



Exploring new
frontiers in health...

APPLIED HEALTH SCIENCES

news to you

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message from the dean

Roger Mannell, PhD, Dean of Applied Health Sciences



BRYN GLADDING

The Faculty of Applied Health Sciences' influence on health promotion and prevention of disease and injury is incredibly wide-reaching.

Our enterprising and dedicated Applied Health Sciences graduates are having a tremendous impact – not only within expected health and wellness professions but in many diverse fields. I am fortunate to have many opportunities to meet with Applied Health Sciences alumni and I'm always amazed at where their paths have led since their student days at Waterloo. I recently had lunch with a Health Studies and Gerontology grad who has built a very successful career in the financial sector. She commented that people often question how her academic background in health led to an occupation in finance. Her response: her experience and knowledge in health promotion distinguishes her in the banking world. It provides a valuable perspective on what's really important to her customers and has led to the development of innovative programs that address quality of life in retirement on a broad scale – from finances to leisure and health.

As you explore this issue of *News To You*, you'll find that our researchers in Applied Health Sciences are also influencing health in some unexpected and unconventional domains. Whether improving lives of children living in poverty or monitoring the fitness of astronauts on the International Space Station, they are breaking down barriers, bridging inequities, and advancing knowledge to make the world a healthier place.

As I begin my final year as Dean of Applied Health Sciences, I am proud of our successes and the ongoing commitment of the entire AHS community to addressing the major health challenges of today and tomorrow. Health issues are as diverse, complex, and borderless as the talents and contributions of our students, staff, faculty, and alumni. Together, we can build a healthier future.

alumni connections

Mike Iley, Alumni Advancement Officer

Applied Health Sciences students are very involved on campus. As such, it's no surprise that the results from the recent UW-wide Alumni Engagement Survey show that AHS alumni are the most engaged out of all UW grads.

We continually strive to create opportunities for our alumni to maintain their connection to UW and to AHS. Whether you choose to attend or help plan a special event, keep up-to-date via our newsletters, mentor or hire current students, or reconnect with classmates, we are delighted to help you in any way we can.

If you would like to get involved, or have a question about what opportunities exist, please contact me at miley@uwaterloo.ca.



Alumni, faculty, and staff attended a UW alumni reception at Ontario Place Pavilion following Dean's Day at Queen's Park. From left to right are Mike Iley, Christine D'Souza (HSG '04), Nadia Batara (HSG '06), and Conny Glenn (KIN '93).

UPCOMING EVENTS

24th Annual AHS Fun Run

September 26

www.ahs.uwaterloo.ca/alumni/funrun

UW Homecoming

September 26

www.homecoming.uwaterloo.ca

Waterloo Info Night for Alumni with University-bound Teens

November 10

Living Arts Centre, Mississauga, ON

www.alumni.uwaterloo.ca/alumni/events

Banana Republic Young Alumni Networking and Dress for Success Night

January 2010 (see website for confirmed date)

Toronto

www.alumni.uwaterloo.ca/alumni/events



The Latest | Applied Health Sciences

Building on the success of the Master of Public Health program and partnerships with several nationally-recognized health research centres in cancer and chronic disease prevention, a proposal for a **School of Public Health and Health Systems** is being developed. The School will concentrate on critical national and global health issues and build innovative approaches to health system management through health informatics expertise that will include an undergraduate public health option and a doctoral program.

Patricia Wainwright and **Mike Sharratt** each received the title of Distinguished Professor Emeritus at Spring Convocation in recognition of excellence throughout their careers.

Bryan Smale is working with researchers across the country to develop the **Canadian Index of Wellbeing (CIW)** – a new measurement that will provide unique insights into the quality of life of Canadians in areas such as our standard of living, our health, the quality of our environment, and the state of our arts, culture, and recreation. www.ciw.ca

The Departments of Recreation and Leisure Studies and Health Studies and Gerontology welcome new faculty member **Steven Mock**.



Alison Pedlar's years of dedication were recognized with UW's Award of Excellence in Graduate Supervision.

keeping fit in space

It's a brisk October morning and the office clock shows 5:00 am. While UW's newest graduates are still sound asleep resting up for the day's fall convocation ceremonies, Dr. Richard Hughson has already settled in at the office. He has a special conference call...with the crew on the International Space Station.

Onboard the International Space Station, it is already 9:00 GMT (officially known as "Universal Time") and the astronaut is eager to complete an experiment so he can have his breakfast. Sitting in his office at UW listening to the progress of the experiment is Dr. Hughson, a Kinesiology professor and Associate Dean of Applied Health Sciences. Hughson is leading a multi-year experiment, sponsored by the Canadian Space Agency, to investigate how astronauts' bodies cope with microgravity over many months on the International Space Station.

The CCISS experiment (short for "Cardiovascular and Cerebrovascular Control on Return from the International Space Station") is studying cardiovascular health in astronauts in space and on their return to Earth. The investigation also has everyday medical applications, benefiting older people who experience fainting spells or falls, and people who suffer from heart diseases caused by sedentary lifestyles.

Space travel – a dizzying experience

In September 2006, astronaut Heidemarie Piper made headlines – not for having completed a successful mission to the International Space Station (ISS), but for fainting just after she and her crewmates had returned from their 12-day mission to space. Though the phenomenon of the "fainting astronaut" is a common experience among those newly returned to Earth, ample press coverage of Piper's temporary condition brought the matter to a new degree of public attention.

Dizziness and blackouts are not uncommon among returning astronauts. Up to 80% of the astronauts who spend extended periods on the International Space Station are affected by light-headedness and fainting upon returning to Earth's gravity.

In the weightlessness of space, the heart doesn't have to work as hard. Results from CCISS have shown that, without the benefit of regular exercise, the cardiovascular system is not sufficiently challenged by the daily routine. It is essential to include up to 2 hours per day of aerobic and resistance exercises if the astronauts are to maintain the health of their cardiovascular, muscular, and skeletal systems.

On return to Earth after prolonged adaptation to microgravity, the cardiovascular system must respond to the effects of gravity – effects that can cause blood to pool in the lower part of the body, blood

pressure to fall, and essential oxygen-rich blood flow to the brain to be compromised. Resulting dizziness, loss of consciousness, or even impairment of brain function due to reduced oxygen supply could have important health and safety implications for astronauts readapting to gravity after longer flights on the International Space Station, to the Moon, or even on multiple-year missions to Mars.

Mission possible

Since the first CCISS astronaut was tested in 2007, astronauts from a number of missions have participated in experiments in space to further the CCISS study. In April of this year, Hughson, Research Associate Danielle Greaves, and grad student Kathryn Zuj travelled to Russia to collect data from a returning astronaut and to perform preflight tests on their latest subject: Canadian astronaut Dr. Robert (Bob) Thirsk.

Thirsk and his crewmates blasted off from the Baikonur Cosmodrome in Kazakhstan on May 27th and will continue collecting data for CCISS while they live and work on the ISS over a six month period – the longest a Canadian has ever spent in space. Twice during the mission, the astronauts equip themselves with a 24-hour heart rate monitor and activity indicators to assess their heart rate control while they perform



Astronaut Robert Thirsk exercises using the advanced Resistive Exercise Device.





Senior research associate Danielle Greaves (left) and Richard Hughson collect preflight baseline data on Canadian Space Agency astronaut Robert Thirsk at Russia's Gagarin Cosmonaut Training Centre.

their normal daily routine. They'll also apply a blood pressure cuff that records continuous beat-by-beat arterial blood pressure in order to evaluate the mechanisms of blood pressure control. The data will then be compared with values obtained before launch and after landing.

Back down on earth, unconventional research comes with unconventional challenges. "We had to use some of my special connections through the European Space Agency to get our Russian travel visas approved. The shipping containers with our equipment were almost left in Houston. Even after arriving at the Gagarin Cosmonaut Training Centre, we found ourselves having to rescue part of our equipment from the garbage dumpster. But, in the end, everything worked out and it was a great experience."

In the past, weather has also been a factor. "When our astronaut is returning on the space shuttle, the primary landing site is at the Kennedy Space Center in Florida. However, if the Florida weather doesn't cooperate, the backup is at the Edwards Air Force Base in California. We must have equipment and full teams at both sites. Several of my grad students have had the opportunity to travel to both coasts and hope that they are in the correct spot for the landing."

Applications here on earth

Hughson believes that the CCISS experiment can go beyond helping future space travelers who embark on long space missions. The unique archive and some of what is learned about how astronauts maintain their health in space may have down-to-earth benefits that could help older adults and those with cardiovascular health problems.

“Space travel is a great model for studying the effects of sedentary lifestyles and the benefits of regular, planned physical activity.”

“Space travel is a great model for studying the effects of sedentary lifestyles and the benefits of regular, planned physical activity. The results we have seen already from CCISS have shown us that astronauts can introduce enough exercise to keep their cardiovascular fitness close to pre-flight levels. However, even with vigorous sessions of daily activity, there is still some impairment. It's reasonably accurate to describe the effects of space travel as 'accelerating the aging process.' We certainly are gaining an appreciation of what is required to maintain good health.”

As the head of the Vascular Aging Program within the Schlegel-UW Research Institute for Aging (RIA), Hughson sees further applications for the lessons learned in space. "We are using the methods we developed for studies of astronauts to investigate why older people faint more frequently. If we apply our results to reduce the incidence of fainting and falling in this population, we can significantly reduce the risk of potentially life-threatening injuries."

active living for older adults with cancer

Despite all of our efforts at prevention and reducing risk, cancer continues to be a serious public health burden in Canada, with aging being the major demographic risk factor. Exercise has proven effective in providing both physiological and psychological benefits for cancer patients, but symptoms related to the treatment or the disease itself often create barriers that prevent participation and adherence to an exercise program. This is particularly true for older adults who may already be experiencing age-related decline in their physical functioning.

The Public Health Agency of Canada, through the Active Living Coalition for Older Adults (ALCOA), is supporting new efforts by UW WELL-FIT to uncover the major barriers that prevent older cancer patients from taking advantage of the benefits of an exercise program that could improve their quality of life.

UW WELL-FIT, a very successful group-exercise program developed in collaboration with Applied Health Sciences researchers and Grand River Regional Cancer Centre, aims to minimize the negative side effects that individuals experience with cancer treatments. According to Caryl Russell, Director of UW Fitness and the UW WELL-FIT program, 360 individuals have completed the 12-week program since its inception in 2002 but only 11.5% of participants are over the age of 60. “This is a concern as we know that physical activity can improve the well-being of older cancer patients but few are taking advantage of it and we need to understand why.”

To learn more, researchers surveyed 86 older adults in treatment for cancer and asked them to report on barriers to participation in exercise programs. Of the top six barriers reported, three were treatment or disease-related – fatigue, difficulty on radiation and chemotherapy days, and pain/aching; two were non-treatment/non-disease-related – too far to travel and lack of motivation; and one was perceived to be age-related – lacking the strength to exercise.

It appears that several of the obstacles can be attributed to a lack of knowledge and can be overcome by educating and increasing awareness of all parties involved, from the patients to the referring oncologists. For example, fatigue, reported by 50% of those participating in the survey, was the primary obstacle. This was expected given that cancer-related fatigue is the most common side effect associated with treatment. Previously, the recommended action to deal with fatigue was rest: conserving energy for activities of higher priority. However, research shows that physical inactivity leads to muscle wasting and loss of cardiorespiratory fitness. This results in a decline in toleration for previously well-tolerated activities.



“Exercise is now considered a viable intervention to help in the management of cancer-related fatigue,” explains Russell. “We need to ensure that everyone is aware that exercise can help alleviate this very real and very debilitating consequence of cancer treatments.”

Another barrier, lack of motivation, can also be addressed through education. Older adults may have lived through a time period when organized or programmed exercise was not valued or deemed necessary. Forty-seven percent of older adults surveyed felt that “if their health were better they would be more active.” Russell emphasizes the importance in increasing awareness and motivation. “Knowing the benefits of exercise during cancer treatment and into survivorship can motivate patients to incorporate exercise into their lifestyle. An exercise program, like UW WELL-FIT, provides an excellent social support network and the encouragement received from the exercise professionals and strong friendships formed with other participants helps promote adherence to the program. Participants feel accountable, knowing that instructors and their peers are expecting their presence.”

To ensure that the benefits of the UW WELL-FIT program are available to a wider audience, Caryl Russell and the UW WELL-FIT team (Madeleine Noble, Lori Kraemer, and Dr. Michael Sharratt) have created an educational manual and instructional video for cancer patients and fitness practitioners across Canada. “We are fortunate to have this opportunity to work with the Active Living Coalition for the Older Adults, and to produce a manual to help others initiate similar programs in their community,” says Russell.

For further information, please visit UW WELL-FIT: <http://uwfitness.uwaterloo.ca/wellfit/education.html>.

saluting young alumni

The Faculty of Applied Health Sciences is proud to honour Mano Watsa (RLS '99) as the inaugural recipient of the AHS Young Alumni Award.

This new award recognizes exceptional young alumni who have graduated within the last 10 years, and who inspire their peers, other young alumni, recent graduates, and current students through their significant contributions to their profession, their community, the university, and to their own personal development.

As a teen, Mano launched a backyard basketball camp. He starred on Waterloo's men's basketball team that earned a berth at the National Championships, created a high school assembly program to positively motivate youth, and coached Waterloo's men's and women's basketball teams.

Whether he is volunteering in his community, mentoring UW students, or leading a multi-national company that teaches student athletes leadership skills, one thing is consistent: Mano Watsa is passionate about helping others through his love of basketball.

Mano was a role model as a student and continues to inspire as a parent, husband, successful businessman, donor, and community leader. Applied Health Sciences is proud to recognize Mano as its inaugural Young Alumni Award recipient.



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student finds fit with work and health



After completing her master's degree in Occupational and Environmental Health at the University of Toronto and working as an Occupational Hygienist at the Hospital for Sick Children, Sophia Berolo developed a growing interest in the prevention of musculoskeletal disorders (MSD) in the workplace. "I knew I wanted to enter the field of work-related MSD research and prevention," explains Berolo. "It was a challenge to find a program at the doctoral level that fit well with these interests, that is, until Waterloo launched its new interdisciplinary PhD program in Work and Health."

It was a unique multidisciplinary approach to the prevention of MSDs that first attracted Sophia to the work of Dr. Richard Wells, Director of Waterloo's Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD). She admired the Centre's exceptional use of both basic research and workplace intervention-based investigations to identify important questions and build knowledge to support sustainable solutions for preventing MSDs in the workplace.

Sophia began the Work and Health program in September 2008, its inaugural year, with Dr. Wells as her advisor. The team is currently investigating the prevalence of hand and upper limb symptoms among mobile hand-held device users – the first known study of its kind. The results will not only shed light on the frequency of such concerns in the workforce but will lay the foundation for prevention strategies such as recommendations on use or the design of devices.

ALUMNI PROFILE Kim Ross Jones, HSG '00



The kitchen table. It's a piece of household furniture that's much more than just a place to eat. Even in today's busy society, kitchen tables provide a cornerstone for family members to share their stories, learn from each other, and bond.

For Kim Ross Jones (HSG '00), kitchen tables are not only an important part of her family life, both growing up and now with her husband and daughter, they were also the basis

for an innovative research study she co-ordinated involving "kitchen table" interviews with low-income and isolated families living in southwestern Ontario.

As a senior public health promoter in Huron County, Ross Jones works on the ground level with local partners to improve and maintain the health of her community. The *Kitchen Table Project* that Ross Jones led brought together a number of partners with a common interest in supporting families.

Ross Jones explains, "Interviewing families in a place they were comfortable provided the opportunity for participants to tell their stories without judgement. It gave these families, often the most marginalized in the community, a voice to describe the benefits and challenges of raising their children in a predominantly rural, farming community."

The study results provided a local picture of the daily challenges and provided direction for Huron County Health Unit programs, services, and future priorities.

Ross Jones' educational experience at UW taught her key concepts in the health promotion field. She also credits her time as a member of UW's cross-country and track and field squads with teaching her the true value of teamwork, something she applies every day as a member of a multidisciplinary team at the Health Unit.

undergrad wins innovation award

Health Studies undergraduate Pavel Roshanov and his colleague Noemi Chanda, showed the health care industry just what can happen when innovation meets altruism. The team recently developed an e-health solution for a challenge facing millions of North Americans on long-term anticoagulant therapies such as Warfarin.

"Medication management to prevent irregular blood clotting has relied heavily on physician supervision," explains Roshanov. "It is often based on general guidelines, even though responses vary greatly from patient to patient and can be influenced by many characteristics."

Roshanov and Chanda proposed a software program to help cardiovascular patients tailor and manage anticoagulation therapy from home. Their efforts were recognized with the 2008 Agfa HealthCare Innovation Award and a trip to Belgium to pitch their winning idea to the firm's global chief technology officer. Next steps? "We hope to develop a prototype of the system," says Roshanov, who'll be starting graduate studies this fall. "It's in the works."

Harvard program in refugee trauma



Applied Health Sciences, through its Master of Public Health program, is developing links with the Harvard Program in Refugee Trauma that has pioneered a scientific and cultural approach and methodology to reduce suffering, minimize disability, and increase resiliency for survivors of war, disaster and violence. The program involves health care professionals in learning experiences that integrate on-site lectures with web-based learning in their home countries in order to create a network of global leaders in mental health recovery.

health and poverty

Improving lives of vulnerable children – a personal story

Kelly Anthony, PhD



My new role as leader of a Crown Ward Educational Championship Team is much more than an enhancement to my research activities; it's directly linked to my personal passion and commitment to improving lives of the most vulnerable children living in poverty. Provincially funded through the Ministries of Children and Youth Services, and Training, Colleges and Universities, the team's goal is to design innovative interventions to encourage children with Crown Ward status to pursue and succeed at post-secondary education. These children, who are permanently a part of the child welfare system after their parents' rights were terminated, are extremely vulnerable and equally deserving of a healthy future.

Our team consists of 25 representatives from child welfare services, public school administration, government, employment and mental health sectors, and post-secondary institutions. Five recent Health Studies graduates have also played an integral role in the research. Our mandate is to use existing services and infrastructure to find ways to make their academic and employment futures more successful. Currently, most will not complete high school, and only 1% pursues university. The impact of low education on their lives and well-being is deeply troubling and must be remedied.

As mentioned, this is more than an important research project; it is my life's work. Last year, my husband and I began the complex, stressful, and life-altering process of becoming permanent foster parents to a local 12-year-old boy in the child welfare system. Tyler (pictured above with me) has been living with us for two months now and we are doing wonderfully. When he left his group home and joined our family, I agonized about the four boys remaining there who were just as deserving. Thankfully, the Crown Ward Project gives me and our team a real chance to make meaningful changes in the lives of all kids with Crown Ward status – now, and into the future.

The Latest | Health Studies and Gerontology



Sharon Campbell received the Canadian Dental Association's Oral Health Promotion Award for prevention of oral disease through tobacco control.

A Memorandum of Understanding has been signed with the **Chinese Health Economics Institute (CHEI)** – a centre of national excellence in health policy research – that will allow for UW faculty and student exchanges and collaborations with policymakers and researchers in China.



Amanda Hird, 3B Health Studies, won Education at Work Ontario's Co-op Student of the Year Award for her contributions at the Odette Cancer Centre.

The Canadian Public Health Association has bestowed **Roy Cameron** with an Honorary Life Membership in recognition of his dedication to improving Canadians' health through the integration of research, evaluation, policy, and practice.

ALUMNI PROFILE Anna Mijovic (nee Pizzuti), RLS '97



Imagine an illness or injury that suddenly robs you of the activities you've enjoyed all your life.

The people Anna Mijovic works with at the Windsor Regional Hospital's In-Patient Rehab division don't have to imagine. They're living the reality. And it's Mijovic's job to find ways to help them return

to the activities and hobbies they love. She also teaches the patients new leisure skills and educates them about various community resources pertaining to their leisure interests.

Drawn to the profession because of her own passion for recreation and leisure activities, Mijovic believes all individuals regardless of sex, race, religion, or disability should have the right to participate in leisure-time activities that are freely chosen.

Working together with patients to develop goals and objectives based on their needs and interests, Mijovic creates individualized treatment plans. She collaborates with occupational therapists at the hospital, local sports organizations, support groups, and seniors' centres to help patients return to an active life.

The collaboration, team work, and creativity required in Mijovic's day-to-day work are skills she learned during her time as a Therapeutic Recreation student at UW. "My degree prepared me for every aspect of my job. I truly feel the TR program educated us on all the fundamentals of the practice and even explored the challenges we face in the field," Mijovic remarked.

Inspired by her patients and family, Mijovic enjoys making a difference in people's lives with Therapeutic Recreation. "In the words of RLS lecturer and TR pioneer Adrienne Gilbert, the most important thing I do through TR is 'put the abil (able) in ability' and that means a lot to me."

collaborative partnership helps newcomers

Dr. Stephen Smith and Recreation and Leisure Studies alumni, Elena Ignatov (MA '03) and Honggen Xiao (MA '04, PhD '08) helped the Region of Waterloo and its partners create a dynamic, attractive, useful, and friendly information portal designed especially for new immigrants and refugees to Waterloo Region.

Over the last year and half, Smith and his team have conducted research with immigrant and refugee communities to identify and prioritize their information needs. "The 'Newcomers Waterloo Region' portal addresses those needs and provides easy-to-find information about the Region, moving here, getting settled, and starting a new chapter in one's life," explains Smith. "It's truly a valuable resource and we are delighted to have played a part in creating it."

To view The Newcomer's Waterloo Region portal, please visit www.newwr.ca.



entrepreneurs unite

Last fall marked the beginning of the UW Recreation Business Entrepreneur Club. Established by Luke Potwarka, a lecturer in Recreation and Leisure Studies, the Club aims to provide a forum to encourage innovation among students with aspirations of starting their own recreation-based enterprises.

In recent months, the Club has featured guest speakers, such as Jim McKinlay (RLS '74) from the Haines Centre for Strategic Management and Jeremy Dueck from the City of Kitchener Small Business Centre, who've shared their experiences and strategies with current students.

Potwarka points out, "Many of our students consider starting their own business after graduation. We need to help prepare them for the challenges and opportunities associated with small business ownership in the dynamic recreation sector. One of the best ways to do so is by providing them with resources and advice from some of our most successful alumni entrepreneurs." Recent Recreation and Business grad Tiffany Moraes agrees. "The Club allowed me to connect with our alumni and learn about government resources that I can use on my path to becoming an entrepreneur."

RLS alumni interested in speaking at one of the Club's gatherings are encouraged to contact Luke Potwarka at lpotwarka@uwaterloo.ca.

Ron Johnson retires

On November 27th, Dr. Ron Johnson quietly collected the exams from the last class of his distinguished 35-year career in UW's Department of Recreation and Leisure Studies. The time of reflection was soon interrupted by the raucous entry of 30+ students, staff, and faculty with a customary ovation for the cherished and respected professor who officially retired July 1, 2009.

Johnson, a specialist in the history and philosophy of leisure, has expanded collective knowledge of areas such as the history of national parks, recreation participation in small towns, and use of non-designated recreational spaces. He introduced countless students to the role of arts and culture within community-based leisure and recreation. As Co-Director of the Elliot Avedon Museum and Archive of Games, Johnson oversaw the 5,000+ piece collection while mentoring students interested in cultural and museum management.

"In many ways, Ron is a renaissance person, from his training as a geographer to his interests in people at play, their games, the arts, history and philosophy," says Roger Mannell, Johnson's Dean, colleague, and friend. "He's genuinely intellectually curious and loves to theorize about life, which has engaged his students and friends alike. He will be greatly missed and we wish him well."



Faculty colleagues, staff, and students – including daughter and PhD candidate Amanda (white shirt) – join Ron Johnson to celebrate his last class.

The Latest | Recreation and Leisure Studies



Margo Hilbrecht (PhD '09), pictured left, received the 2009 Governor General's Gold Medal for highest standing in a graduate degree program.

Honggen Xiao (MA '04, PhD '08) has been named an Emerging Tourism Scholar of Distinction by the International Academy for the Study of Tourism.



The Alzheimer Society of Canada honoured **Sherry Dupuis**, Director of the Murray Alzheimer Research and Education Program (pictured third from left), with an award for excellence in research and outstanding contributions to improving quality of the life of those living with dementia.

Yoshi Iwasaki (MA '95, PhD '98) has become the first Waterloo RLS graduate to be elected a Fellow of the Academy of Leisure Sciences.

ALUMNI PROFILE Dr. Richard Robinson, KIN '93



Dr. Richard Robinson poses with Jennifer Heil after her gold medal win in the women's moguls event at the 2006 Olympics in Torino, Italy.

Sustaining an injury in the 1980's was a life-changing experience for Dr. Richard Robinson.

Frustrated by a knee injury that wouldn't heal despite countless treatments from a variety of care providers, Robinson, a residence don and student leader while at UW, was referred to a chiropractor. The chiropractic care healed his knee and inspired him to become a chiropractic doctor himself.

Moved by this treatment experience and with a goal in mind, Robinson changed gears from studying sports journalism and transferred to the University of Waterloo. "I was attracted to UW's Kinesiology program because of its renowned reputation and leading biomechanics researchers. Having the chance to learn from Stu McGill was a huge draw for me in attending Waterloo," he recalled.

"So much of what I studied at UW, such as anatomy with Hugh Scoggen and Dr. Don Ranney, prepared me so well that it was practically a review for me at professional school."

While Robinson's UW education helps him on a daily basis, he is busy helping many of our country's top amateur athletes compete at their best. As a member of the Health and Sciences Team of the Canadian Olympic Committee for the 2006, 2008, and upcoming 2010 Olympic Games, as well as an Integrated Support Team member for Speed Skating Canada and the Canadian National Freestyle Ski Team, Robinson plays a pivotal role behind the scenes with many of Canada's leading athletes.

"I work with our athletes to help treat their injuries, decrease their chances of sustaining injuries, and help enhance their performance from a physical/biomechanical perspective. Ultimately, I seek to remove barriers to their success, and I take a lot of pride in that."

Outside of his work with our national athletes, Robinson is the Director of Chiropractic Services for LifeMark Health, a leading provider of integrated medical and rehabilitation services in Canada. Whether at the Olympics or in the clinics, "Helping grateful people makes it really easy to go to work every day. I'm fortunate that I love what I do."

countering the effects of cancer



Many cancer patients develop adverse changes in body composition – particularly muscle atrophy – that are linked to poor survival rates, reduced response to treatment, deficits in physical functioning, and an overall decreased quality of life. For cancer survivors, these changes in body composition can result in an increased risk of cancer recurrence and the development of chronic conditions such as cardiovascular disease and diabetes.

Dr. Marina Mourtzakis, an Assistant Professor in Kinesiology and researcher in nutrition, muscle metabolism, and body composition, is investigating this phenomenon and identifying nutrition and exercise interventions that counter these harmful changes. Mourtzakis recently received funding from the Canada Foundation for Innovation (CFI) for specialized CT imaging and dual-energy X-ray absorptiometry equipment.

The state-of-the-art equipment will be used to measure changes in body composition in cancer patients and to examine the underlying mechanisms of this problem. This, in turn, will support the development of rehabilitative approaches to counter the loss of muscle during the course of the disease.

in conversation with... professor Ken Stark



Dietary intake of omega-3 fatty acids supports infant neurological development, reduces the risk of cardiovascular disease, and possibly protects against cognitive decline during aging. Dr. Ken Stark explains the ins and outs of omega-3...

So what are omega-3 fatty acids?

The term “omega-3” is chemical nomenclature. An omega-3 fatty acid has a characteristic carbon-carbon, double bond three positions from the omega end. In contrast, saturated fatty acids have no double bonds.

Are there different types of omega-3 fatty acids?

Yes, there is the plant based alpha-linolenic acid and two animal based ones called eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). The EPA and DHA actually become part of your tissue structure.

You mean “you are what you eat”?

Exactly, EPA and DHA integrate with your cell membranes. These fatty acids become part of the lipid bilayers and increase membrane fluidity and flexibility. This also influences receptors on the cell, and EPA and DHA in the membrane changes how your cells respond to inflammation and stress.

So what should we eat to get more of these omega-3 fatty acids in our diets?

To get EPA and DHA into your cells, you need to eat EPA and DHA. Normally this means eating oily fish such as salmon, sardines, herring and tuna; but, if you don't like fish, you can eat fish oil capsules or functional foods.

What do you mean by “functional foods”?

A functional food – such as omega-3 eggs, margarines, or yogurt – is a food that has been enriched with omega-3 fatty acids.

Do these products actually work?

We're investigating that right now in the lab, i.e., how well these different options work at increasing blood levels of EPA and DHA.

How do you like your omega-3?

I use all the options, but in the summer I am partial to grilled or roasted salmon – a great source of omega-3. (See recipe on page 14!)

Dr. Ken Stark joined the Department of Kinesiology in 2004. He was recently awarded the 2009 Young Scientist Achievement Award from the American Oil Chemists' Society for his research on omega-3 fatty acids.

The Latest | Kinesiology



Jim Rush, recipient of CSEP's 2008 Young Investigator Award, began a three-year term as Department Chair on July 1, 2009.

Russ Tupling and **Ken Stark** were honoured with early researcher awards, recognizing the best and the brightest research talent in the province.

The Department welcomes

Andrew Laing (BSc '99, MSc '03) as Assistant Professor of ergonomics and biomechanics, effective September 1st. Andrew



and his wife, Amy MacArthur (HSG '00) look forward to their return to the Waterloo community.

Caryl Russell, Director of UW Fitness, was named Oktoberfest Rogers Woman of the Year for her contributions to the local community.

Elizabeth Dorothy Yeung was the recipient of the 2009 Alumni Gold Medal for undergraduate academic achievement.

Janet Passmore (KIN '78) began a five-year term as UW's Associate Provost – Human Resources on July 1, 2009.

HEALTHY RECIPE



Dr. Ken Stark, specialist in nutritional and nutraceutical research, recommends salmon as one of the best dietary sources of omega-3 fatty acids.

Roasted Salmon with Oyster Glaze and Ginger Mint Mayonnaise Courtesy of Tina Roberts (HSG '80)

2 salmon filets, skin removed (about one pound each)

½ cup oyster sauce

½ cup white wine

4 tbsp. balsamic vinegar

1 tsp. vegetable oil

1 tbsp. hot Asian chili sauce

Kosher salt and pepper to taste

Mix marinade ingredients above, pour over salmon, and marinate for one hour.

Preheat oven to 425 F.

Line cookie sheet with foil and place salmon, with marinade, on cookie sheet.

Roast salmon for 10 minutes per inch.

Ginger Mint Mayonnaise

1 cup packed mint leaves, finely chopped

½ cup coarsely chopped green onions

¼ cup pickled ginger, drained and finely chopped

1 tsp. grated lime zest

3 tbsp. lime juice

½ cup low fat mayonnaise

¼ cup yogurt

Kosher salt and pepper to taste

Combine all ingredients until smooth and place in serving bowl.

Serve with salmon.

calling all AHS alumni: thank you!

Julia Wegenast



Jennifer Bucek, a second-year health studies student from Princeton, Ontario, has little interest in her cell phone. Unlike most of her millennial peers who are often seen calling or texting their friends, Jennifer (pictured above) gets her 'phone fix' another way: by working at Waterloo's annual giving call centre.

Established in the 1980s, the call centre is a critical component of Waterloo's fundraising program. Each term, more than 60 students keep the phone lines busy afternoon and evenings, contacting alumni, parents, and graduating students.

Jennifer first took interest in the call centre during her first year at Waterloo. "I thought it was a neat opportunity to advocate for something I'm passionate about." But talking is only part of Jennifer's job; listening is the part she likes best. "I love it when Applied Health Sciences (AHS) grads share stories about their Waterloo experience." Seeing the university and faculty through other people's eyes and hearing how UW influences them, years after they graduated, gives Jennifer a glimpse into the history and complexity of Waterloo.

Jennifer marvels at how Waterloo is sustained through the generosity of alumni. Funding from donors helps the school attract top students through scholarship support, offer quality programs, and maintain its reputation as Canada's leading comprehensive university.

“Without the generosity of AHS alumni, my experience at Waterloo would be a shadow of what it's been so far.”

Beginning in September, Jennifer and her peers will be calling AHS alumni to discuss the exciting new initiatives happening at the university and in the faculty.

"Above all," Jennifer says, "working in the call centre gives me a chance to thank alumni and let them know the phenomenal difference their support is making."

SNAP!

capturing the AHS community in action



17 alumni from all three departments returned to campus for the first annual AHS Speed Networking Night. RLS alumni Steven Thorne (MA '94) and Darcy Drummond (BA '03) talk with students.



In celebration of its 40th anniversary, the Department of Recreation and Leisure Studies honoured 41 alumni with Distinguished Alumni awards. See profiles at www.ahs.uwaterloo.ca/rec/40th.



Over 130 alumni, faculty, staff, and students took part in the 2008 AHS Fun Run. Sign up for this year's Fun Run: www.ahs.uwaterloo.ca/alumni/funrun.



Health Studies and Gerontology students mingle with faculty and staff at a Living-Learning Community event.



AHS student Kayla Bennet poses with Bob Hunter (KIN '76, LLD '07) at the 2009 Grad Class Send-Off.



Guilda Patla presents the trophy to David Edgeworth, captain of the victorious undergraduate team, at the 3rd annual Aftab Patla Memorial Cup. This year's event raised over \$12,000 toward the undergraduate award in Dr. Patla's name.



Guests of A Changing Melody forum thank Dr. Richard Taylor for sharing his inspirational words and his personal experiences of living with dementia. The event, co-hosted by MAREP in November 2008, brought together over 200 participants making it the largest open dialogue of its kind on dementia and related issues.

news to you

is published annually by the Faculty of Applied Health Sciences

Applied Health Sciences

University of Waterloo
Waterloo, ON, Canada
N2L 3G1

www.ahs.uwaterloo.ca/alumni

Circulation: 9,000

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Design: UW Graphics

Photography:

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On the cover: International

Space Station photo courtesy

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Come celebrate your memories!

...and make a few new ones – at Homecoming 2009!

Bring the kids to the **Family Carnival** and meet our special guests.
Cheer on our **Warriors football** team as they take on the Windsor Lancers.
Hear guest speaker **Chamath Palihapitiya** (BASc '99) of Facebook
and much, much more...



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University of Waterloo
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PUBLICATION # 40065122

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