and other patients suffering muscle and brain injury, look very bright indeed. ➤*

Reference:

Stinear CM, Barber PA, Coxon JP, Fleming MK, Byblow WD. Priming the motor system enhances the effects of upper limb therapy in chronic stroke. *Brain*. 2008;131:1381-1390



Author: Pooneh Afkari,
PhD Candidate,
School of Rehabilitation,
UBC

New A/C Members

Lara Boyd

New DHRN Advisory Committee Member, Dr. Lara Boyd, is a Canada Research Chair and Michael Smith Scholar, a physical therapist and neuroscientist who is leading the effort to understand what therapies positively alter patterns of brain activity after stroke. Her research group is housed in the Brain Behavior Lab at UBC and uses a combination of functional magnetic resonance imaging and transcranial magnetic stimulation to map changes in brain activity that are associated with motor learning and recovery from brain damage. Her studies are among the first to comprehensively examine the patterns of brain activation as they relate to motor learning and parameters of practice after stroke. Currently, Dr. Boyd is studying recovery from stroke and Parkinson's disease, motor learning in children and implicit learning in both neurologically damaged and neurologically typical individuals. Dr. Boyd received her PhD

and MPT from the University of Southern California, and her Bachelor of Arts from Pomona College. We welcome her participation in the DHRN Advisory Committee.

Jennifer Scrubb

New DHRN Advisory Committee Member, Jennifer Scrubb, is the current Executive Director of Muscular Dystrophy Western Canada Division. Jennifer earned her Bachelor of Cellular Biology, and completed her Masters Degree in Human Kinetics at UBC in 1994. She has previously held several positions within the community health community, including Manager of Community Development & Health Promotion for the Arthritis Society in BC and the Yukon Division. The DHRN Team is very happy that Jennifer has agreed to join the DHRN Advisory Committee, and contribute her community organization based perspective and knowledge to our quest to expand disability health research capacity in BC. ➤*



Lara Boyd



Jennifer Scrubb

Exciting News: Upcoming Activities for 2009

We want to make the DHRN website work for you!

Upcoming and important 2009 developments include:

An **On-Line Job Board**. This will be an actively managed and vetted job board. DHRN members can post or respond to active postings for: Trainees & staff needed, Trainees looking for research opportunities, People looking for staff positions and Community groups looking for researchers or staff and vice versa,

A **Trainee Recruitment board** (On-line) for researchers looking for study participants and for people with disabilities interested and participating in a study,

An **On-Line 'Map'** displaying disability health related information, events, programs and organizations around the province of BC.

- Additional Website/Video/ You Tube Resources (On-Line)
- Downloadable Modules on the language of disability (how to be respectful & appropriate)
- Links to resources such as SCIRE (spinal cord injury rehab evidence), translational research
- Archived video library of pertinent presentations, i.e. graduate student grant application tips and explanations of processes, etc.
- Archived video library of individual researcher/presenters on disability-health related topics Trainee Workshops
- Skills development in working with people with disability (engaging input from community-based groups, clinicians/practitioners and researchers)
- Specific research techniques, such as outcome measures, quality of life measures, qualitative research techniques

This is just a taste of things to come. We really want DHRN to be your disability health research information hub – we look forward to your input and participation!

Conference Review

Congratulations to the organizers of the **Health & Wellbeing in Persons with Intellectual/Developmental Disabilities: Children, Youth & Adults** held September 25th and 26th, 2008 in Vancouver, BC on a well executed and conceptualized conference. Co-sponsored by UBC's Interprofessional Continuing Education and Community Living BC, the stated main objective of the conference was to 'educate people to recognize the interrelatedness of physical and mental health'. Specifically, this conference sought to bring attention to the high rates of both health & mental health concerns experienced by persons with intellectual/developmental disabilities and autism spectrum disorder and the significant impacts these issues have on the quality of life of these individuals and their families and caregivers.

The packed conference programme reflected a conscious consideration of the various physical and mental health issues and challenges that can arise

across the lifespan for people with DD, and for the people in their lives From "Managing Disturbed Sleep Associated with Developmental Disabilities" to "Medical Conditions Associated with Autism Spectrum Disorder"; from "Think Mitochondria" and "Planning Guidelines for Mental Health and Addiction Services for Children, Youth and Adults with Developmental Disability in BC" to "Myths, Legalities and Realities of Consent and Adult Guardianship", attendees from a variety of backgrounds could construct a conference that was meaningful and useful to them. Finally, the issue of dual diagnosis (co-existing conditions of developmental disability and mental health issues such as depression, and anxiety) was examined through several lenses, both medical and social. I personally hope that this conference will become an ongoing event, and that the discussion around the health and wellbeing for persons with DD across the lifespan can and will continue. ✨

- Sylvie Zebroff

DHRN Co-Leaders:

Lawrence Berg
lawrence.berg@ubc.ca

Bonita Sawatzky
bsawatzky@cw.bc.ca

Chris McBride
mcbride@icord.org

Director of Programs
Sylvie Zebroff
Sylvie.Zebroff@ubc.ca

Sheila Lewis
Program Manager
sheila.lewis@ubc.ca

Communications Coordinator
Pooneh Afkari
pooneha@interchange.ubc.ca

Website Coordinator & Editor:
Julie Melanson
julie@dhrn.ca

Kelowna Office:
UBC Okanagan
Arts 368B
3333 University Way
Kelowna, BC V1V 1V4

Vancouver Office:
BC Children's Hospital
A326A-4480 Oak Street
Vancouver, BC V6H 3V4

Phone: (250) 807.8793
Fax: (250) 807.8001

Website: www.dhrn.ca
Email: dhrn.info@ubc.ca



Michael Smith Foundation for
Health Research