

STROKE-ISIG

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90th Annual ACRM Conference
Progress in Rehabilitation Research
DISNEY'S CONTEMPORARY RESORT
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ACRM

AMERICAN CONGRESS OF
REHABILITATION MEDICINE

Improving lives through
interdisciplinary rehabilitation research



Message from the Chair

STROKE REHABILITATION has finally come of age in ACRM with the launching of the STROKE ISIG at the annual ACRM Conference in Vancouver in October 2012. This has been the product of much hard work and dedication by many people within ACRM — beginning with the development of the Stroke Task force as part of the BI-ISIG (2006), which quickly evolved into the Stroke Networking Group (2008).

The mission of the Stroke ISIG is to

- 1) promote opportunities for ACRM members to network with colleagues interested in promoting evidence-based rehabilitation for people with stroke and
- 2) serve as a vehicle for rehabilitation professionals of all disciplines to work together for the expressed mission of advancing the field of stroke rehabilitation.

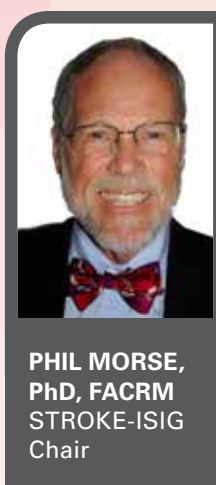
The work of the Stroke ISIG is done through its task forces and the annual ACRM meeting events. An Executive Committee provides leadership for the Stroke ISIG:

CHAIR: Phil Morse
CHAIR-ELECT: Stephen Page
TREASURER: Jocelyn Harris
SECRETARY: Pam Roberts
MEMBER AT LARGE: Elizabeth Skidmore
COMMUNICATIONS OFFICER: Sarah Wallace
ACRM STAFF LIAISON: Terri Compos

Participation in our four very active Task Forces is open to all members of the Stroke ISIG and new members are welcome. Feel free to contact the task force chairs: Cognition (Beth Skidmore), Movement Interventions (Arlene Schmid & Pamela

Bosch), Living Life after Young Stroke (Tim Wolf & Tamara Bushnik), and Vision (Pam Roberts & JR Rizzo). All of the task forces have made impressive strides in the past year or two in preparing and publishing papers. Regular conference calls to network and review materials amongst members have been key to their successes.

A major focus of the Stroke ISIG is to promote more stroke-related content in the annual program. The Vancouver conference was a tremendous success in this area. We began the meeting with two great half-day pre-conference instructional courses: 1) Motor Impairments (Catherine Lang, Arlene Schmid, Robert Teasell, Lara Boyd) and 2) Cognition & Vision Impairments (Sarah Wallace, Deirdre Dawson, Pamela Roberts, Richard Riggs, JR Rizzo). We sponsored a Stroke Special Topics Session entitled: "Translating Research into Clinical Practice," which will be a regular session in the ACRM program. The presentation this past fall featured Janice Eng and colleagues discussing their GRASP program. An extra bonus for the Stroke ISIG in Vancouver was the Deborah L. Wilkerson Early Career Award Winner presentation by Elizabeth Skidmore ("Closing the Gap: Early Intervention for



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STROKE-ISIG

STROKE  INTERDISCIPLINARY
SPECIAL INTEREST GROUP

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MOVEMENT INTERVENTIONS

Arlene Schmid
Pamela Bosch

COGNITION

Elizabeth Skidmore

LIVING LIFE AFTER YOUNG STROKE

Tim Wolf
Tamara Bushnik

VISION

Pam Roberts
JR Rizzo

Continued from page 1

Cognitive Disability after Stroke"). Finally, the Stroke ISIG held its first Business Meeting at 7:15 am (which was incredibly well attended!). For the upcoming annual meeting in Orlando we have once again proposed pre-conference instructional courses in stroke, a "Translating Research into Clinical Practice" special session and a Business meeting (not to be held at 7:15, we hope!). This is, of course, in addition to the rich stroke rehabilitation program anticipated with stroke symposia and sessions devoted to stroke. We welcome any and all ACRM members or others thinking about joining the Stroke ISIG for the first time to contact any of the Executive committee members or task force chairs to become part of a very exciting venture in ACRM! Our membership is growing — don't be left behind!

PHIL MORSE, PhD, FACRM, STROKE ISIG Chair



SARAH WALLACE, PhD,
Communications Officer

Letter from the Editor

As the Stroke ISIG continues to grow, it is my great pleasure to introduce the first edition of the Stroke ISIG newsletter. The newsletter provides a wealth of information about various task force activities, as well as a review of events from the annual fall conference in Vancouver. I am particularly excited about the interview with the Stroke ISIG member, Dr. Arlene Schmid.

I offer my sincerest thanks to Kay Fitzpatrick, former ACRM Missions Director, and Signy Roberts for their assistance with putting together this first newsletter. Additionally, I would like to thank Donna Langenbahn who encouraged me to become involved in the newsletter and mentored me through the process. I look forward to working with Terri Compos as she takes on the new role as the ACRM staff member working with the Stroke ISIG.

Please stay in touch with us with your comments, concerns, and ideas.

SARAH WALLACE, PhD, Communications Officer
and Editor



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Recap of 2012 Annual Meeting in Vancouver, Canada

PRE-CONFERENCE SYMPOSIUM: INNOVATIONS IN STROKE REHABILITATION

The Stroke Interdisciplinary Special Interest Group sponsored morning and afternoon pre-conference events at the 2012 annual meeting in Vancouver. The morning session, *"Innovations in Stroke Rehabilitation – Part I,"* comprised several invited speakers presenting research findings addressing the term intensity. Catherine Lang, PhD, PT from Washington University, St. Louis gave an outstanding presentation highlighting current research regarding the level of intensity in inpatient rehabilitation and solutions on how to increase our rehab intensity in this setting. Arlene Schmid PhD, OT from Roudebush VA Center, Indiana, presented on the use of yoga to promote recovery in chronic stroke and possible dosage effects. Robert Teasell MD FRCP, Schulich Medical Center, University of Western Ontario, Canada, recounted the problems implementing the level of intensity required within the Canadian Health Care System and offered solutions for improved stroke outcomes starting at the policy level. Lara Boyd PhD, PT, Brain Research Center, University of British Columbia, Canada, presented on the current imaging research that suggests intensity of rehabilitation produces plastic changes in the brain. She further articulated how these findings relate to new rehab interventions.

The afternoon session focused on cognition after stroke, with a particular emphasis on frontal lobe impairments, aphasia, and visual impairments. Deirdre Dawson, PhD, OT Reg (ON) from the Rotman Research Institute presented her research examining ecologically-valid methods for assessing impairments in frontal lobe functions, using the Multiple Errands Test. Sarah Wallace, PhD, CCC-SLP from Duquesne University presented an overview of interventions addressing aphasia after stroke. Pam Roberts,

PhD, OTR/L, CPHQ and Richard Riggs, MD from Cedars-Sinai Medical Center presented a review of Visual Function versus Functional Vision highlighting the Conceptual Model that was developed by the Vision Taskforce. Ending the afternoon, John Ross Rizzo, MD from Rusk Institute focused on visuomotor integration and eye-hand coordination for functional vision rehabilitation. This presentation highlighted Dr. Rizzo's research regarding the idea of multiple coding and/or motor planning systems within the reaching system.

WILKERSON PRESENTATION

Elizabeth Skidmore, PhD, OTR/L was the 2012 recipient of the Deborah L. Wilkerson Early Career Award. Dr. Skidmore's presentation, *Closing the Gap: Early Intervention for Cognitive Disability after Stroke*, summarized her research to date, examining the influences of cognitive impairments on activities of daily living recovery after stroke, and interventions to address these influences. Dr. Skidmore's most recent research examines the feasibility of administering a meta-cognitive strategy training program during acute inpatient rehabilitation to adults with cognitive impairments after acute stroke. Preliminary findings from Phase I and Phase II trials suggest that the meta-cognitive strategy training program is not only feasible, but that it may be associated with greater reductions in activities of daily living disability in the first 6 months after stroke rehabilitation admission than a dose-matched attention control intervention program. Dr. Skidmore discussed the results of these preliminary studies and summarized future directions for this program of research. Dr. Skidmore is Associate Professor of Occupational Therapy at the University of Pittsburgh, and a Scientist in the University of Pittsburgh Medical Center Rehabilitation Institute.

"TRANSLATING RESEARCH TO CLINICAL PRACTICE"

The Stroke Interdisciplinary Special Interest Group sponsored the inaugural *"Translating Research to Clinical Practice"* symposium at the 2012 annual meeting in Vancouver. This symposium is an annual event dedicated to the presentation and discussion of integrated efforts to implementing research findings in real-world clinical practice. This year's panel was led by Janice Eng, PT, PhD from the University of British Columbia, and was comprised of scientists and practitioners who worked together to translate the Graded Repetitive Arm Supplementary Program (GRASP) from a multi-site clinical trial protocol into clinical protocols within inpatient, outpatient, and community-based rehabilitation settings. The panel discussed the theoretical background and efficacy of the protocol, as well as opportunities, challenges, and ethical considerations to implementing the scientific protocol in the various clinical settings. The panel engaged in a lively discussion with the audience on these various issues. We thank Dr. Eng and her team (Linda Boronowski, OT Reg, Adele MacNeill, OT Reg, and Sarah Rowe, PT from GF Strong Rehabilitation Centre in Vancouver, British Columbia; and Drew Dawson, MD from Fraser Health System in Surrey, British Columbia) for making the first symposium a wonderful success.



Linda Boronowski



Adele MacNeill



Beth Skidmore receives the Deborah L. Wilkerson Early Career Award presented by Tamara Bushnik and Wayne Gordon.

TASK FORCE UPDATES

COGNITION

Chair: Elizabeth Skidmore

The Cognitive Task Force is comprised of rehabilitation practitioners and researchers invested in promoting activity based strategies for assessing and treating cognitive impairments after stroke. The Task Force completed a review paper that is currently under review in the Archives of Physical Medicine and Rehabilitation. The purpose of the paper was to provide a framework for categorizing patterns of cognitive-motor interference (CMI). Additionally, the authors sought to highlight specific patterns of CMI reported in published studies comparing single-task and dual-task performance of cognitive and motor tasks during gait and balance activities after stroke. In 2012, the cognition task force developed two workgroups based on the findings from this review paper and discussion of limitations in these and related studies.

Prudence Plummer-D'Amato & Michael Fraas are the co-chairs of the Cognitive Motor Interference workgroup. This workgroup is currently developing a multi-site investigation that will examine CMI between cohorts of adults with left and right CVA. The methodology for this investigation includes the use of verbal and non-verbal cognitive tasks and a gait task that will be examined in both single and dual-task conditions. If anyone is interested in collaborating on this investigation please contact Dr. Plummer-D'Amato (P.PlummerDAmato@neu.edu) or Dr. Fraas (Michael.fraas@wwu.edu) for more information.

Lisa Connor & Sarah Wallace are co-chairs of the Assessment of Cognition in Aphasia workgroup. This workgroup is made up of various rehabilitation professionals. The group is beginning to develop a group of review papers detailing the available evidence for assessment of cognition in people with aphasia. The work group hopes to make recommendations for future research and clinical practice based on our results. If anyone is interested in contributing to this project, please contact Lisa Connor (connorl@neuro.wustl.edu) or Sarah Wallace (wallaces@duq.edu).



Stephanie Worrell and Chris MacDonell



Anne Deutsch, Pam Roberts, Terrie Black, and Natalie Leland at the Early Career Reception



Chris MacDonell, Phil Morse, Beth Skidmore at the Early Career Reception



FUN AT THE HENRY B. BETTS AWARD GALA: Judy Reuter, Norbert Jay Langenbahn, Donna Langenbahn; Amy Morse, Phil Morse

MOVEMENT INTERVENTIONS

Co-Chairs: Arlene Schmid & Pamela Bosch

The Movement Interventions Task Force is a dynamic group of neurorehabilitation researchers and clinicians representing a variety of disciplines from across the United States and Canada. A common interest among all members, and the theme of this task force, is movement after stroke.

Movement-related deficits are the most common impairments exhibited after stroke, and in many cases, the most disabling. Yet, there remain few therapies that effectively target stroke motor impairments. Moreover, the therapeutic ingredients that most impact motor changes after stroke, and the ways in which movement-related variables change after stroke (i.e. speed, precision, strength, pacing), each remain poorly understood. We are a product-oriented group focusing on developing new knowledge about movement after stroke through development of presentations, papers, and other educational materials for patients, care partners, and professionals.

One product of the group is a recent publication suggesting appropriate operational definitions for intensity, duration, and frequency of stroke rehabilitation (Arch Phys Med Rehabil, 2012;93:1395-9). Another manuscript is being drafted to provide clinicians with current evidence and guidelines for use of neuroprosthetic walking devices. The group is preparing a conference symposium for ACRM's 2013 meeting that will emphasize the importance of using standardized clinical assessments and assist clinicians in putting such tools to use in their settings. Other planned products include fact sheets on post-stroke complementary and alternative medicine and secondary stroke prevention. Through the creation of these products, our goals are to improve stroke clinical practice, increase (and in cases, establish) evidence related to motor impairment reduction after stroke, and influence public policy. For more information about the Movement Interventions Task Force contact Arlene Schmid (arlene.schmid@va.gov) or Pamela Bosch (Pamela.R.Bosch@nau.edu).

LIVING LIFE AFTER YOUNG STROKE

Co-Chairs: Tim Wolf & Tamara Bushnik

The Living Life after Young Stroke Task Force was initially created in response to the dramatic shifting in the demographic of people who experience stroke to younger individuals. While it is true that the majority are still near or in retirement at the time of the stroke, there is a growing percentage of individuals who experience stroke while they are in their work- and family-building stage of life. Whether this is due to the growing obesity problem in the United States or to other factors that have not been well identified, the Living Life After Young Stroke Task Force believes that this younger group of survivors of stroke face unique challenges and needs for rehabilitation and post-acute rehabilitation, education, and support.

At the first meeting of the Task Force, it was decided that the first project would be to examine the unique issues for caregivers and spouses of individuals who have experienced stroke at a young age due to the. To address this objective, the task force developed and disseminated a survey to caregivers of young individuals with stroke. Since these data have been collected, the task force has gone through a period of transition. Tamara Bushnik has stepped aside as Chair of the task force and Tim Wolf from the Program in Occupational Therapy at Washington University in St Louis has joined the task force as Chair with Tamara Bushnik as co-Chair. Given that a period of time elapsed during this transition, the next objective was to reform the task force to decide what to do with the collected data from the surveys and future



Chris MacDonell receives an ACRM Recognition of Appreciation Award for serving on the ACRM Board 2009 – 2012 from president Tamara Bushnik

directions for the group. A newly reformed task group has since been assembled and the group is scheduling a conference call to discuss goals and objectives for the group in the coming year. Please contact Tim Wolf or Tamara Bushnik if you are interested in the Living Life after Young Stroke task force (wolft@wusm.wustl.edu or tamara.bushnik@nyumc.org).

VISION

Co-Chairs: Pam Roberts & JR Rizzo

The mission of this task force is to understand how vision, visual motor, and visual perceptual training can be generalized to improve vision as it relates to functional performance and develop the field of functional vision rehabilitation.

The Vision Task Force is comprised of clinicians and researchers who are dedicated to elucidating these serious concerns. Aside from the development of functional vision rehabilitation for ocular ailments, our secondary goals involve promulgating information regarding the importance of visual deficits and the clinical situations where they may be prevalent, in addition to advocating for public policy to take a stronger stance on assisting those with vision impediments and allocating healthcare resources appropriately.

One of the first projects that the Vision Task Force has focused on is developing a conceptual framework for vision. Colenbrander (2009) distinguishes between visual function and functional vision. Visual function describes how the eye functions from an organ based perspective and functional vision describes how the person functions. The Task Force has taken these two concepts and built a conceptual framework for vision-centric healthcare. As our field progresses within the domains of ophthalmology, optometry, rehabilitation medicine, neurology, and neurosurgery, it behooves us to combine this burgeoning field of evidence based medicine into reliable and valid diagnostic and treatment algorithms that can be utilized across clinical specialties.

Our task force will begin to piece together the individual facets of vision science both organically and functionally into clinician friendly tools that can assist the diagnosis and treatment of stroke survivors with vision related deficits. For example, a patient with

a stroke affecting the right hemisphere with parietal lobe involvement comes to your office and you suspect hemispatial neglect. What test or combination of tests will yield the most sensitive and specific information to the clinician? Your institution may use the Modified Clock Dial Test or the Behavioral Inattention Test. What if you combined two or three tests? Would you improve your diagnostic ability? Let's say that you suspect neglect but are not sure if there is a hemianopsia or a quadrantanopia. What additional tests would you administer? One of the task force goals is to provide evidence-based information to clinicians that will aid in these types of decisions.

These are the questions and goals that the Vision Task Force has set out to accomplish. The scope of the project is considerable, but the potential is great! If you or someone you know is interested in helping, please reach out to Pam Roberts (Pamela.Roberts@cshs.org) or JR Rizzo (johnrossrizzo@gmail.com) for more information.

REFERENCE: Colenbrander, August (2009). *The functional classification of brain damage-Related vision loss. Journal of Visual Impairment & Blindness, 118-123.*



JR Rizzo, Steve Page, and Sarah Wallace at the Early Career Reception



Ada Tang presents a paper on post-stroke exercise

ACRM STROKE ISIG Early Career Member Spotlight

ARLENE SCHMID, PHD, OTR

Rehabilitation Research Scientist

Roudebush VA Medical Center, Indianapolis, IN
Indiana University- Purdue University at
Indianapolis, IN

Department of Occupational Therapy

Director of the Indiana University Rehabilitation
and Integrative Therapy lab

Investigator at Regenstrief Institute

Affiliated Investigator at Indiana University
Center for Aging Research

Dr. Schmid has been an ACRM member for about six years. She is the Co-Chair of Movement Task Force.

What do you enjoy most about ACRM?

I really enjoy the ACRM annual conference; it is a great venue for networking with people. I always meet someone new who is doing great work.

Your research on the use of yoga within rehabilitation has gained a lot of attention. How did you get interested in this area of research?

As an OT, I worked in Hawaii for 5 years. There I became very interested in complementary and alternative medicine and Eastern influences on medicine. I started doing yoga, was certified to teach yoga, and then began integrating yoga into the OT I provided in both the hand therapy clinic and adolescent mental health setting where I worked. Qualitative feedback made me think that yoga helped and could be complementary to OT and rehabilitation in general, but I realized we needed evidence — which is what pushed me to go and get my PhD in rehabilitation sciences from the University of Florida.

Are you a certified yoga instructor?

I was certified to teach 'power yoga' or what you would see at a gym — but I have never taught classes — just used it in therapy.

Do you regularly practice yoga?

Yes — I try to at least a few times a week, and I always feel better when I have a consistent practice.

Why do you think there is so much interest from the general public related to this topic?

- I think that people have a general understanding of what yoga is and what yoga looks like.
- I think there is a push for less medicine and

fewer procedures and to try to heal the body in a more natural way.

- There is more and more evidence to support complementary and alternative medicine.
- The younger generations embrace it more readily and tell parents and grandparents about it.
- Yoga is a way to exercise without feeling pain — it goes against the idea of 'no pain no gain' — and I think people like this.
- The amount of stroke rehab, or rehab in general, is currently very limited — people are looking to try things they can do on their own or in a community group setting that allows them to still progress and enhance their recovery.

Describe any of the upcoming projects or activities you are excited about.

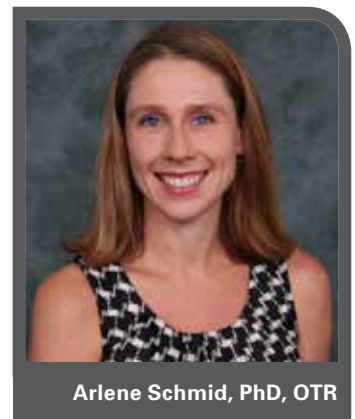
We just finished a small study of yoga as a part of inpatient rehabilitation — for stroke, TBI, and SCI — any patient who wanted it. We are in the middle of analyzing the data — but patient response during the study was very good. We are also in the middle of a small case study of yoga of people, including veterans, with TBI. We are hearing great stories about the mind body connection and how it is enhanced after yoga.

Who were some of your mentors?

I have been very lucky and I have received phenomenal mentoring during my academic career. I have actually had quite a few tremendous people involved in my life.

Dr. Pamela Duncan was my mentor during my doctoral training. She is of course a well-known stroke rehabilitation researcher who really taught me about grant writing, writing study aims, and surrounding yourself with good people.

I have been in the VA system most of my career and did a post-doc and received a VA Career Development Award (like a Career Development K Award). My VA mentors were Linda Williams, MD, a stroke neurologist and Teresa Damush, PhD, a health psychologist. They both work in stroke and have taught me so much. Linda is one of the best examples I have seen of someone who has a well-balanced life with a very successful and productive research career. Dawn Bravata, MD is also at the VA and has served as an unofficial mentor. All three of these women run the VA Stroke QUERI (Quality Enhancement Research Initiative) program — a research program focused on



Arlene Schmid, PhD, OTR

implementing evidence into practice. But what has made them really great mentors is the fact that they care about my research trajectory, they read and edited grants and papers, and were willing to spend time bouncing ideas around. So while my official mentoring has ceased, I continue a solid relationship with all of them.

Other mentors include Thom Fisher, PhD, OTR — the Chair of the Department of Occupational Therapy at Indiana University. He has been a solid advocate for me over the years when I have a dual position and complicated funding patterns. He was a mentor for both the post-doc and the Career Award. Two other non-official mentors are from the IU Center for Aging Research — Chris Callahan, MD, and Hugh Hendrie, DSc. They have included me in research projects, met with me, etc..

What advice would you give early career researchers or practitioners?

The biggest — get a good mentor! For all of the reasons above! I used to get caught up in the idea that my primary mentors were not rehab folks — but I realized I needed research mentors — the rehab part was what I was bringing to the table. So find people (at least for researchers) who are strong researchers, preferably who seem to have a good life balance too — and prove to them that you are worth investing in.

What do you do for fun?

- Yoga.
- Spend time with my husband. We like to do a lot of hiking and traveling to places where we can do great hiking and ocean kayaking.
- Learn how to knit. Thanks to my mentor Linda — she has taught me so much and is now teaching me how to knit as well!
- I am also very lucky that my best girl friend is also my primary collaborator — so I get to spend a lot of time with Marieke Van Puymbroeck, PhD — which makes it all a lot more fun! 🌸

STROKE ISIG CONTENT at the ACRM Annual Conference

The Stroke Interdisciplinary Special Interest Group will host its annual event, ***“Translating Research to Clinical Practice”*** at the Annual Conference in Orlando, FL. For this event the Stroke ISIG invites a panel of presenters to discuss the state-of-the-science on a hot topic in stroke rehabilitation, as well as challenges and opportunities for translating this science into practical and sustainable models in the clinical setting. This year the event will focus on the use of robotic devices in stroke rehabilitation, and feature presentations from a panel of speakers, including Susan Fasoli, ScD, OTR/L, Stephen Page, PhD, OTR/L, and Lorie Richards, PhD, OTR/L. Look for this event on the program, and come join us for a stimulating discussion.

The Stroke Interdisciplinary Special Interest Group will sponsor a Pre-Conference Symposium including morning and afternoon workshops at the Annual Conference in Orlando, FL. The morning session, ***“Early Integration of Vision into Stroke Rehabilitation”*** will feature presentations by Pamela Roberts, PhD, OTR/L, SCFES, FAOTA, CPHQ, John-Ross Rizzo, MD, Kimberly P. Hreha, OTR, and Richard V Riggs, MD. The afternoon session presented by Stephen Page, PhD, OTR/L, Karen Nolan, PhD, Kay Wing, DPT, PT, and Pam Bosch, DPT, PhD is titled ***“Electrical Stimulation for Affected Limb Function After Stroke: Theory, Evidence, and Clinical Application.”*** Please look for these workshops in the program.

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New Members

We welcome these new members into the STROKE ISIG

Alshahri Saeed, Sydney, Australia
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Durand Sanchez Ana, Indianapolis, IN, United States
Elessi Khamis, Gaza Strip,
Faulk Catherine, Andover, MA, United States
Feld-Glazman Rachel, White Plains, NY, United States
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Hreha Kimberly, Wayne, NJ, United States
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Kamath Markad, Hamilton, ON, United States
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Kaplan Stephanie, Pomona, CA, United States
Kasai Fumihito, Yokohama-City, Tokyo, Japan
Katrak Pes, Grays Point, NSW, New South Wales
Kirmess Melanie, Nesoddtangen, Norway
Kitisomprayoonkul Wasuwat, Bangkok, Thailand
Kniemann Kathy, St. Louis, MD, United States
Ko Helen, Vancouver, BC, Canada
Kwong Elaine, Seattle, WA, United States
Lighthill Christina, Dallas, TX, United States
Martin Katy, Langley, BC, Canada
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Nakano Erlene, Tampa, FL, United States
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Patel Neil, Quincy, MA, United States
Polga Peter, Stillwater, MN, United States

Politis Adam, Seattle, WA, United States
Prochazka Arthur, Edmonton, AB, Canada
Prvu Bettger Janet, Durham, NC, United States
Qureshi Faiza, Lake Grove, NY, United States
Raghavan Prathap, Kamloops, BC, Canada
Romsland Grace Inga, Nesoddtangen, Norway
Rose Dorian, Greenville, FL, United States
Ruggles Kathy, Indianapolis, IN, United States
Shirzad Navid, Vancouver, BC, Canada
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Star Kari, North Dartmouth, MA, United States
Sullivan Jane, Chicago, IL, United States
Sylvance Wasp Kim, Langley, BC, Canada
Theroux Jennifer, North Saanich, BC, Canada
Theurer Kristine, Vancouver, BC, Canada
Tiago Janine, New York, NY, United States
Toglia Joan, Dobbs Ferry, NY, United States
Vikan Jannike, Nesoddtangen, Norway
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Wethe Jennifer, Indianapolis, IN, United States
Williams La Shawna, Chicago, IL, United States
Wilson Ryan, Halifax, NS, Nova Scotia
Wong Wing Kai (Alex), Chicago, IL, United States
Worrell Stephanie, Ponoka, AB, Canada
Worthen-Chaudhari Lise, Columbus, OH, United States
Xantus Rita, Budapest, Hungary



ACRM 89th Annual Conference Memories VANCOUVER NOVEMBER 2012

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Arlene Schmid presents a paper on balance impairment and quality of life after stroke.



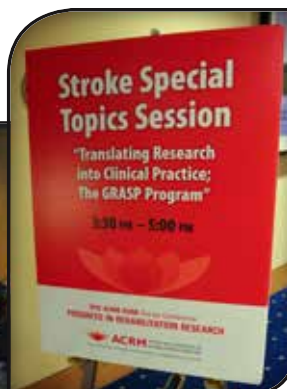
Steve Page, Donna Langenbahn, JR Rizzo
at the Early Career Reception



Tim Wolf presents a paper on executive
dysfunction in mild-stroke



Keith Cicerone



Amy Morse, Pam Roberts, Phil Morse, JR Rizzo,
Tamara Bushnik

