

R. WOOLRYCH (Convener). *Inter-university and inter-disciplinary collaboration in Gerontechnology: Lessons from North America*. *Gerontechnology* 2014;13(2):154; doi:10.4017/gt.2014.13.02.097.00 **Participants** A.S. Sixsmith (Canada), W.D. Kearns (USA), J.L. Fozard (USA), C. Galambos (USA), D. Mahoney (USA), S. Levkoff (USA). **Issue** It is recognized that the complex challenges associated with health and aging require multi-disciplinary approaches¹. This is particularly evident in the area of gerontechnology where inter-university and inter-disciplinary partnerships provide the opportunity to share domain expertise, ideas, and approaches such that technology and services meet the everyday needs of older adults²⁻⁴. However, working in partnership can be challenging when this is done across geographic and organizational boundaries. Currently there exists little information or guidance from existing partnerships to develop a better understanding of how best to operate in a collaborative context. **Content** This symposium will present examples of inter-university and inter-disciplinary collaboration that is being undertaken in the USA and Canada. The work will identify innovative models of partnership within the context of gerontechnology and highlight the benefits and challenges of such an approach. **Structure** There will be five oral presentations followed by a panel discussion. Dr. Sixsmith will discuss the development of the AAL-WELL (Ambient Assistive Living Technologies for Wellness, Engagement, and Long Life) project, the aim of which is to develop an international and multidisciplinary network of collaborators to identify user needs and share best practice and expertise in the area of ambient assisted living. Drs. Kearns and Fozard will present information about collaborations between the University of South Florida and the USA Department of Veterans Affairs, highlighting how the shared strengths of universities and federal organizations make for ambitious and potentially risky projects, but which can lead to significant improvements in technology. Dr. Galambos will describe the I-70 corridor project, an initiative to develop and sustain an interdisciplinary network on aging research involving both institutions of higher education and business enterprises. Dr. Mahoney will present findings from a two-year funded program of research to establish the feasibility of developing technology to support older adults with dementia. The project required the integration of a multidisciplinary team which bridged two academic settings from different geographic regions in the USA. Dr. Levkoff will present information about a collaborative model which integrated multiple academic domains (social work, computer science, and engineering) within academic and non-academic partnerships. This work has led to a number of funded initiatives in the area of gerontechnology including the development of locally based programs and services to support an aging population. **Conclusion** The continued development of gerontechnology is dependent on multi-disciplinary partnerships to share expertise and resources to ensure that products and services support the complex needs of older adults. The symposium offers examples of innovative practices and successful partnerships while identifying salient lessons for academic and non-academic collaborations within the context of gerontechnology.

References

1. Iglesia-Gomez, M. *Gerontechnology* 2012;11(2):98; doi:10.4017/gt.2012.11.02.248.00
2. Lansley, P. *Gerontechnology* 2010;9(2):126; doi:10.4017/gt.2010.09.02.113.00
3. Sixsmith, A. *Technologies for Active Ageing*. Berlin: Springer 2013; pp 7-25; doi:10.1007/978-1-4419-8348-0_2
4. Fozard, J.L., Rietsema, J., Bouma H, Graafmans J.A.M. *Educational Gerontology* 2000;26(4):331-345; doi:10.1080/036012700407820

Keywords: partnership-working, inter-disciplinary, collaboration, gerontechnology

Address: Gerontology Research Centre (GRC), Simon Fraser University, Vancouver, Canada

E: ryan_woolrych@sfu.ca

A. SIXSMITH, A. MIHALIDIS, A. ASTELL, L. NYGARD. *AAL-WELL: AAL technologies and wellness for people with mild cognitive impairment*. *Gerontechnology* 2014;13(2):154-155; doi:10.4017/gt.2014.13.02.392.00 **Purpose** A globally aging population demands innovative approaches to ensure people across societies can live and age well. In particular there is a need to move from health and social agendas that emphasise dependency in later life to ones that promote active aging at home. AAL-WELL is a collaboration between Simon Fraser University

and University of Toronto (Canada), University of Sheffield (UK) and Karolinska Institutet (Sweden) funded under the ERA-AGE program to harness the potential of ambient assistive living (AAL) technology to promote active and healthy aging with a specific focus on older adults with mild cognitive impairment (MCI). **Background** Our research questions are: (i) What needs do older adults with MCI prioritise that AAL-based systems could meet and are there cultural/national differences in these needs? (ii) How can AAL-based systems and services be used to enhance the well-being of older adults with MCI and enable them to live more independently? (iii) What are the barriers and facilitators to the uptake of AAL by older adults with MCI, and how can AAL be effectively exploited? In addition, AAL-WELL will: (iv) Develop an international and multidisciplinary network of collaborators to share best practice and expertise, promote the building and transfer of knowledge by working together with various stakeholder groups; (v) Plan the commercialization of AAL products and services resulting from this project; (vi) Build research capacity and expertise by developing a critical mass of skills and expertise to achieve excellence in research; and (vii) Work beyond disciplinary and national boundaries. **Method** Through the completion of four work packages, this project will develop and test various AAL technologies to support older adults with MCI. The project (WP1) will first learn about the needs and preferences of older adults with MCI to determine the types of technologies that should be built and the features these should include. A primary outcome of this WP will be example user scenarios. Next, these scenarios will be used to develop specific models that will allow for a systematic approach to be applied in the development of examples of innovative and novel AAL technologies through an iterative and user-driven process (WP2). Finally, these applications will be tested through user trials (WP3) that will focus on determining the usability and appropriateness of each system. **Results & Discussion** While people with MCI experience declines in cognitive abilities, these are not the same level and effect as dementia. Help and support through technology should be focused on ensuring full social participation, rather than on more fundamental activities of daily living and safety and security. For instance, easy to use interfaces using relational agents will help people with MCI use and engage with everyday technologies and information systems. The resulting technologies have the potential to support older adults to remain in their own communities and homes and will help to increase life lived without disability.

Keywords: communication & governance, AAL, mild cognitive impairment

Address: Gerontology Research Centre, Simon Fraser University, Vancouver, Canada

E: Ajs16@sfu.ca

W.D. KEARNS, J.L. FOZARD. An example of a university/government relationship in the North American Chapter of the ISG. Gerontechnology 2014;13(2):155-156; doi:10.4017/gt.2014.13.02.101.00

Purpose The purpose of this presentation is to provide one example of gerontechnology-oriented research. Universities provide unique enclaves where creative ideas can be formed and nurtured. However, their lack of resources and access to patients often prevents universities from implementing large-scale applications of these novel ideas. Partnerships with government organizations such as those between the Department of Veterans Affairs and more than one hundred medical schools in the United States also offer unique opportunities to develop and test the next generation of gerontechnology. **Method** We report on a collaborative effort between the University of South Florida and the US Department of Veterans Affairs to create new 'location aware' technologies that can facilitate both aging in place and recovery from traumatic brain injury¹. We specifically cite the development of Ubiwatch, (*Figure 1*). Ubiwatch uses an active radio transponder to generate coordinate data from predefined indoor spaces. The 2.4GHz radio allows outdoor localization, beyond of the range of the UWB infrastructure and permits the wearer to send a distress message. *Figure 2* presents tracking data obtained by a user wearing a tag as he moves about the clinical facility hallways; the Ubiwatch achieved tracking accuracy within 20cm. Ubiwatch provides prompting services, and the tracking data gathered from the Ubiwatch can be used to estimate fall risk² from walking paths. The Ubiwatch's ability to measure altitude (Z) will be useful in detecting falls that have already occurred³ and notifying caregivers of the adverse events. **Results & Discussion** The Ubiwatch was developed as part of a multiyear collaborative project that uses loca-

tion-aware technology to deliver on-demand customized prompts and reminders to Veterans with traumatic brain injury when they are located in a specialized residential treatment living facility². Part of the floor plan of the facility is shown in *Figure 2*. The Ubiwatch may be used to prompt patients to attend to the customized message displayed on screens located throughout the facility.



Figure 1. The Ubiwatch ordinarily displays the time and day of the week. The programmable display will show four-character words such as PILL or APPT. By pressing the display face the display can be adjusted and requests for help can be sent

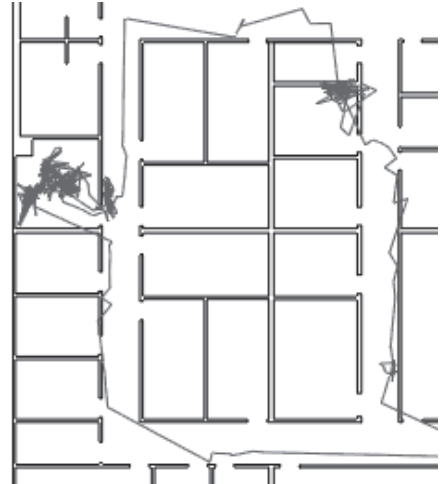


Figure 2. Facility floor plan revealing tracking data from Ubiwatch under actual use. Area represented is approximately 30m x 21m. Data represents one Ubiwatch recording over time

References

1. Jasiewicz J, Kearns W, Craighead J, Fozard JL, Scott S, McCarthy J. Smart Rehabilitation for the 21st Century: the Tampa Smart Home for Veterans with Traumatic Brain Injury. *Journal of Rehabilitation Research and Development* 2011;48(8):vii-xviii
2. Kearns WD, Fozard JL, Becker M, Jasiewicz J, Craighead J, Holtsclaw L, Dion C. *Journal of the American Medical Directors Association* 2012;13(7):665.e7-665.e13; doi:10.1016/j.jamda.2012.06.010
3. Bowen ME, Craighead J, Wingrave C, Kearns W. *Gerontechnology* 2010;9(4):464-471; doi:10.4017/gt.2010.09.04.005.00

Keywords: communication & governance, smart watch, location dependent prompting

Address: University of South Florida, Tampa, Florida, USA; E: Kearns@usf.edu

C.M. GALAMBOS, D. DOMER, M. SKUBIC, M. RANTZ. **Case study of an interdisciplinary university-business collaboration to develop technology.** *Gerontechnology* 2014; 13(2):156-157; doi:10.4017/gt.2014.13.02.099.00

Purpose The present paper discusses an emerging model that incorporates an interdisciplinary university-business partnership that spans across two states within the United States. **Method** This paper presents a case study of the I-70 Collaboration, which is composed of representatives from nine colleges and universities and seven businesses and agencies from Kansas and Missouri. The purpose of this initiative is to develop and sustain an interdisciplinary network for research and education regarding aging. Two models were used. The first model, called the New Cities Initiative, comes from the University of Kansas and investigates aging and architecture. Emphasis is placed on the design of inter-generational, technologically advanced communities¹. The second model, from the University of Missouri, is the Center for Eldercare and Rehabilitation Technology. The Center is comprised of an interdisciplinary group of faculty, staff, and students who investigate, develop, and evaluate technology for older adults and others with physical and cognitive challenges². There is an emphasis on aging and early intervention using in-home sensor networks for detection of

early illness and functional decline². A series of preliminary meetings were held with a small group of professionals who provided a list of potential collaborators. It was decided to hold a two day workshop as a first step in the development of a cross-state network of gerontology. A Research Investment Council Grant was obtained to cover the expense of this workshop. **Results & Discussion** A group of 58 people representing nine institutions and seven business enterprises attended a two day workshop to begin the foundational work for the development of a network³. A list of 11 action items were identified, including organizational and structural tasks and resource development tasks. Two leaders will co-chair this initiative, and a steering committee is being formed to help organize and develop future plans.

References

1. About New Cities: Mission Statement; <https://newcities.ku.edu/about-new-cities>;retrived; retrieved December 5, 2013
2. Center for Eldercare and Rehabilitation Technology Overview; www.eldertech.missouri.edu/overview.htm; retrieved December 5, 2013
3. I-70 Corridor; <https://newcities.ku.edu/i-70-corridor>;retrived; retrieved December 5, 2013

Keywords: communication & governance, interdisciplinary collaborations, aging-in-place

Address: University of Missouri, Columbia, Missouri, USA; **E:** galambosc@missouri.edu

S. LEVKOFF, J.L. FOZARD. Challenges to forging Intra-university and university/corporate collaborations in gerontechnology. *Gerontechnology* 2014;13(2):157; doi:10.4017/gt.2014.13.02.374.00 **Purpose** The aim of this presentation is to provide an overview of challenges and facilitators in developing sustainable collaborations both within universities, and between universities and corporate partners in the pursuit of gerontechnology. **Method** We provide examples of successful and unsuccessful efforts at intra-university collaborations and introduce a novel method for university/corporate collaborations. **Results & Discussion** Intra-university barriers, including competition for funds and control of faculty, make it difficult for faculty who wish to collaborate. Facilitators include the recent NIH move toward the funding of interdisciplinary research programs. Barriers to university/corporate collaborations include potential conflicts of interest for university faculty and students collaborating with industry. Facilitators include the availability of research funding from the National Institutes on Health (NIH) Small Business Innovation Research (SBIR) program and the NIH Small Technology Transfer Research (STTR) program, which encourage collaboration between industry and academia. The authors will describe successful strategies they have utilized, specifically, developing a small start-up company to collaborate with academic institutions in securing grants for technology and aging projects through the NIH's SBIR program.

Keywords: communication & governance, university/corporate collaboration

Address: College of Social Work, University of South Carolina, Columbia South Carolina, USA
E: slevkoff@mailbox.sc.edu

D.F. MAHONEY. Partnering for gerontechnology research and development: Risks and rewards. *Gerontechnology* 2014; 13(2):157-158; doi:10.4017/gt.2014.13.02.108.00 **Purpose** To describe the risks and rewards related to gerontechnology, multiple universities and departments are collaborating to develop new products They offer several strategies to assist in team building and trust building in order to foster timely development of new technologies that can help aging adults. **Method** A recent case study with analysis of prior projects exemplify discussion points¹⁻⁸. **Results & Discussion** Gerontechnology activity monitoring research experiences with family caregivers of frail and/or cognitively impaired community dwelling older adults yield key common points and recommendations. Essential elements include the fostering of open and ongoing communications, clarity of expectations, understanding of each other's roles, and learning about older adults' abilities and limitations. Possible confounds to this study included multiple research sites, Intellectual Product considerations, and grant funding timetables. Proactively incorporating remedial strategies aids in developing team resilience and achieve our goals in a timely manner.

References

1. Friedman R, Stollerman J, Mahoney D, Rozenblyum L. Journal of the American Medical Informatics Association 1997;4(6):413-425; doi:10.1136/jamia.1997.0040413
2. Mahoney D, Tarlow B, Sandaire J. A computer mediated intervention for Alzheimer's caregivers. Computers in Nursing 1998;16(4):209-216
3. Mahoney D. Developing technology applications for intervention research. Computers in Nursing 2000;18(6):260-264
4. Gitlan LN, Belle SH, BurgioLD, Czaja SJ, Mahoney DF, Gallagher-Thompson D, Burns R, Hauck W, Zhang S, Schulz R, Ory M. Psychology and Aging 2003;18(3):361-374; doi:10.1037/0882-7974.18.3.361
5. Mahoney D, Purtilo R, Webbe F, Alwan M, Bharucha A, Adlam T, Jimison H, Turner B, Becker S. Alzheimer's and Dementia 2007;3(3):217-226; doi:10.1016/j.jalz.2007.04.388
6. Mahoney D, Mahoney E, Liss E. Gerontechnology 2009;8(1):11-25; doi:10.4017/gt.2009.08.01.003.00
7. Mahoney D. Ageing International 2011;36(1):66-81; doi:10.1007/s12126-010-9073-0
8. Mahoney DF, LaRose S, Mahoney E. Dementia: The International Journal of Social Research and Practice. Online Version 2013 (September 11); doi:10.1177/1471301213501821

Keywords: team building, inter-disciplinary, gerontechnology, activity monitoring

Address: MGH Institute of Health Professions, Boston, MA 02129, USA;

E: dmahoney@mghihip.edu