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Cover photo: The St. Lawrence River, taken by Canadian astronaut David Saint-Jacques from the International Space Station. Saint-Jacques is working with RIA researcher Richard Hughson, Schlegel Research Chair in Vascular Aging and Brain Health, to find out how the rapid aging process in space can help us understand aging here on Earth. Read more on page 16.
FEATURE STORIES

ASTRONAUTS AND ARTERIES:
Research in space benefits aging on Earth
Page 16

COACHING CULTURE CHANGE
Page 20

USING VIRTUAL REALITY FOR REAL-WORLD FALL AND INJURY PREVENTION
Page 35
The Schlegel-UW Research Institute for Aging (RIA) is a charitable, non-profit organization tackling some of the biggest issues facing an aging population. By advancing research and driving innovation, we push the envelope to find and share solutions that make a difference to older adults everywhere.

The RIA is an innovation catalyst. The impact of research can take decades to realize, but the RIA’s unique approach of integrating research, education and practice enables learnings to be applied in real-time in real-life settings. This investment in driving practice-relevant research, combined with knowledge mobilization, is what sets the RIA apart. Research questions are shaped by the realities and needs of older adults, care partners, health professionals and educators. The results influence practice and policy, and inform education and training.

The RIA is a product of the philanthropic spirit and vision of Dr. Ron Schlegel and the Schlegel Family, who founded the organization in 2005. The RIA’s annual operating budget of over $9M is supported by contracts, grants and generous donors.
These core programs support the RIA’s research and education activities:

**Agri-Food for Health Aging (A-HA)**, a collaborative research and knowledge mobilization program that aims to improve the health and well-being of older adults through the innovative use of food.

**GeriMedRisk**, an online or telephone service connecting clinicians (e.g. family doctors, nurse practitioners) with a collaborative team of geriatric specialists to support medication optimization in primary care and long-term care.

**Murray Alzheimer Research and Education Program (MAREP)** an innovative program that integrates research and education in an effort to improve dementia care practices in Canada and around the world.

**The Ontario Centres for Learning, Research and Innovation in Long-Term Care (CLRI)** build capacity through education, research and knowledge mobilization to improve the health and well-being of people who live and work in long-term care.
The RIA is making a difference to how we age and how we care for older adults in so many ways and I am excited to share stories of the RIA’s impact.

This year our researchers undertook research questions ranging from spirituality to outer space. They looked at ways to tackle hallway medicine, simplify health monitoring and prevent falls.

Our programs grew and strengthened as we welcomed the Murray Alzheimer Research and Education Program (MAREP) into the RIA fold. Both MAREP and the RIA integrate research and education to improve dementia care practices and quality of life for older adults, and this consolidation of strengths will accelerate the impact we can have.

We launched Culture Change Coaching to help long-term care homes shift from institutional models of care to a more person-centred way of life for residents.

Our first “Curiosity Fair” – a spin on a traditional science fair – brought community members through our doors and saw people of all generations working together to break down stereotypes about aging and encourage curiosity – one of our main tenets.

We can do all of these amazing things because of the innovative infrastructure in which we work. Our partnerships with Schlegel Villages and academic institutions like Conestoga College, the University of Waterloo, Sheridan College and McMaster University mean we have access to researchers and real-world research questions that can be put into practice in real time. It means we can go beyond a classroom and train the next generation of workers right in the environment they hope to work in. It means we can influence policy and shape the future of aging in Canada.

We can do none of this without your generous support. Thank-you to everyone who has helped us move our mission forward so we can make a difference for you and your family – for generations to come.

Sincerely,

Josie d’Avernas
Executive Director, Schlegel-UW Research Institute for Aging
As I look back over 2018, I am humbled and amazed by the growth and reach that the RIA has achieved. I’m thrilled to see my dream of an expanded infrastructure coming to reality.

In January, construction began to expand the RIA building to add another three floors – almost doubling available space. The new floors will include labs, offices, meeting and classroom space, and are designed to enhance care and living for older adults through co-location of research, training and practice – a model that is dear to my heart.

Alongside the RIA building expansion is a 10-storey retirement home, allowing us to offer a fully integrated continuum of care. We are building a “community hub” which will enable older adults to live well. The continuum of care and seniors’ community hub will be implemented along the signature Schlegel Village Main Street and Town Square. This design integrates the internal village with the external community, and also promotes social engagement and connectedness for everyone. The hub will have a positive impact in our community and complement the work the RIA does to impact the future of healthy aging.

You will see many examples of the RIA’s impact in these pages. But measuring the full impact of the RIA’s work remains elusive. Consequently, the RIA is embarking on a journey to quantify just how we are enhancing life for older adults everywhere. I look forward to seeing these results.

My family and I believe deeply in the work that we are doing together. We increased our family financial support to the RIA infrastructure again this year, so that every dollar from you, our community donors, goes directly to research and innovation to enrich our programs and research, and thereby make the world a better place for our seniors.

Sincerely,

Ronald Schlegel, O.C., PhD, LL.D
Director and Chair, Schlegel-UW Research Institute for Aging
SCHLEGEL RESEARCH CHAIRS are experts in their field and lead a team of researchers and students.

Jennifer Boger, M.Sc., PhD, PEng., Schlegel Research Chair in Technology for Independent Living, University of Waterloo, creates innovative technology with and for older adults and caregivers to support their needs.

Andrew Costa, PhD, Schlegel Research Chair in Clinical Epidemiology and Aging, McMaster University, uses health data and technology to develop and evaluate better models of care.

Dr. George Heckman, MMath, M.Sc., MD, FRCP(C), Schlegel Research Chair in Geriatric Medicine, University of Waterloo, develops and assesses novel primary and long-term care processes to improve outcomes for frail older adults.

Veronique Boscart, RN, PhD, CIHR/Schlegel Industrial Research Chair for Colleges in Seniors Care, Conestoga College, guides the implementation of best practices and education to support competent care teams.

Lora Giangregorio, PhD, Schlegel Research Chair in Mobility and Aging, University of Waterloo, investigates ways of increasing safe and effective physical activity in older adults.
They also collaborate with research teams across the country and around the world. Each Chair is jointly funded between the RIA and a university, college or health team.

Richard Hughson, M.Sc., PhD, FCAHS, Schlegel Research Chair in Vascular Aging and Brain Health, University of Waterloo, tests ways to improve brain blood flow to reduce the risk of falls and cognitive decline in older adults.

Heather Keller, RD, M.Sc., PhD, FCAHS, Schlegel Research Chair in Nutrition and Aging, University of Waterloo, researches how food and the experience of mealtimes enhances the health and quality of life of older adults.

Dr. Linda Lee, MD, MCISc. (FM), CCFP, FCFP, Schlegel Chair in Primary Care for Elders, Centre for Family Medicine Family Health Team, improves access to specialized care for persons living with dementia and their care partners.

Carrie McAiney, MA, PhD, Schlegel Research Chair in Dementia, University of Waterloo, works with people living with dementia and care partners to improve quality of life and care experiences.

Dr. Allen Power, MD, FACP, Schlegel Chair in Aging and Dementia Innovation, challenges the status quo to find innovative approaches for supporting people living with dementia.
SCHLEGEL SPECIALISTS are experts in their field and collaborate with Schlegel Research Chairs and other research teams across the country and around the world. Each Specialist is affiliated with a university, college or other organization, and their position is partially funded by the RIA.

Kate Dupuis, PhD, Schlegel Innovation Leader in Arts and Aging, Sheridan College, explores how the arts can affect the health and well-being of older adults and their care partners.

Dr. Joanne Ho, MD, FRCPC, M.Sc., Schlegel Clinical Research Scientist, McMaster University, researches drug safety in complex older adult patients and supports clinicians to prevent drug-related harm.

Jane Kuepfer, MDiv., RP, PhD, Schlegel Specialist in Spirituality and Aging, Conrad Grebel University College, supports the well-being of older adults and care partners through attention to spiritual needs and resources.

Dr. James Milligan, MD, CCFP, Schlegel Specialist in Mobility and Falls, Centre for Family Medicine Family Health Team, looks for ways to prevent falls and improve mobility to enhance or maintain quality of life.

Linda Sheiban Taucar, RN, M.Sc., Schlegel Associate Research Chair, Conestoga College, focuses on improving care for older adults and workforce education.
THE BOARD OF DIRECTORS meets quarterly to provide strategic oversight, set priorities, and identify opportunities for the RIA.

These are the members of the Board of Directors during the 2018 calendar year.

PRESIDENT:
Ronald P. Schlegel, O.C., PhD, LL.D., BAS (Honourary), Founder

MEMBERS:
Veronique Boscart, RN, PhD, Executive Dean, School of Health and Life Sciences, CIHR/ Schlegel Industrial Research Chair for Colleges in Seniors Care, Director, Schlegel Centre for Advancing Seniors Care, Conestoga College Institute of Technology and Advanced Learning

Paul Brown, COO, Schlegel Villages

Roy Cameron, PhD, FCAHS, Executive Director, Homewood Research Institute

Paul Fieguth, PhD, P.Eng., Professor and Chair, Faculty of Engineering, University of Waterloo

Richard Hughson, PhD, FCAHS, Schlegel Research Chair in Vascular Aging and Brain Health, Professor, Applied Health Sciences, University of Waterloo

James Humphreys, PhD, Executive Dean, School of Health and Life Sciences and Community Services, Conestoga College

Dr. Joe Lee, MD, CCFP, FCFP, MCISc (FM), Chair and Lead Physician, The Centre for Family Medicine

John Milloy, DPhil, Community Representative

Marlene Raasok, Pharm, MHSA, Community Representative

James Schlegel, MAcc., CPA, CA, President and C.E.O., R-B-J Schlegel Holdings Inc.

Paul Stolee, PhD, Interim Dean, Faculty of Applied Health Sciences, University of Waterloo

Jake Thiessen, PhD, Community Representative

Elizabeth Witmer, BA, Community Representative
THE RIA STAFF TEAM supports operations and a network of researchers, educators and practitioners. These are the members of the RIA staff team during the 2018 calendar year:

Emma Bender, Program Assistant
Susan Brown, M.Sc., Director of Research Coordination and Research-Practice Integration
Tammy Cumming, BA (Hons), Manager
Josie d’Avernas, M.Sc., Executive Director
Kate Ducak, BA, MA, CPG, Project Officer
Hilary Dunn-Ridgeway, BAS, M.Sc., Director of Communications and Program Manager, Agri-food for Healthy Aging
Kyla English Leis, M.Sc., Assistant Research Coordinator
Gert Hartmann, BA, Director of Business Development and Community Partnerships
Holly Hebner, HBA, Bed, Project Coordinator
Emily Lambe, BES (Planning), Project Officer
Sian Lockwood, MLIS, Project Officer Knowledge Mobilization
Amy Matharu, Assistant Research Coordinator
Kelly McGuire, BA, Communications Officer
Scott Mitchell, BA (Hons), Knowledge Broker
Nisreen Murad, Administrative Assistant
Paul St. Pierre, BMath, CPA, CMA, Accountant
Michelle Stillman, BHSc., MPP, Senior Director of Operations
Barb Sutcliffe, RN, BA, Senior Manager of Sales and Marketing
Chelsea White, H.B.Comm., MBA, Project Officer
Kate Wilson, Office Manager

The RIA team continues to grow.
In 2019 Jennifer Hartwick, M.Sc. joins as Director of Strategic Projects, Nathan Honsberger, M.Sc. joins as a Project Officer and Liz Snyder, BA, MA (Journalism) joins as Interim Director of Communications.
We are unique in the world. Our collaborative research model means we proactively seek out partnerships. We engage over 4,500 older adults, 15 research chairs and specialists, academic partners, students, health care professionals and governmental units like the Canadian Space Agency. These partnerships shape an influential model of research, innovation and workforce development that can be applied in real time.

2018 RESEARCH

84 projects in total

34 projects were new

$7.3 Million new research funding
**SPIRITUALITY AND WELL-BEING**

The role of spirituality in the human experience is not as easy to define as it once may have been, but its importance to our sense of well-being has not changed. Spiritual health is about being connected and hopeful, knowing peace and feeling joy. As society looks to the future of care for an aging population, there is a risk of missing key areas of support if care providers don’t think of spirituality as part of overall health.

Professor Jane Kuepfer, Schlegel Specialist in Spirituality and Aging has found that while traditional religion is important to some, people also find spiritual fulfillment in many different ways – for example through relationships with others or in the wide spaces of the outdoors. She has also found that spirituality in older adults helps maintain vitality and mediates acceptance in times of change and loss. So, meeting the needs for spiritual fulfillment of older adults is important, but will require creativity and understanding among care providers.

Currently, Kuepfer is researching what spiritual resources are available in long-term care homes across the province in order to help homes in Ontario make spiritual care meaningful and accessible for all in our changing society.

**EASY, EFFECTIVE HEALTH MONITORING**

Capturing and interpreting activity and vital signs is central to monitoring and managing older adults’ health. Professor Jennifer Boger, Schlegel Research Chair in Technology for Independent Living and her research team, are creating new and innovative ways of embedding sensors and systems into people’s environments to enable zero-effort ambient remote monitoring; namely, technologies that operate with little or no effort from the people using them. Ambient monitoring can capture data about health and well-being many times throughout the day as older adults go about their daily lives, without having to press buttons or continually use wearables. This project includes cutting-edge research into new sensors and ways of sensing, like a seat cushion that can monitor cardiac health, and gait monitoring for assessing balance and falls risk. Boger and her team are also working on ways to present meaningful data back to relevant stakeholders, such as clinicians, family members, and older adults themselves.
ASTRONAUTS AND ARTERIES: RESEARCH IN SPACE BENEFITS AGING ON EARTH

For 6½ months, Canadian astronaut David Saint-Jacques orbited Earth aboard the International Space Station (ISS). Among other tasks, he operated the Canadian-built robotic arm aboard the ISS known as Canadarm2, tested new technologies and contributed to extensive experiments focused on the human aging process.

Working with Professor Richard Hughson, Schlegel Research Chair in Vascular Aging and Brain Health, Saint-Jacques’ contribution will build upon past work showing how spaceflight causes an acceleration of “aging-like” changes to the heart and arteries. As we age, everyone’s arteries get stiffer – some more quickly than others. Stiff arteries affect blood flow to the brain potentially impacting movement and cognition, and increasing the risk of strokes and heart disease.

Based on Hughson’s previous research, Saint-Jacques and his fellow astronauts are expected to return to Earth with arteries stiffer by the equivalent of aging 20 years as a result of being in space for six months.

Hughson, with ultrasound teleoperations lead Danielle Greaves and the rest of his RIA team will be able to compare data collected from astronauts on the ISS with older adults to study how this hardening process occurs. In doing so the team hopes to identify a means of slowing down or even reversing this process, reducing the risk of serious complications that can follow.

Hughson says the crucial role of exercise in maintaining a healthy lifestyle is clearly seen through his work with astronauts, and even without the full results of his latest study in hand, he knows people can age healthier if they exercise more.
We are dedicated to developing, testing and implementing new ideas that enhance wellbeing. We empower all older adults to live optimally and with meaning – from the most healthy and independent, to the most frail.

Through our research and programs we are making a difference in areas like Geriatric Medicine, Nutrition and Aging, Falls, Technology and Aging, Dizziness and Aging, Dementia, Spirituality, and Arts and Aging.

**IMPROVING CARE**

The Ontario Ministry of Health and Long-Term Care Ontario renewed the Personal Support Worker (PSW) Education Fund for a second year. The Fund provides tuition and backfill to long-term care homes for their PSWs to participate in continuing education and professional development. The Ministry worked with the Ontario CLRI to offer Excellence in Resident-Centred Care (ERCC) training which builds practical skills using a person-centred approach to support better care and better outcomes for long-term care residents. And it’s working. Compared to data from pre-program questionnaires, there was a significant improvement in the resident-centredness of care practices in homes after the program. ERCC is delivered in partnership with Conestoga College and the RIA.

584 + 5,462 = 6,046

Trainers Certified  Team Members Trained  PSWs who completed ERCC*

11,994 to date

*during government fiscal year, April 1, 2018 to March 31, 2019
MORE CAPACITY TO IMPROVE DEMENTIA CARE

The Murray Alzheimer Research and Education Program (MAREP) has been improving dementia care practices in Canada and around the world through research and education for 25 years. This year the Program moved its home base from the Faculty of Applied Health Sciences at the University of Waterloo to the RIA.

It’s a good fit for the RIA – both MAREP and the RIA integrate research and education to improve dementia care practices and quality of life for older adults.

Over the past few years, the RIA research team has grown, including a special focus on dementia as both Dr. Allen Power, Schlegel Chair in Aging and Dementia Innovation and Professor Carrie McAiney, Schlegel Research Chair in Dementia have come on board.

Power is a geriatrician, educator and published author. He is transforming the culture of care for older adults, particularly those with changing cognition, by advancing innovative approaches and putting them into practice.

Similarly, McAiney’s focus is on enhancing care and support for persons living with dementia and their family members, and improving the quality of work life for team members involved in their care.

The addition of MAREP will complement this work as the RIA continues to develop programs, education and resources to benefit those living with dementia and their families.

One of the core products to come out of MAREP also celebrated an anniversary this year – the By Us For Us guides turned 15. The guides, which have been used across the country, as well as internationally, are a series designed to equip persons living with dementia with tools to enhance their well-being and manage daily challenges. This year the newest guide, “Young Onset Dementia” was launched. Brenda Hounam, the creator of the guides, says they are important because they were written by people living with dementia and/or partners in care.

“This project has given us all a purpose and sense of accomplishment that not everyone thought we could do. It is amazing what can be attained when people come together with the same purpose in mind,” she says.
OUR RESIDENTS DO NOT LIVE IN OUR WORKPLACE. WE WORK IN THEIR HOME.
COACHING CULTURE CHANGE

When a long-term care or retirement provider and its people are truly dedicated to the principles of organizational transformation, the benefits for both residents and team members build on each other, according to an in-depth culture change analysis conducted through the RIA.

The study, led by Professor Andrew Costa, Schlegel Research Chair in Clinical Epidemiology and Aging, assessed the nine-year journey into organizational transformation within long-term care and retirement provider Schlegel Villages. Schlegel Villages committed to shifting their homes from a medical model of care to a more person-centred model of living, where residents have more control over their daily lives. This shift is referred to as culture change.

Costa’s findings show team member commitment increases substantially as the process of culture change unfolds. Additionally, that enhanced commitment translates directly into improved quality of life among residents, with a majority reporting substantial improvement in areas such as social relationships, opportunities to learn new skills and the sense that they have more say over how their time is spent each day.

With results like these, it seems to make sense that all homes should make the switch. But organizational change is challenging and it’s hard to know where to start. That’s why the RIA has developed a coaching program to guide organizations as they embark on this new adventure.

In the spring of 2018 two homes in Hastings County began work with Culture Change coaches and the results of Costa’s study are already being felt.

“Working with the RIA team has really opened my eyes to how I want to be with my residents at work and how I want to really help them make the most of their day and live to their full potential,” says Kerri-Lee Roy, a team member from Hastings Manor. “I personally feel more rewarded having a more positive mindset in my job, this experience makes me more aware of how I am doing my job.”

2019 will see this coaching service grow, with two additional organizations already signed on.
TACKLING HALLWAY MEDICINE

Given the aging population, Canada’s critical shortage of geriatricians, and a healthcare system adapting to meet the needs of rising numbers of people living with frailty, it is increasingly recognized that primary care health services must accept a greater role in caring for older adults.

Frailty is about more than getting older. People living with frailty are at higher risk for serious health conditions. They are more likely to spend time in a hospital and require a higher level of care than those who aren’t.

Dr. Linda Lee, Schlegel Chair in Primary Care for Elders, has developed a screening tool that physicians can use to identify frailty early, before its contributing conditions become challenging, with the aim of reducing the need for hospitalization.

Through annual screening for frailty using gait speed and handgrip strength, doctors can offer frail older adults multifaceted interventions that identify and address unrecognized medical, nutritional, and psychosocial needs.

Called C5-75, the model was developed in 2012 and has been used in 19 primary care practices to screen 1,073 people, 75 or over. In 2018, C5-75 was awarded a “Top Five Frailty Innovation” by the Canadian Frailty Network.

THINK TANK

In November 2018, stakeholders gathered at the RIA to participate in a think tank focused on intergenerational partnerships. Results will inform the development of a free and easy-to-use toolkit to support long-term care and retirement homes and secondary schools in building partnerships and implementing successful student placements. This event was supported by the Jobson Family Foundation.
THE ONTARIO CLRI
The Ontario CLRI continued to make an impact in 2018. Ongoing expansion of the Living Classroom, and a new focus on bridging partnerships with secondary schools, support the Program’s mandate to build capacity in long-term care homes. The Ontario CLRI is also taking steps to improve access to education and resources through free webinars, the launch of an Ontario CLRI e-newsletter, and a new website designed to offer easier navigation.

OPTIMIZING RESULTS
Clinicians, particularly those located in remote areas, do not always have access to expertise specific to older adults. Founded by Schlegel Clinical Research Scientist Dr. Joanne Ho, GeriMedRisk is an online or telephone service which connects primary care clinicians – doctors, nurse practitioners, and pharmacists – with a collaborative team of geriatric specialists to support medication optimization.

Since the launch of the service in 2017, GeriMedRisk has continued to increase clinician support in 11 out of the 14 Local Health Integration Networks across Ontario. In 2018, GeriMedRisk received base funding to support expansion to rural and northern clinicians with limited access to geriatric specialists.

Education is another priority for the GeriMedRisk team, actioned by the ongoing development and dissemination of educational materials, including regular webinars on medication-specific topics, each presented by a subject matter expert. A series of infographics on geriatric pharmacology is also in the works, supported by a grant from the Centre for Aging and Brain Health Innovation.

GeriMedRisk uses health care resources more efficiently, and clinicians get the answers they need, when they need them, to better serve older adults. GeriMedRisk has provided over 850 consults to older adults in long term care, community and hospital.

FOOD SERVICE WORKER DAY
On October 4, 2018, the Ontario CLRI brought 15 students from Conestoga College’s Food Service Worker Program to the RIA to learn from registered dietitians, leading researchers in nutrition and aging, food suppliers and long-term care residents. Not only did they hear about the important role food services team members play in the lives of residents, they also toured the kitchen and serveries in the neighbouring Village at University Gates to see first-hand what the job is really like.
15 Research Chairs and Specialists, 92 students mentored, 125 collaborators across the country and globe.

129 publications

125 NEW FACEBOOK LIKES

94,781 RIA WEBSITE PAGE VIEWS

26,359 SINCE NEW WEBSITE LAUNCH

15 Research Chairs and Specialists, 92 students mentored, 125 collaborators across the country and globe.

129 publications

125 NEW FACEBOOK LIKES

260 PRESENTATIONS

561 NEW Twitter followers

50 TOURS, 388 People

$6.5 Million government funding

$7.3 Million new research funding
Our researchers are leaders in their field, and are among the best in the world. Here are some honours and awards they received in 2018.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Awards/Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veronique Boscart, RN, PhD</td>
<td>Executive Dean, School of Health and Life Sciences, CIHR/Schlegel</td>
<td>- CNA Order of Merit, Canadian Nurses Association</td>
</tr>
<tr>
<td></td>
<td>Industrial Research Chair for Colleges in Seniors Care, Director,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schlegel Centre for Advancing Seniors Care, Conestoga College</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Institute of Technology and Advanced Learning</td>
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</tr>
<tr>
<td>Heather Keller, RD, M.Sc., PhD</td>
<td>Schlegel Research Chair in Nutrition and Aging, University of Waterloo</td>
<td>- Canadian Academy of Health Sciences, Fellow, 2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Canadian Nutrition Society, Nutrition Champion in Healthcare, 2018</td>
</tr>
<tr>
<td>Dr. Joanne Ho, MD, FRCP, M.Sc.</td>
<td>Schlegel Clinical Research Scientist, McMaster University</td>
<td>- KW and area Family Medicine Residency Program, Specialist Preceptor of the Year, 2017-2018</td>
</tr>
<tr>
<td>Richard Hughson, M.Sc.</td>
<td>PhD, Schlegel Research Chair in Vascular Aging and Brain Health, University of Waterloo</td>
<td>- International Society for Gravitational Physiology, Nello Pace Award for Outstanding Leadership in and Contributions to Gravitational Physiology</td>
</tr>
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<td>Dr. George Heckman, MMath, M.Sc., MD, FRCP(C)</td>
<td>Schlegel Research Chair in Geriatric Medicine, University of Waterloo</td>
<td>- Canadian Frailty Network Innovation Showcase (September 20): Top 30 Frailty Innovations in Canada: Enhancing Knowledge for Interprofessional Care in Heart Failure (with Schlegel Villages).</td>
</tr>
<tr>
<td>Andrew Costa, PhD</td>
<td>Schlegel Research Chair in Clinical Epidemiology and Aging, McMaster University</td>
<td>- 2018 Regional Assistant Dean’s Award of Excellence in Medical Education, McMaster M.G. DeGroote Waterloo Regional Campus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Mentorship and Supervision Excellence Award (Full Time/Joint Faculty), Department of Health Research Methods, Evidence, and Impact; McMaster University</td>
</tr>
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<td>Dr. Linda Lee, MD, MCIsC (FM)</td>
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<td>- 2018 Top 5 Frailty Innovation Award, Frailty Matters Innovation Showcase 2018, Canadian Frailty Network</td>
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<td>Schlegel Research Chair in Clinical Epidemiology and Aging, McMaster University</td>
<td>- 2018 Regional Assistant Dean’s Award of Excellence in Medical Education, McMaster M.G. DeGroote Waterloo Regional Campus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Mentorship and Supervision Excellence Award (Full Time/Joint Faculty), Department of Health Research Methods, Evidence, and Impact; McMaster University</td>
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<td>PhD, Schlegel Research Chair in Vascular Aging and Brain Health, University of Waterloo</td>
<td>- International Society for Gravitational Physiology, Nello Pace Award for Outstanding Leadership in and Contributions to Gravitational Physiology</td>
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<td>- 2018 Top 5 Frailty Innovation Award, Frailty Matters Innovation Showcase 2018, Canadian Frailty Network</td>
</tr>
</tbody>
</table>

Schlegel-UW Research Institute for Aging
## OUR FINANCIALS

### SUMMARIZED STATEMENT OF FINANCIAL POSITION AS AT DECEMBER 31, 2018

<table>
<thead>
<tr>
<th>Assets</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$3,098,409</td>
<td>$2,320,564</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>146,622</td>
<td>583,316</td>
</tr>
<tr>
<td>Government remittances recoverable</td>
<td>111,198</td>
<td>67,026</td>
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<tr>
<td>Prepaid expenses</td>
<td>249,088</td>
<td>165,869</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$3,605,317</td>
<td>$3,136,775</td>
</tr>
<tr>
<td><strong>CAPITAL ASSETS</strong></td>
<td>408,419</td>
<td>478,322</td>
</tr>
<tr>
<td><strong>RESEARCH FACILITY DEPOSIT</strong></td>
<td>6,835,039</td>
<td>6,235,039</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$7,243,458</td>
<td>$6,713,361</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$10,848,775</td>
<td>$9,850,136</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable and accrued liabilities</td>
<td>$278,245</td>
<td>$21,923</td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>530,456</td>
<td>556,856</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$808,701</td>
<td>$578,779</td>
</tr>
<tr>
<td><strong>FUND BALANCES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General fund</td>
<td>871,086</td>
<td>402,635</td>
</tr>
<tr>
<td>Restricted fund</td>
<td>285,631</td>
<td>28,467</td>
</tr>
<tr>
<td>Restricted Ministry fund</td>
<td>1,900,757</td>
<td>2,293,529</td>
</tr>
<tr>
<td>Capital fund</td>
<td>6,533,973</td>
<td>6,482,711</td>
</tr>
<tr>
<td>Restricted GeriMedRisk</td>
<td>448,627</td>
<td>64,015</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$10,040,074</td>
<td>$9,271,357</td>
</tr>
<tr>
<td><strong>TOTAL Liabilities</strong></td>
<td>$10,848,775</td>
<td>$9,850,136</td>
</tr>
</tbody>
</table>
### SUMMARIZED STATEMENT OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2018

<table>
<thead>
<tr>
<th>Revenue</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>$7,361,401</td>
<td>$4,639,543</td>
</tr>
<tr>
<td>Donations</td>
<td>1,544,334</td>
<td>762,447</td>
</tr>
<tr>
<td>Rental income</td>
<td>200,576</td>
<td>140,458</td>
</tr>
<tr>
<td>Conference and training</td>
<td>107,136</td>
<td>118,455</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>72,683</td>
<td>15,811</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td><strong>$9,286,130</strong></td>
<td><strong>$5,676,714</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>$2,668,870</td>
<td>$29,500</td>
</tr>
<tr>
<td>Consultant and research fees</td>
<td>2,479,720</td>
<td>1,636,381</td>
</tr>
<tr>
<td>Wages and benefits</td>
<td>1,506,802</td>
<td>1,093,422</td>
</tr>
<tr>
<td>Office</td>
<td>122,990</td>
<td>137,883</td>
</tr>
<tr>
<td>Amortization</td>
<td>105,805</td>
<td>114,715</td>
</tr>
<tr>
<td>Rent and utilities</td>
<td>85,160</td>
<td>79,040</td>
</tr>
<tr>
<td>Travel</td>
<td>70,268</td>
<td>47,975</td>
</tr>
<tr>
<td>Janitorial</td>
<td>66,146</td>
<td>115,367</td>
</tr>
<tr>
<td>Professional development</td>
<td>25,454</td>
<td>11,661</td>
</tr>
<tr>
<td>Conference and training</td>
<td>20,430</td>
<td>30,588</td>
</tr>
<tr>
<td>Advertising</td>
<td>9,803</td>
<td>10,531</td>
</tr>
<tr>
<td>Legal and audit</td>
<td>7,461</td>
<td>26,647</td>
</tr>
<tr>
<td>Insurance</td>
<td>9,717</td>
<td>9,231</td>
</tr>
<tr>
<td>Bank charges and interest</td>
<td>3,863</td>
<td>2,017</td>
</tr>
<tr>
<td>Sponsorships</td>
<td>2,300</td>
<td>2,005</td>
</tr>
<tr>
<td>Overhead allocation</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>7,184,789</strong></td>
<td><strong>3,346,963</strong></td>
</tr>
</tbody>
</table>

**EXCESS OF REVENUE OVER EXPENSES**

- **$768,717**
- **$2,329,751**
RIA sincerely thanks our valued donors who have generously given in support of our mission. Listed below are the donors whose gifts were received from January to December 2018.

<table>
<thead>
<tr>
<th>VISIONARY</th>
<th>Van-Del Custom Millwork Inc. and VDCM Architectural Woodwork Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDING PARTNERS</td>
<td>University of Waterloo, Conestoga College Institute of Technology and Advanced Learning</td>
</tr>
<tr>
<td>LEADER</td>
<td>$1,000,000 + Rob Schlegel, McMaster University</td>
</tr>
<tr>
<td>INNOVATOR</td>
<td>$500,000 - 999,999 Remedy’s Specialty Pharmacy</td>
</tr>
<tr>
<td>BUILDER</td>
<td>$100,000 – 499,999 Mitchell and Kathryn Baran Family Foundation, Dordan Mechanical Inc., Jobson Family Foundation, Stephen Menich and Mary Ellen Cullen</td>
</tr>
<tr>
<td>ACCELERATOR</td>
<td>$25,000 – 99,999 MNE Engineering Inc.</td>
</tr>
<tr>
<td>MOBILIZER</td>
<td>$10,000 – 24,999 Josie and Francis d’Avernas, Kitchener Glass Ltd., Rob Schlegel</td>
</tr>
<tr>
<td>FRIEND</td>
<td>$1,000 – 9,999 Anonymous, Anonymous, Peter F. Hannam, Richard and Nadia Hughson, Ernest Ilson, K. Jane Laman, Brent Landers, Drs. Linda and Joseph Lee, Robert McCauley, Mercy Medical Centre, John Milloy, James and Elizabeth Muir, Kenneth G. Murray, Oxford Builders Supplies Inc., Mike Peasgood, Marlene Raasok, Judi Richter-Jacobs Foundation, Craig and Nancy Robson, Pauline and Werner Schmidt, Jacqueline Sharratt, Barb Sutcliffe, Kerry Townson, Maria Van Nynatten</td>
</tr>
<tr>
<td>SUPPORTER</td>
<td>Up to $999 AGF Group Foundation, Anne Alton, Linda Alton, Sharon Alton, Tom Alton, Tom Alton, Anonymous, Anonymous, Anonymous</td>
</tr>
</tbody>
</table>
We invite you to help us drive innovation to enhance the lives of our elders.

Your support will ensure our cutting-edge, collaborative research continues to combat ageism and systemic barriers so we can empower all older adults to live well and with meaning.

To learn more about our fundraising campaigns, contact:
Gert Hartmann
gert.hartmann@uwaterloo.ca
519-904-0660 x4106
A GIFT IN MEMORY OF JOYCE TOWNSON

One of the greatest pleasures Joyce Townson had during the few years she lived at The Village of Winston Park in Kitchener was assisting student researchers who came from the RIA in search of answers to age-related questions.

Joyce’s daughter Kerry Townson says her mother loved the idea that her experience could offer insights into the challenges facing an aging population. But it was more than just that – she really connected with the student researchers.

“She loved it when students came in and interviewed her and asked questions,” Kerry says. “She was always so honoured when a young person would want to spend time with her – it made her feel really good, so she was all for participating in any study she could.”

It was this connection their mother felt to the RIA that made it an easy decision for Kerry and her brother Craig Townson to donate to the RIA in her memory. More than that, their father, Don Townson had passed away from Alzheimer’s disease which made the ongoing, annual donation an even stronger fit.

“The RIA is about putting living first and ensuring more older adults are able to get the most out of life for as long as possible. We feel good knowing we are a part of helping the RIA carry that mission forward,” says Kerry.

Our sincere thanks to the friends and family who donated in memory of the following individuals:

Gerry Becker, Chris Bicknell, Grant Brown, Peggy Brown, Clarence Eby, Heather Ann Hamilton, Sandy Kingham, Ruth Anne Kleber-Lyon, Theresa Laforet, Lily Lansday, Victor Martens, Victor Nowak, Betty Patterson, Mrs. Helen Reusser
I feel it is such a privilege to work in an environment of talented researchers, eager students and dedicated staff brought together by the philanthropy of the Schlegel Family and dedicated to enhancing the lives of older Canadians through a true inter-disciplinary vision. My wife, Nadia, and I are pleased to support the Schlegel vision and everyone who benefits.”

Richard Hughson, Schlegel Research Chair in Vascular Aging and Brain Health

I am delighted to financially contribute to the RIA. As a former MPP for our area and current volunteer board member, I have seen the difference that the work of the institute has made in the lives of so many older adults. As our population continues to age, it is crucial that we support the RIA and ensure that its innovative approaches to enhancing care and ensuring greater quality of life for older adults continues to thrive.”

John Milloy, Community Representative, RIA Board

The gift I made to the RIA in memory of three of my family members and my best friend was an easy decision to make. We all loved that the RIA is seeking ways to improve the quality of life for older adults across the globe and then look at ways to apply what has been learned to make each day of our life a little better. I encourage others to follow suit, as we all stand to benefit from the initiatives of the RIA team.”

Barb Sutcliffe, Senior Manager of Sales and Marketing, Schlegel-UW Research Institute for Aging
Today’s reality is that ageism isolates and diminishes one’s sense of life purpose. Complicated health systems create confusion, and marginalize older adults putting their health at risk.

This is why it is both urgent and important that we collaborate on new approaches to aging. The RIA drives innovation to tackle the key issues facing our aging population. We share an enduring belief that older adults, no matter how or where they live, deserve a life filled with good health, joy and most importantly life purpose. Everyone matters.

**MEANINGFUL CHOICES HELP HEALTH**

Eating well-balanced, nutritional food throughout our lives is important. But for older adults the stakes are higher – good nutrition can mean they’re less likely to fall or become frail. Professor Heather Keller, Schlegel Research Chair in Nutrition and Aging, finds ways to improve the nutritional status and food intake of older adults living in long-term care. She has found improving the overall mealtime experience is one way to do that. If residents feel comfortable in their surroundings, connected to team members, find the meal to be socially engaging and a meaningful activity, they are more likely to eat and also have a better sense of well-being. Keller’s research has shown there are small changes homes can make to optimize mealtimes for healthier resident outcomes.

To help homes on this journey, she developed CHOICE+, a program that aims to improve the mealtime experience for residents in residential care by focusing on relationship-centred practices and enhancing the dining environment. The program has been piloted in three homes with significant positive results. This year, Keller facilitated a workshop to train team members in long-term care to become champions of dining practice change in their homes. In the year ahead she hopes to host another workshop and help spread the model to more homes across the province.
BUILDING WORKFORCE CAPACITY IN LONG-TERM CARE

Three new Living Classrooms opened in 2018, expanding access to this unique method of educating the future workforce in long-term care. Planning and construction were also completed for a Living Classroom that opened in early 2019.

In this novel educational model, students not only learn in a classroom and skills lab, they also spend time within a long-term care community right from the start, getting hands-on experience with residents and team members. This means Living Classroom graduates are better prepared to support the changing needs of our aging population.

In 2018, Confederation College opened Living Classrooms at long-term care homes in Dryden and Fort Frances, while Sault College opened one in Thessalon. Conestoga College and the RIA worked closely with Mohawk College and the Village of Wentworth Heights in Hamilton to plan their classroom, which opened in January 2019.

The Living Classroom model of experiential learning was first developed in 2009 by Conestoga College, in partnership with the RIA, to build workforce capacity in the older adult living sector. An implementation guide and other resources were created to help spread the Living Classroom to other colleges and long-term care homes across Ontario.

Conestoga College operates the original two Living Classrooms, one at the Village of Riverside Glen in Guelph, opened in 2009, and another at the Village at University Gates in Waterloo which opened in 2015. To date, 715 students have graduated, including 93 in 2018.
GROWING IMPACT
As our team of staff members, researchers and reach grows, so does our building. Starting in 2018 and continuing throughout much of 2019, the Schlegel Centre of Excellence for Innovation in Aging, where the RIA lives, is expanding from two floors to five – almost doubling our space.

These new floors will include labs, offices, meeting spaces and classroom space and give us room to grow our curiosity, to explore new ways to improve how we age and care for older adults, share those innovations and ultimately, make a difference.

The Schlegel Centre of Excellence for Innovation in Aging opened its doors in Waterloo, Ontario, in August of 2015. The Centre is specifically designed to encourage co-mingling of older adults, students, educators, and researchers. It is a multi-site infrastructure including the RIA, long-term care living, student training programs, research labs and a primary care health centre. Coming in 2020, it will also include retirement living and a community hub to promote social engagement and connectedness for everyone.

We are excited about this next chapter at the RIA – most importantly how this growth will allow us to have an even greater impact on the health and well-being of our older adults.

TRAINING WATERLOO-WELLINGTON TEAM MEMBERS IN DEMENTIA CARE
The RIA has partnered with the Waterloo Wellington Local Health Integration Network (LHIN) to offer three “LIVING the Dementia Journey” (LDJ) one-day workshops to team members working in long-term care homes within the Waterloo Wellington region in 2019.

LDJ is an award-winning, evidence-informed training program for those who support people living with dementia. The program was created in collaboration with people living with dementia and their care partners, and provides a fresh perspective on dementia care and support based on real life experiences. LDJ emphasizes the importance of shifting care and services to focus on a person’s strengths and abilities, and how each person can be supported in living life to the fullest.

The RIA appreciates the opportunity to partner with the WWLHIN on this educational initiative, and the ability to share the LDJ program with the Waterloo-Wellington community. LDJ training helps change not only the way we view dementia, but also the way we support individuals living with it.
USING VIRTUAL REALITY FOR REAL-WORLD FALL AND INJURY PREVENTION

Falls are one of the leading causes of injury for residents who live in long-term care and retirement homes. Using different types of flooring that don’t interfere with balance and mobility can prevent hip and head injuries when residents fall, but RIA Research Scientists Andrew Laing and Taylor Cleworth want to find out the best place to install this flooring and if novel technologies – like virtual reality – can help prevent falls in the first place.

Laing and Cleworth looked at data from Schlegel Villages that shows 70 per cent of all falls happen in the bedroom, mostly when residents transition from sitting to standing (or the other way around), and are caused by multiple factors like the environment, physiological challenges and cognitive issues. Falls are also more prevalent during the first month of moving into a long-term care or retirement home.

To help, they plan to develop novel virtual environments that simulate retirement home locations. When residents use the technology, caregivers and researchers can guide them through the environments, providing strategies to prevent falls in the real world.

Laing and Cleworth think virtual environments will have other applications in the future as well, for instance to assess and improve balance and mobility deficits in older adults.