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THE UNIVERSITY OF BRITISH COLUMBIA

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startanevolution.ca

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Photo-Max istock Photograph

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UBC RESEARCH

Healing invisible scars

For Remembrance Day, *Global*, *CTV*, *CBC*, the *Vancouver Sun*, the *Times Colonist* and *Metro* reported on UBC's Veterans' Transition Program — a program where soldiers help soldiers cope with stress-related injuries and integrate themselves back into civilian life.

“Only a soldier can tell another soldier that they acted in a right way that's restorative to them,” said **Marvin Westwood**, co-founder of the Veterans' Transition Program's and a professor in the Faculty of Education at UBC.

Socialbots 'steal' Facebook data

Researchers from UBC used 'socialbots', computer programs that mimic real Facebook profiles, to extract vast quantities of personal information from Facebook users, reported the *BBC*, *Forbes*, the *New Scientist*, *CBC* and others.

“**Kosta Beznosov**, **Yazan Boshmaf**, **Ildar Muslukhov** and **Matei Ripeanu** used 102 socialbots over a period of eight weeks and were able to 'steal' 46,500 email addresses and 14,500 home addresses.

“To an adversary, such data is valuable and can be used for online profiling and large-scale email spam and phishing campaigns,” wrote the researchers in their paper.

UBC EXPERTS COMMENT

British Columbia's municipal vote

UBC political scientists provided expert commentary about British Columbia's municipal elections for the *Globe and Mail*, *National Post*, *Toronto Star*, *Times Colonist* and others. **Max Cameron**, **Richard Johnston** and **Michael Byers** commented on major election issues, including the Occupy Vancouver movement, voter engagement and voter turnout.

“The Occupy tent settlement gave Vancouver's Non-Partisan Association mayoral candidate Suzanne Anton an issue to work with as she tried to deny a second term to Mayor Gregor Robertson, Vision Vancouver's candidate, said **Johnston** to the *Vancouver Sun*.”

Correction

UBC Reports incorrectly printed a Conferences advertisement in our October edition, leaving off important contact information. We regret the error. The full advertisement can be seen on page 8.

Infectious salmon virus suspected in B.C.

The detection of what could be an infectious salmon anemia, a lethal virus, in wild sockeye salmon in British Columbia has reinvigorated a long-running debate about the sustainability of the aquaculture industry.

“Is it a game changer? It would be a game changer if it was sourced to aquaculture,” said **Tony Farrell**, a professor in UBC's Department of Zoology and the *Canadian Press*.

Some experts advocate a total ban on salmon farming. “Aquaculture of carnivores is hopeless and extremely wasteful,” said **Daniel Pauly**, a fisheries biologist at UBC, to the *New York Times*.

Experts advise on managing climate change aid

As the world prepares to unleash \$100-billion-a-year of climate change aid on the developing world, three academics at UBC have set the table for a rational discussion about how to spend the money, reported *Agence France Presse*, *CBC*, the *Vancouver Sun* and others.

In an article published in *Science*, UBC researchers **Simon Donner**, **Milind Kandlikar** and **Hisham Zerriffi** recommend measures for managing the funds and avoiding problems common among aid programs.

“The international aid system is fraught with problems, and by adding another \$100 billion a year to it, basically doubling it, we could end up worsening a lot of problems,” said **Donner**.

CAMPUS NEWS

CIRS Opens

CBC, **Canadian Architect**, **Ming Pao** and **Sing Tao** reported on the official opening of the Centre for Interactive Research on Sustainability (CIRS), the most sustainable building in North America.

CIRS is a “living lab” in which researchers can conduct interactive research on and assessment of current and future building systems and technologies.



Martin Dee Photograph

Copying your best friend's sense of style may cause her to feel more annoyed than flattered, according to Katherine White, an associate professor of marketing at the Sauder School of Business who looks at what influences and motivates consumer behaviour.

In a paper that appears in the December issue of *Journal of Consumer Research*, White says that far from feeling flattered, consumers who consider themselves unique and highly distinctive are willing to alter, discard or exchange a possession rather than be seen with the same item as someone similar to themselves.

With co-author Jennifer Argo, professor in the School of Business at the University of Alberta, White ran a series of experiments that explored participants' desire to be distinctive

We go through a series of psychological processes to rationalize our shopping choices, says Assoc. Prof. **Katherine White**.

along with their actions once their sense of uniqueness was threatened.

A pivotal experiment involved 76 female undergraduates who agreed to complete computer tasks of varying levels of difficulty in return for a free pair of sandals. The students were assigned to work in pairs. Only one person in each pair was an actual study participant. The other student was a “plant” to act as a fashion copycat.

When the pairs finished their tasks on the computer, they were shown a display of sandals. An attendant would ask for their selection, shoe size and return with the requested style. There were six pairs of sandals of varying colours and details, all pre-tested to be of equal attractiveness. The “real” undergraduate would get to choose first, followed by the copycat who would

invariably select the exact same pair of sandals as her partner.

Later, participants were given a chance to trade the pair of sandals for another. They were instructed to raise their hand if they wanted to see the alternative and someone would bring the substitute pair over for them to inspect. Participants who raised their hand were shown a plain pair of white sandals that had pre-tested as being significantly less attractive and desirable than the sandals in the original choice set. Once participants saw the alternative they were asked if they would like to switch.

“We were really surprised when 56 per cent of participants would rather switch than have their sense of uniqueness threatened,” White says. “That's pretty big considering that studies under other

conditions would see about 20 per cent switching from their first choice.”

She explains that consumers get invested in their purchases. “People go through a lot of psychological processes to arrive at a decision. We like to justify our choices, whether it's ‘I really love it’ or ‘I'm so smart for finding this deal.’”

However, when consumers exert a low degree of effort to obtain a possession, they're less likely to reject the product, White adds. “The uniqueness factor is tied into something that the individual has spent some time working toward or looking for.”

Similarly, findings show that participants only wanted to get rid of products that were copied when the possessions were symbolic in nature – products which communicate something about oneself to others.

“It's more threatening to a person's sense of distinctiveness to be copied on perfume selection than something more mundane like an iron,” she explains.

“From a consumer standpoint, it's interesting to understand why you might be upset if your best friend shows up at a Christmas party with the same ‘one-of-a-kind’ top that you found in a local designer's boutique.”

As for marketers, the research underscores the importance of giving consumers immediate ways to assert their distinctiveness. “It can be as simple as cell phone makers giving extra options for the face plate or watches that come with several colours of wrist bands,” says White. ●

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Program inspires equality and inclusion

UBC prof leads new eight-month program to empower people with intellectual disabilities

Basil Waugh



“Surprisingly, very little research exists on the ways to best support people with intellectual disabilities.”

UBC Social Work Prof. **Tim Stainton** (left) has launched an innovative program for people with intellectual disabilities and their families, such as **Callan Parker** (centre) and her father **Michael** (right).

Callan Parker, who was born with Down syndrome, says graduating from high school meant leaving her comfort zone.

When her last class finished at Vancouver's Gladstone high school, she said goodbye to a close support network of teachers, services and friends.

“That’s when it really hit home,” says Parker, 18. “The future was very scary for me. I didn’t know what I was going to do with my life. I realized that I needed a plan.”

That plan is coming into focus now that Parker is enrolled in a new UBC program—the Canadian Inclusive Lives Learning Initiative (CILLI)—which was launched last month to empower individuals with intellectual disabilities and families so they can lead rich, fulfilling lives.

Led by Prof. Tim Stainton, director

of UBC’s School of Social Work, the program helps people with intellectual disabilities to create a comprehensive plan for their lives. It covers a wide range of topics, including: personal planning, decision-making, employment, housing, financial literacy, government and other resources, community connections and legal matters.

Other day-long or weekend courses exist on these topics, but Stainton says UBC’s eight-month CILLI program is the most comprehensive of its kind. Aimed at families and people with intellectual disabilities across B.C., it employs a combination of online learning with camp-style retreats and telephone check-ins.

CILLI is also unique because people with intellectual disabilities do the

course along with family members, friends and supporters. The inaugural program’s 22 participants, from all around B.C., range from romantic couples to children with parents.

Callan Parker, the program’s youngest participant, is joined by her father Michael Parker. So far, the course has focused on identifying key organizations for people with disabilities and how to apply for funding and services.

Hearing the experiences of other parents has been important, but getting to know other people with intellectual disabilities has been even more important, he says.

“Meeting other people with diverse needs who are living independently—working in jobs, in relationships, traveling—has been really helpful,” says

Michael Parker, who is juggling a family of four while working on his Masters in Film Production and Creative Writing at UBC. “It is inspiring to see people taking control of their lives, and gives us a better understanding of the opportunities and challenges that Callan might face.”

So far, one of Callan Parker’s favourite exercises involved making a collage with images of life goals. Filled with pictures of fashion, fine foods and travel, the self-proclaimed “fashionista” says the project was an important first step toward the “masterplan” the program is helping her to make. “It helped me to think about some of the steps I need to follow to survive,” she says.

Another highlight was a recent “CILLI Idol” talent show, where Callan and a classmate broke out into a spontaneous

dance after the group sang Johnny Cash and Celine Dion songs. Callan, who also takes a language course at Vancouver Community College, jokes she has “dance syndrome,” not Down Syndrome.

CILLI is a project of UBC’s Centre For Inclusion and Citizenship (CIC), which aims to make society more inclusive for people with intellectual disabilities. Founded by Stainton and a UBC Okanagan campus co-director Prof. Rachelle Hole in 2008 with a \$100,000 grant from Community Living British Columbia, the CIC conducts policy research, training for professionals, education and publicizes its findings.

“Surprisingly, very little research exists on the ways to best support people with intellectual disabilities,” says Stainton. “There is also a real shortage of qualified professionals

in this field, so we are working to identify best practices and transfer that knowledge to government and professionals through training and policy work.”

To begin with, CILLI is focusing on B.C.-based resources and opportunities, but Stainton and his team are working to make the program national in scope.

“Ultimately, we want to help people take control of their lives,” says Stainton. “We think that will help them be a leader and support to others. At the end of the day, we want to inspire justice, equality and a sense of inclusiveness for people with intellectual disabilities in every community.” ●

For more information, on CILLI and CIC, visit cic.arts.ubc.ca

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Prevention trumps punishment

Investing in high school graduation pays off

Basil Waugh

If governments want to reduce crime, a new UBC study suggests that improving high school graduation rates offers greater social and economic benefits than tightening crime laws and increasing prison sentences.

The study raises important questions about policies designed to reduce crime through increased punishment and incarceration, a major trend among Western governments, which have spent billions on correctional facilities over the last decade. According to the study's authors, targeting the root causes of crime is a more cost-effective approach.

The study focused on property crime, which includes burglary, robbery and fraud, and is more likely to be driven by economic considerations than violent crime. According to researchers, high school dropouts aged 16–23 are the demographic most likely to commit property crime, which represents nearly 90 per cent of crime in the United States.

"Our findings suggest that targeting property crime reductions through improved graduation rates provides large economic and welfare gains that are absent when we try to lower crime with longer prison sentences," says UBC Economics Prof. Giovanni Gallipoli, who co-authored the study with Prof. Giulio Fella of the University of London.

To study the long-term effects of different crime reduction policies, the researchers developed and analyzed an economic model of the U.S. Using a framework developed by Nobel Prize for Economics recipient Gary Becker to study the relationship between economic incentives and criminal behavior, Gallipoli and Fella measured key variables with data from 1980, a year in which annual U.S. property crime rates were close to their highest point in the past 50 years.

The researchers found that increasing prison sentences by 10 per cent reduced the crime rate by 5 per cent at an additional cost of between \$20,000 and \$30,000 annually per prisoner. The researchers found only small additional reductions in crime when prison sentences were increased beyond 10 per cent.

"When comparing these different policy approaches, it is important to remember how expensive it is to build and maintain prisons," says Gallipoli. According to Public Safety Canada, the annual average cost of keeping an inmate incarcerated in 2008-09 was \$109,699 per year, more than in any Western country. Gallipoli adds that Canada's federal government is working to introduce a slew of tough-on-crime initiatives, including longer prison sentences.

The researchers found that diverting comparable tax revenues to programs that increase high school graduation rates would reduce crime rates by roughly nine per cent, especially when targeting children from poor families. Gallipoli says the benefits

were more pronounced over the long term. Employment rates and GDP also increased under this policy—by almost half a percentage point in the case of GDP—due to the increases in workforce education and a decrease in criminal records, which often hinders employability.

"People commit property crime for economic reasons, so providing more economic opportunities through education and employment can reduce the incentives for people to engage in criminal behavior," says Gallipoli. "Our findings suggest that keeping kids in school, making them employable and improving their value in the labour market is nearly twice as cost-effective at reducing crime as simple incarceration."

In the subsidy scenario, youth who completed high school received subsidies in the amount of \$3,000, similar to a successful U.S. program, the Quantum Opportunity Program, which provides extra support and high school graduation incentives aimed at children from disadvantaged backgrounds. ●

Learn more about UBC's Dept. of Economics at www.econ.ubc.ca

Prison population increases since 2001

89%
Netherlands

54%
England

45%
United States

20%
Canada

1/100

In some U.S. states, one person in every 100 is under detention

\$109,699

Canada's per capita cost of incarceration the highest of any Western country (2008-09)

UBC economist **Giovanni Gallipoli** questions the cost-effectiveness of "tough-on-crime" policies.



WHAT IS THE A-HA MOMENT?



UBC students, faculty, staff and alumni share their *A-ha moments* in the **2010-2011 ANNUAL REVIEW**
annualreview.ubc.ca



Martin Dee Photograph

UBC's Teacher Education Program gets a makeover

Heather Amos

The continuously evolving role of educators along with growing concerns over job-shortages for new teachers prompted the overhaul of UBC's one-year Teacher Education Program at the Vancouver campus.

Starting in September 2012, the Education program includes a focus on research and inquiry, new courses and a mandatory practicum in a non-traditional teaching setting. These changes aim to better prepare grads for the diversity they will encounter in the classroom and give them a taste of the variety of career options they face.

"We're very aware schools have changed so we have to be responsive to those changes," says Rita Irwin, associate dean of Teacher Education in UBC's Faculty of Education.

The Education Program includes a focus on research and inquiry, new courses and a mandatory practicum in a non-traditional teaching setting.

"We also recognized a growing need to prepare life-long educators. Education isn't limited to Kindergarten through Grade 12 and our graduates will be equipped to teach a variety of levels in a variety of contexts."

With the new curriculum, students must complete a three-week alternative practicum where they work as educators outside the classroom. Future art teachers may try teaching art in a senior citizens' residence, gallery or museum.

The one-year program also includes new mandatory classes on Aboriginal perspectives, teaching English as an additional language, teaching French in elementary school, special education, and research and inquiry seminars. Running throughout the program is an emphasis on social and ecological justice and diversity to help teachers infuse this awareness into their teaching.

"Today's teachers work with students from a variety of backgrounds and a broad range of abilities," says Irwin. "Teachers need to know how to effectively cater to each individual student to help him or her learn." ●

What does the job market look like for new teachers?
Story on page 8



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Don Erhardt Photographs



Jessica Lemes da Silva is a student in UBC's B.Ed program for music education; she is also working with UBC's Concert Wind Band.

In 2010, roughly 2,700 new teachers were certified in British Columbia but only about 1,500 new positions were available.

Although the numbers are daunting, Rita Irwin, associate dean of Teacher Education in UBC's Faculty of Education, says overall the outlook is promising.

According to UNESCO, worldwide there is a severe shortage of teachers. Job opportunities exist abroad and teachers are always needed outside of the Lower Mainland.

The demographics also suggest that the job market will improve in the next four years as more teachers start to retire and more children enter into the school system, says Irwin.

Student Jessica Lemes da Silva wasn't aware of the local job market before deciding to move to Vancouver from California, where she worked in the film industry, to pursue an education degree. Nonetheless the future teacher remains optimistic.

Originally an oboe player from Florida, Lemes da Silva is working towards becoming a secondary school teacher specializing in music education. UBC has the only education program in British Columbia where students select a specialty.

"Graduates have a unique advantage because they are well prepared to teach their subjects in secondary schools or

specialized settings beyond schools," says Irwin.

Today, teachers with specialties in music, French, home economics, physics, math, English as an additional language and vocational specialties like technology education and chef educators, are in high demand; and UBC offers each of these programs.

UBC has the only education program in British Columbia where students select a specialty.

"Over the past decade, 90 to 100 per cent of our students have found teaching positions annually upon completion of the B.Ed. program in Music Education for secondary school," says Scott Goble, associate professor of Music Education in the Department of Curriculum and Pedagogy.

Through teaching, Lemes da Silva hopes she can instill in her students the conviction that music can be enjoyed by everyone and offers a unique way to express themselves.

To gain some additional experience, Lemes da Silva is organizing an extra-curricular chamber ensemble in the Kerrisdale school where she will be doing her practicum this winter. She is also working as a woodwind coach and conducting a piece with UBC's Concert Wind Band, an ensemble for music and

non-music students run by the UBC School of Music.

"Students have many music performance and music teaching opportunities while they are in the program, some at UBC and others while on practicum," says Goble.

"The experience they gain from these opportunities contributes to their attractiveness when school districts are looking to hire new music teachers."

"I want to learn as much as I can from the teachers I'm working with this year," says Lemes da Silva, "but I also want to try something new and see what I can add to the music programs."

Lemes da Silva says the extra work is helpful because it gives her a chance to collaborate with other educators and she's learning best practices for dealing with additional challenges. ●

Darren Handschuh Photograph



Vicki Green encourages her students to search out alternative teaching sites.

You want to be a teacher? Then get out of the classroom

UBC's Okanagan campus education students go beyond their textbooks

Darren Handschuh

Vicki Green wants her students to get out of the classroom, especially when they become teachers.

The associate professor with the Faculty of Education at the University of British Columbia's Okanagan campus encourages the teachers of tomorrow to think beyond the classroom and search out alternative sites for learning.

Green says the most interesting teachers tend to have a passion for going beyond the textbooks to find the underlying story behind the lesson.

"That's what makes social studies interesting: when the teachers know the different stories," says Green. "Those kinds of teachers are curious themselves. They want to dig deeper. If they can find a story that is worth telling, that is the area I tell them to get into."

Green's students are encouraged to think outside of the classroom as long as what they are teaching is compatible with the mandated Kindergarten to Grade 7 curriculum.

"A teacher needs to know their learning style before they can meet the needs of their students," says Green, who also teaches the graduate-level class Education Beyond the Classroom.

Ajmair Sahota is in her last year of university on her way to becoming an elementary school teacher and she credits Green with having a big influence on how she plans to teach her students.

"She instilled in us that education is about more than being in a classroom. It's about applying learning to real life," says Sahota.

Green's students have five assignment options, from which they must choose two.

For example, to teach social studies, the teacher must know the past and Green sends her students to conduct

interviews with area pioneers. Students use area museums' archival photos and create historical narratives that are put on YouTube.

Not only is living history recorded through the interviews, but the students form a relationship with those from a different generation, giving them a greater ability to present the past with passion and insight.

Sahota says she not only learned a lot about the history of East Indians in Kelowna, but she made friends and discovered more than any text book could show her.

"It was so much fun. There is no way I could have learned that from a book. It was so valuable," she says, adding talking with her subjects was like "talking with my grandparents."

"She (Green) wants us to re-invent the wheel. She wants us to be different in how we teach," Sahota says.

Museums throughout B.C.'s Okanagan Valley have benefited from these assignments, as the recordings are sent to them.

"Our partnership with Vicki has been so beneficial to the museum and the community," says Michelle Harvey, curator of education and public programming with Kelowna Museums.

Harvey said the museum does not have the resources to go into the community and gather oral histories, but so far this year 18 students have approached the museum about doing just that.

"It's really great to have all of this material. The feedback I have from them (interviewees) is it's a really special experience," says Harvey. ●

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As a scientist, I found working with UBC Conference Services a true pleasure. Their skilled staff assumed the organizational details involved in putting on a conference of 800 and left me to the scientific programme; they even helped me with non-scientific programme particulars. I enjoyed working with them so much, I have organized two international chemistry conferences – the decision to take on the second was due to their excellence on the first.

— Chris Orvig, FRSC
ICBIC15 Conference Chair

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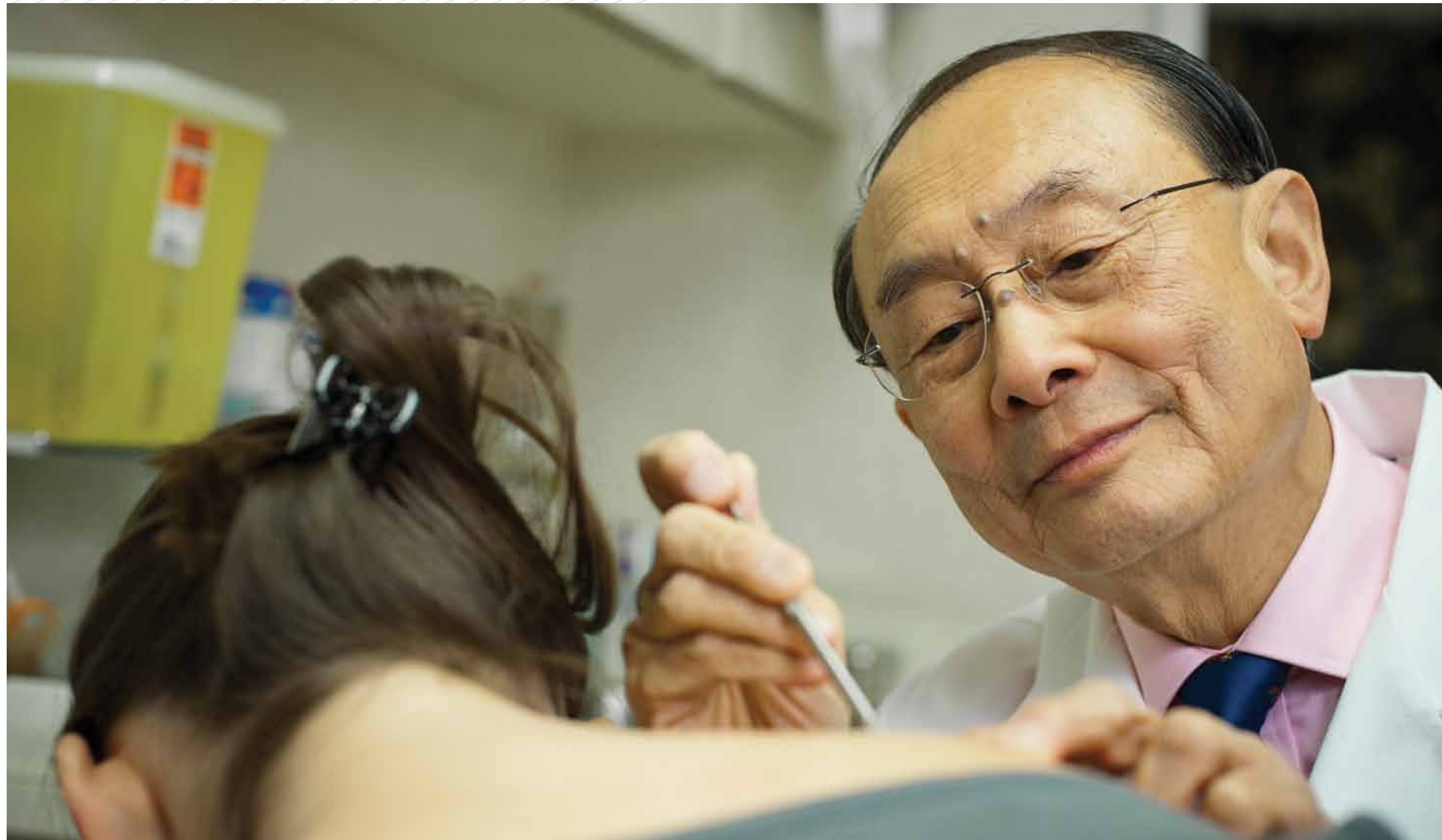
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Pioneering pain management

Brian Kladko



Martin Dee Photographs

Chan Gunn has a cure for much of the world's physical pain — the aches and strains that don't usually show up on MRIs or X-rays, but can be debilitating nonetheless.

Working out of his Vancouver clinic, he has spent the past four decades spreading the word about his non-surgical, non-pharmaceutical technique for alleviating chronic pain, called intramuscular stimulation (IMS). A blend of Eastern acupuncture and Western medicine, it involves inserting a needle deep into muscle, causing it to relax, thereby relieving pressure on whichever nerve is causing a patient's pain. A few such treatments are usually enough to banish the aches.

Dr. Gunn, a general practitioner, is convinced that IMS is the answer for millions of people with continual pain

in their back, neck, arms and legs, or those suffering from headaches or neuralgia, which includes extreme skin sensitivity. Thousands of sports medicine physicians and physiotherapists, including those at UBC Allan McGavin Sports Medicine Centre, have taken it up. His Institute for the Study and Treatment of Pain in Vancouver has a large backlog of would-be practitioners.

Yet Gunn IMS, the name he has given to the signature technique, is still largely unknown in medical circles. Now the Faculty of Medicine, with financial support from Dr. Gunn, will lend a hand to his cause. Dr. Gunn has donated \$1 million to the Division of Sports Medicine to expand training for medical professionals, perform research into its effectiveness, and raise overall

Many sports medicine practitioners make use of **Dr. Chan Gunn's** intramuscular stimulation technique.

awareness of the technique.

"As just one person, I can only do so much," Dr. Gunn says. "Most people who need Gunn IMS have no access to it, because they don't know about it, or their physicians or therapists don't know about it, or they live far from a qualified practitioner. With UBC's help, I'm confident that IMS will become a common remedy for people tortured by chronic pain."

The gift will be used to create a training program, establish a research fund for graduate and undergraduate students, and hold an annual lecture at UBC focusing on Gunn IMS and pain caused by nerve damage (known as neuropathic pain). In the longer term, the Faculty is considering a dedicated space for training and research. "Dr. Gunn is truly a pioneer, and

the medical establishment has much to learn from his 'outside-the-box' thinking," says Gavin Stuart, Dean of the Faculty of Medicine and UBC's Vice Provost Health. "UBC is known for exploring new ideas, which are often unjustly overlooked by conventional wisdom. Thanks to Dr. Gunn's generosity, UBC will now lead the way in spreading knowledge about this treatment and affirming its usefulness."

Dr. Gunn, of Chinese Malaysian origin, who earned his medical degree at Cambridge University and settled in Vancouver in 1966, developed his technique while working for the B.C. Workers' Compensation Board, which had asked him to investigate claimants' who complained of persistent back pain. He uncovered a curious pattern. Those with pain that persisted beyond

a few weeks also tended to exhibit extreme tenderness in the affected area. Sometimes, people with pain in other parts of the body also exhibited a similar sensitivity, both in the affected area and close to their spine. From those observations and others, he concluded that such persistent pain is not caused solely by tissue injury, but also involved some sort of nerve dysfunction—the spinal nerves being the most vulnerable part of the body. That leads to an unfortunate feedback loop: nerve goes awry, causing the muscle to react and contract, thereby pinching the nerve. Not only can this situation not be imaged—it can't be cut or medicated away. While Dr. Gunn's interest in acupuncture led him to his needle-based technique for relaxing

muscles around "trigger points," he makes it clear that IMS is firmly grounded in scientifically established concepts of Western anatomy, and must be based on a systematic, specific medical examination of each patient. "Gunn IMS is used extensively now in musculoskeletal medicine," says Don McKenzie, Professor and Director of the Allan McGavin Sports Medicine Centre. "Dr. Gunn has demonstrated its usefulness in treating patients with neuropathic pain and Gunn IMS represents the standard of care in the management of the elite athlete with musculoskeletal pain or injury." ●

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UBC Dentistry students reach out to elementary schools as part of their community service learning.

Reaching vulnerable populations in oral health care

Canada's pluralistic society offers keys

Lorraine Chan

In Pakistan, dentists are expensive and the poor go without oral health care, says UBC graduate student Abbas Jessani.

So it was an eye-opener, admits Jessani, to see that the same happens in Canada. "Before coming to Vancouver, I somehow had the impression that healthcare here was perfect."

But what is reassuring, he adds, is Canada's robust culture of volunteerism and social responsibility. "Here, there is a strong belief in the inherent value of each human life."

Jessani has noticed this ethos at work at the Faculty of Dentistry through its different outreach initiatives. What drew him to UBC, he says, are its explicit goals to provide health promotion planning and ongoing care and maintenance to previously hard-to-reach populations such as Aboriginal communities, the working poor and the elderly.

This summer, Jessani left his hometown of Karachi and his one-year dental practice to pursue an MSc in craniofacial science with a focus on public health dentistry. His graduate research will look at oral health access among pregnant women, focusing on marginalized populations that include Aboriginal and immigrant moms-to-be.

Since his arrival, Jessani has been shadowing his thesis supervisor, Dr. Mario Brondani, whose research explores dental geriatrics, oral health and quality of life, community service learning, dental education and public dental health.

Once a week, Brondani practices dentistry at the non-profit Mid-Main Community Health Centre, where he was the first dentist in B.C., and perhaps in Canada, to offer HIV rapid screening testing to his patients. As a volunteer, he has worked with organizations such as Health Initiative for Men, Positive Living BC, which represents people living with HIV/AIDS, and Boys R Us—Vancouver's food and information program for male sex trade workers.

"I keep encouraging Abbas to think outside the box and always ask the 'so what' of his studies," says Asst. Prof. Brondani. "It's by experiencing the unmet needs of our Canadian society that he, as many others, can advocate for equality and inclusion."

Brondani also advised Jessani to sit on a few classes of the Professionalism and Community Service (PACS) program, an engaging learning model that combines clinical skills and community services. In 2007, Brondani and other faculty team members helped to establish PACS through all four years of the undergraduate dental degree. The curriculum challenges students to move outside a controlled, on-campus setting into situations that call for cultural sensitivity, communications skills and compassion. Brondani organizes sessions where students can learn directly from community members on issues including addiction, sexuality and HIV.

Jessani observes, "Canada is a pluralistic society and I see

how important it is to build trust with each community."

A typical first-year PACS program sees undergraduates planning and delivering oral health education at different low-income neighbourhoods. In second year, students focus on geriatric patients in long-term care facilities, and in year three, on inner-city, elementary school children. By the fourth year, students are caring for special-needs patients, from psychiatric hospital residents to children with disabilities.

This contrasts sharply to his undergraduate years, says Jessani. "My dentistry professors were a bit puzzled by why I would want to study public health. In their view, a profitable clinical practice is the sole career choice."

Despite their advice, Jessani aims to merge academia and advocacy work. "In my family and Ismaili muslim community, there's a strong emphasis on our humanitarian mission, our responsibility to help others."

Before coming to Canada, Jessani was working with the non-profit organizations Aga Khan Health Services for Pakistan and Aga Khan Social Welfare Board for Pakistan. Between 2009 and 2011, he supported national "Substance-free Pakistan" campaigns that educated the public on health risks of addictive habits such as paan, betel leaf and chewing tobacco.

"My goal," says Jessani, "is to be able to help countries like Pakistan move toward some of these models of grassroots community outreach. I hope that my studies at UBC give me the tools to shape evidence-based policy and practices to distribute dental health in an equitable manner." ●

Student unlocks secrets to blood flow in brain

Research excellence fuels global quest to understand disease links

Paul Marck

Taking his research around the globe—and winning scholarly recognition—is becoming routine for Chris Willie, an accomplished PhD student in the Human Kinetics program at UBC's Okanagan campus.

Willie was recently announced as a winner of the Vanier Scholarship in Interdisciplinary Studies, among the most prestigious graduate awards in Canada. It is only the latest in a series of distinctions.

In 2011 he has also earned an Izaak Walton Killam Memorial Predoctoral Fellowship, the Killam-Donald N. Byers Prize, an Alexander Graham Bell Graduate Scholarship (CGS), and a Michael Smith Foreign Study Supplement (CGS-MSFSS) national award. He has also been published in one of the top clinical journals, Hypertension, among other scholarly publications.

Willie, of Kelowna, B.C., credits his professors and the high standard of research being conducted at UBC's Okanagan campus for his success.

"The faculty bring knowledge to the Okanagan that is without parallel,"

"Our comprehension of the brain is half a century behind other regions of the body."

says Willie. "UBC has the best human kinetics lab facility that I have worked in. We have tremendous access to resources like a hypoxic chamber, ultrasound machines, human blood clamping and the means to quantify nervous regulation of blood pressure, brain blood flow and breathing. We have all of this, along with a calibre of researchers that are among the best in the world. I don't know if people in the Okanagan realize what is going on, right here within their community; the research is on par with any leading institution globally."

Under the supervision of Phil Ainslie, an associate professor and Canada Research Chair with the School of Health and Exercise Science, Willie pursues research that examines the mechanics that control blood flow to the brain and how it may vary in different clinical populations and environmental conditions.

A significant number of Canadians die from, or live with, diseases and conditions that are caused by improper blood flow to the brain. Stroke alone is the third-leading cause of death in Canada. Kelowna, Willie says, is an ideal living lab to study the effects of blood flow in an aging population, a growing demographic and research area where he expects to focus much of his future research.

Willie's investigations challenge many long-held assumptions about the roles

Darren Handschuh Photograph



UBC PhD student **Chris Willie** recently was awarded the distinction of a Killam Predoctoral Scholarship.

that arteries play in controlling blood pressure and blood flow to the human brain.

Willie studied Biomedical Science at the O'Brien Centre for the Bachelor of Health Sciences at the University of Calgary for his undergraduate degree before moving to his current research, where collaborative projects have taken him to institutions in Britain; Japan; Perth, Australia; Wellington, New Zealand; and to Duke University in the U.S.

An upcoming research venture next spring will take Willie to the mountains of Nepal to study the effects of high altitudes on blood flow to the brain.

"There is so much we don't understand about the brain vasculature. Particularly with respect to exercise, high altitude and with disease, our comprehension

of the brain is half a century behind other regions of the body. The skull is a tough nut to crack," he says.

Willie is the principal author of three major studies, one of which appeared in the clinical journal Hypertension. Titled Neuromechanical features of the cardiac baroreflex following exercise, the study provides insights into the mechanisms that control blood pressure in healthy people before and after exercising.

The other two high-impact research papers provide the first detailed review and guidelines in the use of ultrasound for the assessment of human brain blood flow, and novel information about blood delivery to the brain during exercise.

As for the future, Willie sees education as part of his quest to search, investigate and uncover answers in the name of science and wellbeing of humankind.

"I don't necessarily look at my PhD as an end goal, I look at myself as a researcher and scientist," Willie says.

"Within the next five years I aim to pursue answers to the questions I have right now. But these questions evolve, so after that, I imagine that I will continue on in science, in research, in academia." ●

New campaign harnesses the power of alumni, donors

UBC launches **start an evolution**—a new fundraising and alumni engagement campaign

Heather Amos



Don Enhardt Photograph

Hughes is in the process of applying to medical school and says he hopes to complete a MD/PhD so that he can continue to do research. “Donors have the potential to change someone’s life,” he says, noting that he would not be pursuing medicine and research if not for the scholarship he received.

In the planning years leading up to the campaign launch, UBC raised \$760 million towards the final goal. In the last three years, the university also made headway in engaging alumni, increasing engagement by 50 per cent. “Alumni play a vital role in the life of UBC both on and off campus,” says Jeff Todd, executive director of the Alumni Association and associate vice president Alumni Affairs. “If an alumnus has a passion, UBC has a place where they can get involved - this is the foundation of *start an evolution* and we love helping make that happen.”

While some alumni may choose to take on more active roles in university life - by mentoring a student or joining the UBC Alumni Association Board of Directors - others may simply want to re-connect and network with other alumni, attend social and professional development events or experience intellectual and cultural activities on campus. ●

Learn more about the campaign at: startanevolution.ca

UBC Alumni Centre

After years of education, UBC doesn't want its graduates to end their relationship with the university when they walk across the Chan Centre stage and receive their diplomas. Instead, UBC is asking its alumni to stay involved with the university.

With more than 260,000 alumni worldwide and a newly launched fundraising campaign with a twin goal of doubling alumni engagement by 2015, the university wants to create a home for its former students.

UBC and the Alumni Association plan to establish an Alumni Centre on UBC's Vancouver campus. Centrally located at University Square, the new 40,000 square foot building will serve as a place for alumni to converge. As a social hub for alumni, students, faculty and staff, the new centre will also act as a doorway to the university, connecting alumni with the broader UBC community.

The centre will house public meeting and social spaces, alumni programming and a new UBC Welcome Centre for alumni and friends returning to campus. The space will also be used to recognize the contributions UBC graduates have made to the university, the province and the world.

An undergraduate research award gave alumnus **Andrew Hughes** the opportunity to study how the brain processes emotion.

start an evolution is an ambitious \$1.5 billion fundraising campaign with the dual goal of doubling the number of alumni engaged in the life of the university to 50,000 annually by 2015.

The campaign was launched in September and ultimately seeks to enhance student learning, expand research capacity and extend UBC's community engagement initiatives. UBC's campus in the Okanagan plans to raise \$100 million and double its own alumni participation levels.

“The idea behind start an evolution is to show donors and alumni the broad range of work that is already taking place at the university,” says Barbara Miles, Vice President, Development & Alumni Engagement. “If you have a passion about a cause, UBC is likely already doing work in that field. By

combining our efforts, change can happen more quickly.”

The startanevolution.ca website lists faculty and campus projects in need of support at both campuses. The projects range from medical and sustainability research to community activities and new student learning initiatives.

For UBC alumnus Andrew Hughes, receiving a unique scholarship opportunity transformed his post-secondary education experience. In his third year at UBC's Okanagan campus, the psychology student received an Undergraduate Research Award.

Undergraduate students don't usually get the opportunity to work on their own research projects. But with his scholarship, supported by alumnus Irving K. Barber, Hughes

had the opportunity to study how the two hemispheres of the brain process emotion differently.

The research Hughes was involved in found that positive emotions are processed more efficiently with the brain's left hemisphere, while negative emotions are processed more efficiently with the brain's right hemisphere. His study also showed that positive emotions are processed more efficiently by either hemisphere alone, while negative emotions are processed most efficiently by both hemispheres together.

When he presented his research at a conference in Australia, Hughes won “Best Presentation.” Today the work is being used in research into what happens to people after serious brain injuries.



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start an evolution

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A photograph of an elderly couple standing on a balcony with a black wrought-iron railing, looking out over a vast blue ocean under a clear sky. The balcony is part of a building with a terracotta tiled roof. The scene is bright and sunny, suggesting a peaceful retirement lifestyle.

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