**New national innovation hub focuses on sensors and analytics that help seniors age in place**

OTTAWA, Nov. 27, 2017 /CNW/ - The AGE-WELL Network of Centres of Excellence (NCE), Bruyère Research Institute and Carleton University are pleased to announce the launch of the newest national innovation hub, which advances the development of sophisticated sensor systems that address mobility and memory challenges among older people.

The Sensors and Analytics for Monitoring Mobility and Memory (SAM3) hub will focus on smart technologies that monitor seniors' health and wellbeing―to keep them as healthy, safe and independent as possible. It will bring together health professionals, researchers, industry, non-profits and older people and caregivers who will benefit from such systems in their everyday lives.

The hub was officially opened today in Ottawa at Bruyère Continuing Care's Élisabeth Bruyère Hospital site, where an apartment laboratory resembling a typical home setting has been set up to test embedded smart sensor technologies. Some sensors will be able to monitor cognitive impairment, while others will screen for declining balance or strength, to predict and decrease the risk of falls.

"Mobility and memory problems are among the most common challenges experienced by older adults. This unique initiative will help us to come up with new solutions that support independence and aging in place, while reducing caregiver burden," said Dr. Alex Mihailidis, scientific director of AGE-WELL, Canada's Technology and Aging Network.

There is tremendous expertise in the Ottawa area in the rapidly evolving field of sensors and data analytics, Dr. Mihailidis noted. "This hub will advance the development of intelligent home-based sensor systems for healthy aging, while creating social and economic benefits for Canadians."

Dr. Frank Knoefel, a physician in the Bruyère Memory Program at Bruyère Continuing Care and senior investigator at the Bruyère Research Institute, said "aging is such a big, complex issue and we need older Canadians and their caregivers, physicians, engineers, high-tech companies and others to work together on it."

He is excited about the potential of "smart" sensors to identify changes in how people move and think as they get older, to learn patterns and intervene, if needed. "Through developing these kinds of new technologies, I will be more confident when I discharge older people to live at home that they are going to be safe and have the best quality of life possible."

The hub will advance research that is already underway on pressure-sensitive mats that fit under a mattress and are designed to alert seniors, caregivers and medical professionals to deviations in a person's vital signs, activity and mobility. Dr. Knoefel and the team are developing a mat equipped with sensors that tracks how much someone moves in their sleep. The idea is to prompt action to help avoid pressure sores, a significant concern for people who cannot easily change positions in bed. Another mat, placed at the edge of the bed, could show that a person is unstable when rising in the morning, indicating a decline in mobility.

There will also be research on advanced systems that monitor and predict what is happening with people's cognitive abilities, based on their daily activities, their sleep quality and their ability to use everyday objects such as a television remote control.

"The data coming from these non-invasive sensors can be instantly analyzed to detect and report any signs of problems among older adults before they become serious," explained Dr. Rafik Goubran, a professor of engineering and vice-president, Research and International, at Carleton University, where SAM3 research will be carried out in the new Institute for Advanced Research and Innovation in Smart Environments (ARISE), among other labs and facilities. "Solutions that are quite simple from an engineering perspective can have a huge impact on people's wellbeing," said Dr. Goubran, who co-leads the "smart mat" research with Dr. Knoefel.

The SAM3 hub will offer training opportunities for graduate students and postdoctoral fellows, jointly financed by AGE-WELL, Bruyère and Carleton, in various clinical fields and specialties.

It represents real opportunities for Canadian companies with sensor products that can be incorporated into sophisticated and complex systems to support quality of life, added Dr. Heidi Sveistrup, interim CEO and chief scientific officer at Bruyère Research Institute. "We are delighted to be working with diverse stakeholders in this initiative. Helping older people in the community live better and maintain their dignity is a priority for Bruyère."

This is the second AGE-WELL National Innovation Hub. The other hub, in Fredericton, New Brunswick, focuses on advancing policies and practices in technology and aging.

About AGE-WELL:  
AGE-WELL NCE Inc. (<http://www.agewell-nce.ca/>) is a pan-Canadian network of industry, non-profit organizations, government, care providers, end users, and academic partners working to drive innovation and create technologies and services that benefit older adults and caregivers. Its vision is to harness and build upon the potential of emerging and advanced technologies in areas such as artificial intelligence (AI), e-health, information communication technologies (ICTs), and mobile technologies to stimulate technological, social, and policy innovation. AGE-WELL is funded through the federal Networks of Centres of Excellence program.

About Bruyère Continuing Care:  
As one of the largest academic health care centres of its kind in Canada, Bruyère ([www.bruyere.org](http://www.bruyere.org/)) plays a key role in addressing the health care needs of the vulnerable and medically complex in the Champlain region, offering complex continuing care, rehabilitation, palliative care, long-term care and affordable housing for older adults. We facilitate the transition between acute care settings and the community. We strive for excellence and innovation through patient-centred teaching, education and health services research. Our Bruyère Foundation works tirelessly to raise funds that help change the lives of our region's aging population.

**About Carleton University:**Located in the nation's capital, Carleton University ([https://carleton.ca](https://carleton.ca/)) is a dynamic research and teaching institution with a tradition of leading change. Its internationally recognized faculty, staff and researchers provide 30,000 full- and part-time students from every province and more than 100 countries around the world with academic opportunities in more than 65 programs of study. Carleton's creative, interdisciplinary and international approach to research has led to many significant discoveries and creative works. As an innovative institution, Carleton is uniquely committed to developing solutions to real-world problems by pushing the boundaries of knowledge and understanding daily.

**For further information:**

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