

# CLASS TAKES STUDENTS BACK TO STONE AGE P.7

# THE RING

OCTOBER 2017

*The University of Victoria's  
community newspaper*  
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University  
of Victoria

## SPEED READ

### REPUTATIONAL ADVANCEMENT

#### The Edge is here, and there

Building on the success of last year's ad campaign, UVic is again running a brand awareness campaign aimed at opinion leaders and prospective undergraduate students as part of an overall strategy to challenge, change and evolve perceptions of our university among these audiences. Throughout this fall and into early 2018, ads are running in newspapers, magazines, public transit, airports and online in regions of BC, Alberta and Ontario.

*Info: [uvic.ca/brand/about/ad-campaign](http://uvic.ca/brand/about/ad-campaign)*

### INTERNATIONAL OUTREACH

#### UVic deepens connections in Asia

A UVic delegation led by President Jamie Cassels leaves Oct. 10 for a visit to Hanoi and Ho Chi Minh City in Vietnam and Shanghai in China. One year after the launch of UVic's International Plan, the visit to Asia will create more opportunities for intercultural learning for students, nurture new global partnerships, drive innovative research and ideas, and accelerate the momentum of internationalization at UVic.

### CONSULTATION

#### Help shape new strategic plan with Thoughtexchange

The first phase of the UVic consultation process has begun. On Sept. 18 and 19, UVic community members were invited to participate in Thoughtexchange, an online engagement forum, to share thoughts about the future of UVic and to shape the new strategic plan. This phase of the consultation is open until Oct. 8. Please continue to share and "star" thoughts, or register to get involved.

*Info: [uvic.ca/стратегический план/get-involved/thoughtexchange](http://uvic.ca стратегический план/get-involved/thoughtexchange)*



Blessing led by Fred Charlie using cedar boughs and red ochre—a mineral used in sacred ceremonies. UVIC PHOTO SERVICES

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NUMBER OF INDIGENOUS POLES AND POSTS ON CAMPUS

## Restored Legend Pole in centre of campus rededicated and blessed

BY SUZANNE AHEARNE

The S,YEWE Legend Pole (also known as the Elliott pole) in the UVic quad was rededicated in a ceremony as part of this year's Indigenous Week of Welcome. The pole, by carver Temosen (Charles Elliott) of the Tsartlip First Nation, was raised in 1990.

The commission to carve the monument for UVic—Elliott points out that the word totem pole is inaccurate and hates using it—came from Martin Segger, then curator of the university's Maltwood Gallery. When Elliott asked Segger what he wanted depicted on it, he said it had to be "something near and dear to your heart." An Elder of his community brought him a story.

During the rededication and blessing ceremony witnessed by Elders and close to 100 members of the campus community,

Elliott told the story that he carved.

The story begins at the bottom of the cedar pole with the profile of the young man SWIWLES,S, his eyes closed in concentration receiving a vision. The story that wraps around the cedar is one of love, a gift from the Creator, betrayal, attempted escape and a small black rock thrown at SWIWLES,S that turns him and his wife into stone. The couple are sitting on their heels, each looking out from the top of the pole with an identical expression of shock, the Quentoles (rock) wedged between them.

"Our history tells us," said Elliott, "that if you're paddling along here (on the beach below the university) you'll see two rocks stuck in the bank and that was supposed to be them."

To hear Elliott's whole dramatic telling

of the story, listen via SoundCloud at [bit.ly/uvic-elliottpole](http://bit.ly/uvic-elliottpole)

In 2013, when rot was noticed around the base of the pole, it was examined by the artist, Royal BC Museum conservator George Field and Legacy Art Galleries' director Mary Jo Hughes. Hughes, attending the rededication, said they discovered that when "the living story pole" was raised in 1990, it was not properly installed. The pole had been sitting directly on a concrete pad and when rainwater pooled there, it was drawn up into the pole, resulting eventually in rot.

It was caught soon enough and Facilities Management took down the pole. For several months, it dried out in a tent on the quad. A new base was constructed

**SEE LEGEND POLE P. 2**

## Campaign sets up for slam dunk

The 2017 UVic United Way campaign officially kicked off at a special Vikes Nation event in the CARSA Performance Gym on Friday, Sept. 29 at the Guy Vetrie men's basketball tournament. A thousand fans cheered on the Vikes, learned more about United Way and raised almost \$200 for the campaign through raffle ticket sales.

"I'm proud of UVic's strong support for United Way Greater Victoria, and would like to sincerely thank all our current volunteers and donors," says Cedric Littlewood, campaign

chair and associate dean of graduate studies.

"I encourage all faculty and staff to consider giving to United Way this year and becoming an Everyday Hero or New Hero. United Way Greater Victoria funds more than 100 community programs, improving the lives of more than 111,000 people in our region."

Since 1994, UVic workplace campaigns have raised more than \$4.5 million, including more than \$258,000 in 2016. The 2017 fundraising goal is \$275,000, and there are

many ways you can support the campaign.

It's easier than ever to make a continuous or one-time donation online through the United Way Greater Victoria e-pledge site at [bit.ly/unitedway2017](http://bit.ly/unitedway2017). Simply follow the instructions, and in a matter of minutes, you can change a life with your gift. If you're already donating through payroll deduction you can increase your pledge by visiting the e-pledge site.

Supporting the campaign can be as easy and fun as attending



**United Way  
Greater Victoria**

the many campus fundraising events. These include the Plasmacar Race on Nov. 7, Holiday Artisans Market on Nov. 21, the ongoing Book Sale in the UVic Bookstore foyer and many more! Donations of good quality used books are being accepted at the Main Loan Desk in the McPherson Library until Dec. 1. Annual student-led

**SEE UNITED WAY P. 2**

# "Drop, Cover and Hold On" on Oct. 19

BY ROB JOHNS

The trip from the airport looked normal enough. The occasional chimney was down, but other than that there was no real sign that a set of major damaging earthquakes had occurred. That is, until we came across the church. Walls had fallen out, though the roof was somehow still being held up. It looked like an explosion had occurred, though we knew it was from the ground moving.

As we moved closer to the downtown area we could see more and more damage. Bricks on sidewalks, broken windows, buildings off their foundations and leaning, caved-in walls with roads cracked or uneven. Areas were blocked off out of concern for safety and whole business districts were closed. Things seemed to be moving in slow motion, with an eerie quiet across the city.

This was the scene two weeks after the Feb. 22, 2011 earthquake in Christchurch, New Zealand. Christchurch is a city about the same size as greater Victoria.

This trip, my second to Christchurch, opened my eyes wide to the complexities of responding and recovering from a major earthquake. The disrupt-

tions to transport, utilities, business, education and social services were immense. How does a community decide what are the priorities for recovery when so much has been impacted?

When I asked residents what they wish they'd done in advance of the earthquakes, they answered with statements like:

"I wish I'd listened to the emergency people and had more supplies"; "I needed a torch (flashlight). The power went out and I couldn't see. There was broken glass and everything seemed to be on the floor";

"Water containers, even empty ones. There was water, but it was across town. I had no containers to move that water to where I was staying."

The majority of things people said they wish they'd done in advance were really simple, yet they'd made a decision to do little or nothing to prepare for disaster. They all wished they'd done more.

Victoria sits in a region where three different types of earthquakes can occur. Any of these can cause structural damage. Most people here have no idea what a major damaging earthquake can be like. It is hard to take seriously something you've never seen or experienced.

Here at UVic we encourage all students, faculty and staff to become prepared. Being prepared isn't hard, but it does take a conscious decision. Here are some simple suggestions about what you can do:

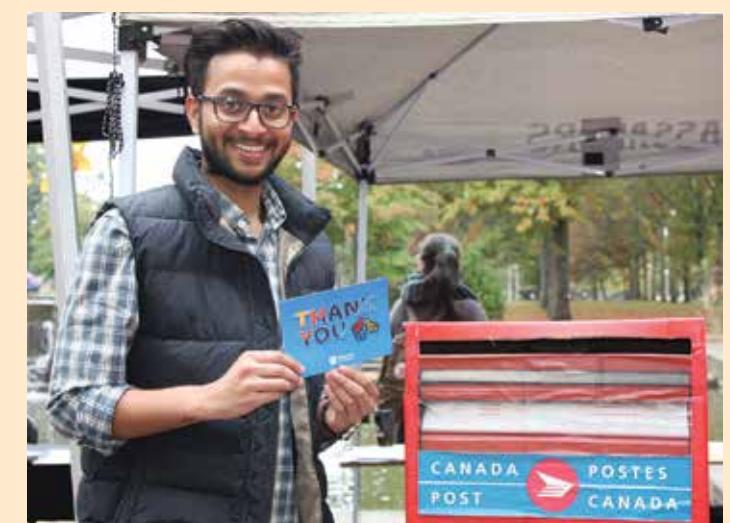
Learn what to do during an earthquake to protect yourself—Drop, Cover and Hold On! Participate in the Great British Columbia ShakeOut on Oct. 19. Encourage others to do so as well. Info: [uvic.ca/shakeout](http://uvic.ca/shakeout)

Talk to your family and friends about your plan if disaster strikes. Decide on a meeting location. Assume telephone lines will be overloaded.

Gather emergency supplies, including water, food and other materials to assist you if the community is greatly disrupted. Attend an emergency preparedness session and learn how to be better prepared.

Visit the UVic Emergency Planning website at [uvic.ca/services/emergency](http://uvic.ca/services/emergency) for information on how to get prepared, to sign up for an emergency preparedness session and to learn how to participate in the ShakeOut event this year.

*Rob Johns is manager of emergency planning at UVic.*



Former UVic student Justin Kottaram participating in the first Thank-a-thon in 2016.

PHOTO: SARAH TARNOPOLSKY

## When pennies turn to millions

BY SARAH TARNOPOLSKY

After surpassing last year's fundraising goal of \$14 million by over \$2.2 million, the university has set out an aspirational five-year fundraising plan, with a target of raising \$25 million per year by 2022.

The stimulus for this ambitious target is the university's commitment to diversifying its funding sources, to continue enhancing the quality of teaching and research, and to advancing its reputation in an increasingly competitive landscape.

"The shift from raising an average of \$15 million a year to \$25 million annually won't be easy," says Tom Zsolnay, associate vice-president of alumni and development. "Future partnership opportunities will rely heavily on positioning the university as an attractive investment."

The UVic Edge plays a key role in enhancing our reputation and answering the question that prospective investors often ask: why UVic? However, it's at the ground level—through the actions and mindset of faculty, staff and students—where the foundation for that shift is built. That's what a recent review of fundraising at UVic referred to when it advised the university to concentrate on cultivating a culture

of philanthropy.

"What we mean when we talk about the culture of philanthropy is a shared appreciation for giving, and the desire to make a positive impact in the lives of others," Zsolnay explains. "But it's not that the culture is missing. It's here in abundance. It's just not celebrated or nurtured as much as it could be."

A shining example of this culture in action is the Faculty of Education's pennies-per-paycheque campaign, which ran this spring and raised \$10,000 to create an emergency fund for education students experiencing hardship.

Another is the annual Thank-a-thon, held just before Thanksgiving, where hundreds of students sign thank you notes to donors expressing their appreciation for the difference they make to the university. This fall, several champions from different faculties have stepped forward to champion the Elders Engagement Fund at <https://extrweb.uvic.ca/donate-online/iace>.

"When external donors see the energy and commitment to philanthropy within the university, it's a sign to them that this is an institution they should invest in," says Zsolnay. "We may not get to \$25 million by adding pennies to paycheques, but we certainly won't get there without it."

## UNITED WAY

CONTINUED FROM P.1

events include the Bug Push and Chillin' for Charity.

Visit [uvic.ca/unitedway/events](http://uvic.ca/unitedway/events) for details and follow us on Twitter. If you are interested in promoting United Way or hosting an event in

support of the campaign in your unit, please contact the campaign assistant at [unitedway@uvic.ca](mailto:unitedway@uvic.ca). To learn more about United Way and the impact of your donations, visit [www.uwgv.ca](http://www.uwgv.ca)



S,YEWE Legend pole. PHOTO: BETH DOMAN

## Navigate the ever-changing market

A longtime resident and UVic grad, Dave is helping local residents and new-comers to navigate their way through the real estate market.

Whether buying or selling, he will assure smooth sailing — just ask his many clients at UVic.

DAVE LYNN

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DAVE LYNN

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250-592-4422 | [dave@davelynn.com](mailto:dave@davelynn.com)

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## A Fresh Tradition

Pepper's Foods has been serving Victoria as a full service, independent grocery store for over 50 years. We are committed to continuing the same traditions begun in 1962: the freshest, highest quality products at the lowest possible prices. Local is always our first choice. Our independent nature allows us to listen to our customers and give them what they want.

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## Two health scholars join national academy

Exercise psychologist Ryan Rhodes and palliative care researcher Kelli Stajduhar have been elected to the Canadian Academy of Health Sciences (CAHS), considered the highest honour for a Canadian health scholar.

The CAHS is one of three national academies within the Council of Canadian Academies. Fellows are elected based on their leadership, creativity and commitment to advancing academic health sciences.

Rhodes is a faculty member in UVic's School of Exercise Science, Physical and Health Education, director of the Behavioural Medicine Laboratory, and associate director of the Institute on Aging and Lifelong Health. Much of his research is focused on early family development of physical activity, and finding ways to motivate people to become more active. He maintains a secondary focus on physical activity and aging.

To date, Rhodes has held more than 80 external grants for his research. He's contributed more than 252 peer-reviewed publications, given 250 presentations and written 20 book chapters and an undergraduate textbook.

Stajduhar is a professor with UVic's School of Nursing and Institute on Aging and Lifelong Health. Her research and clinical work is focused on palliative care and gerontology, especially relating to health service needs for those at the end of their lives and their families.

Stajduhar is lead investigator with iPANEL—the Initiative for a Palliative Approach in Nursing: Evidence and Leadership—a provincial project to advance the further integration of pal-



Rhodes: UVIC PHOTO SERVICES



Stajduhar: UVIC PHOTO SERVICES

liative care into our health system. She also leads an international research collaborative on family care-giving and a Victoria-based study on access to end-of-life care for structurally vulnerable populations.

Stajduhar received the 2016 Award for Excellence in Nursing Research from the Canadian Association of Schools of Nursing, and the Confederation of University Faculty Association's 2017 Academic of the Year Award.



Seitzinger: UVIC PHOTO SERVICES

## Inaugural Victoria Forum explores ideas for a better world

This November, in collaboration with Global Affairs Canada, UVic will host Victoria Forum delegates in its inaugural offering, Canada@150: Promoting Diversity & Inclusion.

The forum will bring together global and national leaders, policy-makers, civil society and academics to discuss diversity and inclusion across six themes: economics of diversity, geopolitics, climate justice, global trade, Indigenous economic development, and philanthropy and inclusive development.

Sybil Seitzinger, executive director of the UVic-led Pacific Institute for Climate Solutions and a professor in the School of Environmental Studies, has been actively involved in the planning stages for the forum. She heads up the content planning for the climate justice theme alongside industry partners Peter Robinson, retired chief executive officer of the David Suzuki Foundation, and David Miller, president and CEO of World Wildlife Fund Canada.

How does diversity and inclusion intersect with climate change? As climate change impacts the frequency and intensity of extreme weather events across the globe people of all socio-economic backgrounds will feel

the long-lasting effects.

"One key topic at the forum is developing just solutions for communities threatened by less predictable environments," explains Seitzinger. "I'll be moderating a session where we talk about how many of our businesses depend on stable climate regimes. Everything from fishing, forestry and agriculture to outdoor recreation and tourism operators are affected by less predictable environments and we need to start devising socially conscious solutions for dealing with these changes."

The Victoria Forum planning committee isn't anthropocentric when it comes to discussing our changing environment. Also on the event's roster is a panel discussion, featuring World Wildlife Fund's David Miller as one of the speakers, which will explore climate justice for ecosystems. Should humans consider other species when we make decisions about how to mitigate and adapt to future climate regimes? And if we do, how does this shift the debate about climate justice to include all life on the planet?

To learn more about all six program tracks and register for the conference, visit [www.victoria-forum.ca](http://www.victoria-forum.ca)

## UVic tackles international ranking performance

UVic President Jamie Cassels late last month announced the launch of a Global Reputation and Rankings Project that will ensure UVic's global impact is being accurately assessed by the world rankings systems that have become so influential in recent years.

The project is led by VP External Relations Carmen Charette and project managed by Tony Eder, executive director, academic resource planning. A steering group of representatives from the academic, research and external relations portfolios and the president's office are providing support.

"Reputation is an important asset for our university. It underlies the value of a UVic degree to our students and informs the choices made by future students, faculty and staff, potential partners, governments and other decision-makers," said Cassels in a Sept. 29 email to members of the President's Advisory Council (PAC).

"The aim of the project over the next year is to improve UVic's international standing by ensuring that our rankings submissions are complete, comprehensive and in line with post-secondary education best practices."

Illuminate Consulting Group (ICG), a firm with extensive experience

in supporting universities to develop their international rankings strategies, will meet with a variety of units and individuals on campus to help UVic identify ways to professionalize the university's participation in the rankings processes.

ICG will also work with the project steering group to develop a strategy to optimize future submissions and focus outreach efforts to global partners such as faculty and research collaborators, employers and alumni on key UVic attributes. This is intended to address the gap that appears in some ranking assessments between UVic's academic reputation on surveys and its stronger performance on research impact measures.

Updates to the campus community as well as opportunities for feedback will be scheduled as the project progresses. Its key findings will be communicated when the project concludes in fall 2018.

"The results of this project will be critical in supporting the priorities and actions identified in our next strategic plan. The project should also provide additional answers to what 'being the best' globally looks like and how we can get there," Cassels told PAC.

# Get Ready to Shake Out.



**October 19, 10:19 a.m.**

The Great  
British Columbia  
**Shake  
Out**™

[uvic.ca/shakeout](http://uvic.ca/shakeout)



# around the ring

## New NSERC grants fuel basic research at UVic

Cutting-edge research got a big boost in September when federal Science Minister Kirsty Duncan came to campus to announce \$9.5 million in grants to 81 researchers at UVic. The funding was awarded through the Natural Sciences and Engineering Council's (NSERC) Discovery Grants program. A total of \$7.8 million in individual grants goes to 48 researchers, with an additional \$1.7 million in scholarships, fellowships and accelerator supplements to other faculty and students. "These awards recognize that creativity and innovation drive research advances," said UVic President Jamie Cassels. "We appreciate NSERC's vital ongoing support for fundamental research and the training of the next generation of our leaders in natural sciences and engineering."

## Cycling plan rolls onto campus

The university is developing a master cycling plan for the UVic campus. The plan will provide a comprehensive and coordinated approach to support cycling as a safe, enjoyable and convenient form of transport, and serve as a framework to guide the development of future cycling infrastructure including bicycle parking, cycling paths and end-of-trip facilities. It will also explore ways to improve cyclist and pedestrian interactions on shared pathways throughout campus. There'll be many opportunities for you to provide feedback into the development of the plan. Learn more at a launch event on Oct. 12 from 3:30 to 5:30 p.m. in the SUB's Michèle Pujol Room. Check the Campus Planning website for project updates and activities: [www.uvic.ca/cyclingplan](http://www.uvic.ca/cyclingplan)

## Concert honours former music chair

Ever wonder for whom UVic's Phillip T. Young Recital Hall is named? Find out at the 50th anniversary French Connections faculty concert on Oct. 14. The driving force behind the construction of the School of Music building in the 1970s, the late professor Young will be honoured in stories and song in the hall that bears his name. Featuring performances by more than a dozen music faculty, with narration by local CBC Radio host Gregor Craigie. French Connections is anchored by a French-themed dinner and talk at the University Club, and celebrates the people whose contributions echo in the School of Music's halls. "We really are stronger when working together," says co-head of performance, Pamela Highbaugh Aloni.

# Three UVic scholars named to "rising star" national college

Three researchers known for their passion and commitment to some of the most significant issues facing the country and the planet have been named to the Royal Society of Canada (RSC) College of New Scholars, Artists and Scientists.

Marine biologist Julia Baum and Indigenous scholars Charlotte Loppie and Val Napoleon were among 70 Canadians confirmed Sept. 12 as new members of the college.

Founded in 2014, the college is Canada's first national system of recognition across disciplines for an emerging generation of Canadian intellectual leaders. Members are nominated by their peers and selected for a seven-year term based on having demonstrated a high level of achievement at an early stage in their career. College members have already received other recognition in their fields for excellence.

### Marine ecosystems in trouble

Julia Baum, a professor in the Department of Biology, studies the resilience of marine ecosystems in the face of human disturbance. Her research focuses on their ecology and conservation, investigating how disruptions such as climate change are altering these ecosystems, and if and how they'll recover.

Since 2009, Baum has done hun-



L-R: Napoleon, Baum and Loppie. UVIC PHOTO SERVICES

dreds of dives in the coral reefs of Kiritimati Island (known as Christmas Island), 2,000 kilometres south of Honolulu. She's studied the impact of the worst global coral bleaching episode in recorded history and is now watching for initial signs of recovery.

At the same time, Baum is a powerful advocate for a number of issues faced by Canadian scientists. In addition to receiving global coverage for her research, she recently led an investigation on deteriorating funding for fundamental research in Canada which was reported on by *Nature* and *Science* magazines.

### Indigenous health inequities

Charlotte Loppie is a professor in UVic's School of Public Health and Social Policy, and director of the Centre for Indigenous Research and Community-Led Engagement. She's acting director of the university's Indigenous Governance Program.

Loppie's work focuses primarily on Indigenous health inequities, Indigenous HIV/AIDS and the social determinants of Indigenous health. She's committed to patient-oriented research, a way of thinking about and conducting research as something that is done by, for and with the people with lived experience who are the focus of the research.

Loppie was one of only three Canadian researchers awarded a \$100,000 research prize this year from the Canadian Institutes of Health for patient-oriented research.

### Indigenous legal traditions

Val Napoleon holds the Law Foundation Chair of Aboriginal Justice and Governance at UVic, and is one of Canada's most influential Indigenous scholars. She's the founder of the university's Indigenous Law Research Unit (ILRU), which is committed to the recovery and renaissance of In-

digenous laws and the only dedicated unit of its kind in the country.

The ILRU has worked with more than 40 First Nations communities to apply their own laws to specific issues within their communities, a process driven by community members, Elders and knowledge-keepers. She and faculty colleague John Borrows, the Canada Research Chair in Indigenous Law, are working to establish UVic as the first Canadian university to offer a joint degree in Canadian common law and Indigenous law.

Napoleon is from northeast British Columbia (Treaty 8) and a member of Saulteau First Nation. She's an adopted member of the Gitanyow (Gitksan) House of Luuxhon, Ganada (Frog) Clan. Her current research focuses on Indigenous legal traditions, Indigenous feminism, citizenship, self-determination and governance.

# Researcher sees gold in global search for faster computer

BY JODY PATERSON

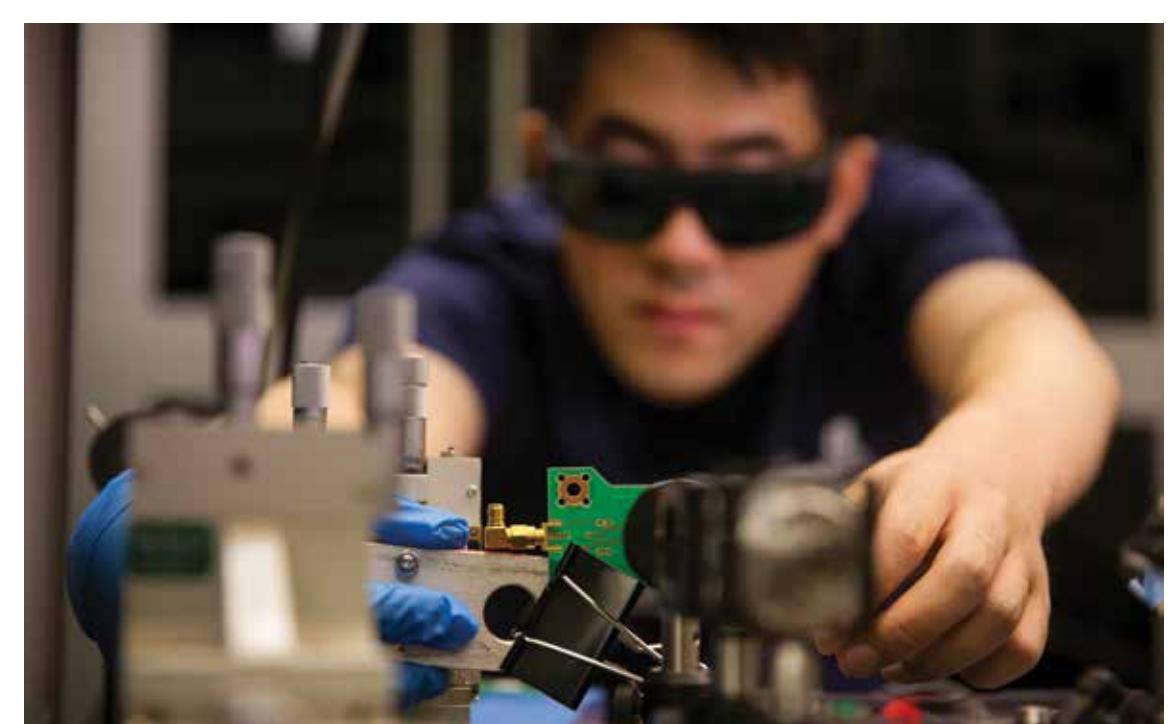
Somewhere between gold and glass lies a new material that could end a decade of stagnant computer speeds, suggests a University of Victoria engineer whose research is adding to that vision.

"Computers have changed our lives in ways we never imagined," says Reuven Gordon, Canada Research Chair in Nanoplasmonics. "But they stopped getting faster in the last 10 years because silicon as a semiconductor has reached its limit. The world is going to change in ways that we're not going to recognize, but to get there, we need to overcome that silicon barrier."

Gordon's research involves finding ways to "squeeze" light to see molecules—work that has relevance in fields from health to energy. A beam of light from the sun is 1/200th the size of a single strand of hair, but has to be squeezed down to a size 200 times smaller still in health research in order to make visible the tiny proteins responsible for virtually every function in the human body.

So what's that got to do with computers? Gordon and his research team frequently use gold surfaces and gold nanoparticles in their work, and recently ended up creating an artificial material that can switch from the conductive qualities of gold to the insulating qualities of glass.

In another experiment, Gordon's team applied light to nanoparticles of gold to make them move 500 times faster than the "clock speed" of a computer, the millions or billions of pulses per second known as megahertz and gigahertz. Gordon thinks that this extremely rapid movement of the nanoparticles could ultimately revolutionize the speed of future-generation computers.



Graduate student Dao Xiang measures the electric response of metasurfaces through the natural oscillations of nanoparticles, an aspect of the research work he's doing with Reuven Gordon. UVIC PHOTO SERVICES

Quoted in the August edition of *Nature Photonics* magazine in a piece on functional quantum plasmonic metasurfaces, Gordon noted his team's work identified "unprecedented flexibility in designing materials that can change their properties in a big way dynamically."

Consider the shimmering iridescence of a peacock feather or a hummingbird's neck, says Gordon. When light strikes an object, it gives it a colour, which changes depending on how the light hits it. Sound waves change an object's interaction with light, resulting in a higher frequency

than anything the world's fastest computers can generate.

Computer processing speeds increased dramatically during the 1980s and '90s, but the silicon chips reached their limit a decade ago and those gains in speed have stopped. Information travels at the speed of light along the fiber optic cables that wire the modern world, but today's silicon computer chips can't retrieve and process information moving at that speed.

And while "supercomputers" do exist, they're really just conglomerations of tens of thousands of slow processors, and are extreme users of energy: one supercomputer can rack up \$8.5

million a year in electricity bills and require 11,400 litres of water a minute to stay cool.

Researchers around the world are exploring new ways to get around the silicon problem. The concept of light-based computers holds much promise, says Gordon, whose research is funded through a Discovery Grant from the Natural Sciences and Engineering Research Council.

"Now, others will take up our finding and build the research from there. It's far from any kind of application right now, but it's going to change a lot. Scientists are excited," says Gordon. "What might this enable us to do?"

# Report outlines a new role for Indigenous nations in water decisions

Collaborative consent provides a powerful way to tackle difficult questions about how Indigenous and non-Indigenous governments can work together to make decisions about water and land use, according to a report that uses BC's new *Water Sustainability Act* as a prime opportunity for its use.

Canada's relationships with Indigenous peoples—and the institutions, laws and policies governing these relationships—remain fraught with challenges 150 years into Confederation. These tensions are evident in freshwater governance in BC where First Nations are excluded from the major decision-making regime; yet the outcomes have a significant impact on Indigenous rights and important cultural, spiritual and economic water uses.

Released in September by the POLIS Water Sustainability Project at UVic and the Centre for Indigenous Environmental Resources (CIER), *Collaborative Consent and British Columbia's Water: Towards Watershed Co-Governance* lays out a viable model for achieving a critical shift towards more equitable nation-to-nation relationships.

With collaborative consent, the parties commit to work together as equals at the table, each with their asserted authority, with a goal to achieve each other's consent to decisions, policies and plans.

"Collaborative consent marks a major step forward from the status quo," says co-author Rosie Simms, a

POLIS water law/policy researcher. "It offers a way for BC to realize its commitments to govern according to the United Nations Declaration on the Rights of Indigenous Peoples and to develop a successful governance regime for fresh water in this province."

The report takes a detailed look at collaborative consent, how it differs from other collaborative and partnership processes, and includes case studies on how elements of it have been used in BC, Canada and internationally.

Collaborative consent can be applied to decision-making processes at any scale, so it is relevant for provincial, federal, local, First Nations and Métis governments, as well as water leaders, practitioners and others.

Simms says several reasons exist that make freshwater governance compelling grounds for collaborative consent in BC: escalating water issues and insufficient governance and management approaches; the lack of jurisdictional clarity for fresh water and overlapping responsibilities between all levels of government, including Indigenous; growing momentum towards co-governance and watershed governance approaches; and the specific window of opportunity to advance the implementation of the new provincial water law regime for the benefit of all British Columbians.

A copy of the report is available at [bit.ly/uvic-polis2017](http://bit.ly/uvic-polis2017)



Akbari demonstrating bandage. UVIC PHOTO SERVICES

## High-tech bandage uses phone app to identify infection

BY JODY PATERSON

A "smart bandage" that detects and treats infection using a smartphone app has the potential for transformative advances in wound care, says UVic bioengineer Mohsen Akbari, principal investigator of a study published this week which describes the science behind the innovation.

Akbari and his UVic-based research team with collaborators from Harvard Medical School and UBC are working with UVic Industry Partnerships to commercialize GelDerm, a patent-pending bandage that monitors pH levels at wound sites to detect the earliest signs of bacterial infection.

A patient using GelDerm will be able to scan over the bandage's embedded sensors with a smartphone app to gauge whether infection has set in. The information can be used for self-monitoring and can be relayed wirelessly to a patient's health care team for follow-up.

Should antibiotics be required to treat an incipient infection, they can be administered directly through the bandage without having to remove it.

"There's a pressing need to develop advanced dressings that can monitor wound conditions and provide proper treatment when necessary," says Akbari, whose bandage was featured on the cover of *Advanced Health Care Materials* on Sept. 25. "The proposed technology holds great promise in managing chronic and acute injuries caused by trauma, surgery or diabetes."

Skin is the largest organ in the body, and an important barrier against bacteria and other pathogens. GelDerm's proven ability to spot infection through changes in pH levels and localize antibiotic treatment at the wound site means potentially life-threatening infection is identified and treated quickly.

While electronics-based approaches to wound care are already being developed by several researchers around the world, Akbari says GelDerm is the first that functions without a power source and whose readings aren't compromised by the multitude of substances that leak from a wound.

Akbari anticipates the bandage

could be on the market within five years once industry partners have been identified.

Wound management is a major health challenge around the world that racks up significant public expenditures. A 2016 report from the World Health Organization found that in the US alone, infections at surgical incision sites result in more than 400,000 extra days in hospital for patients each year, at a cost of almost \$1 billion US.

"This all-in-one bandage that detects infection and administers treatment without having to be removed will reduce costs and save lives," says Akbari.

GelDerm's ability to administer antibiotics directly at the wound site rather than through a general course of medication also reduces problems of antibiotic overuse, such as the growth in drug-resistant "superbugs" that now kill 10 million people annually.

The research was funded by the Canadian Institutes for Health Research and the Canada Foundation for Innovation.

## Peak contamination levels from Fukushima now known

BY VIMALA JEEVANANDAM

For the first time since 2011, peak contamination levels in Pacific Canadian waters from Japan's Fukushima Daiichi nuclear disaster are known, says a UVic scientist who has been monitoring levels since the meltdown of three reactors at the plant.

Releases of radioactive elements from the Fukushima Daiichi Nuclear Power Plant accident in 2011 were the largest unplanned discharges of radioactivity into the ocean. The disaster, triggered by a 15-metre tsunami caused by a magnitude 9 earthquake, created widespread concern over the potential impact on marine life and human health.

"Contamination from Fukushima never reached a level where it was a significant threat to either marine or human life in our neighborhood of the North Pacific," says chemical oceanographer Jay Cullen.

Cullen leads Fukushima InFORM (Integrated Fukushima Ocean Radionuclide Monitoring), a network that monitors marine radioactivity at distances up to 1,500 kilometres off the coast of British Columbia.

Radioactive isotopes from Fukushima were first detected in June 2012, with maximum levels reaching offshore BC in 2015 and 2016.

At their highest levels, contamination from Fukushima reached

**“CONTAMINATION FROM FUKUSHIMA NEVER REACHED A LEVEL WHERE IT WAS A SIGNIFICANT THREAT TO EITHER MARINE OR HUMAN LIFE IN OUR NEIGHBORHOOD OF THE NORTH PACIFIC.”**

about one-tenth of what was seen in the North Pacific in the late 1950s and 1960s, before the ban of above-ground nuclear weapons tests," says Cullen. "We're now seeing levels of Fukushima-related contamination similar to levels in the 1970s and expect these to further decline in 2017–2018."

The InFORM network brings together Canadian and US scientists, health experts and non-governmental organizations. Citizen scientists along the BC coast who are also part of the network assist with monthly collection of sea water samples and once a year collect fish and shellfish samples for analysis.

The project is funded by the Marine Environmental Observation Prediction and Response Network.

More information can be found at [fukushimainform.ca](http://fukushimainform.ca). The most recent findings were published in the American Chemical Society's *Environmental Science and Technology*.

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## in memoriam

One of UVic's first faculty members, **Richard Beard May**, died in Spokane, Washington in August after a decade-long struggle with brain disease. May was hired by the newly established UVic in 1966 as a faculty member in the Department of Psychology. He published numerous articles on developmental, cognitive and quantitative psychology, and was the senior author of an innovative textbook on statistical methods that included software for data analysis. He retired in 1996. The neuropsychological research and tests developed by his UVic colleagues made his brain disease diagnosis possible. May is survived by his wife, sons Robert and Richard, and seven grandchildren. A donation may be made in his memory to the R.B. May Scholarship Fund, c/o the Development Office, University of Victoria, P. O. Box 1700, STN CSC, Victoria, BC, V8W 2Y2.

## AROUND THE RING

CONTINUED FROM P.4

### Window into the past

"Manuscripts on Mondays" is a new free lecture series at UVic Libraries that explores medieval and early modern manuscripts from Special Collections. These handwritten documents provide a fascinating window into the past. Spend some time with UVic scholars and medieval treasures. Everyone welcome! Info: [uvic.ca/library](http://uvic.ca/library)

## New report summarizes how UVic contributes to community

BY CHELSEA FALCONER

Community-based researcher Crystal Tremblay is intrigued by the threads that draw UVic and community together. She's spent over 10 years collaborating with communities to address local challenges, such as an initiative that improved the safety and income generation of organized waste pickers in São Paulo, Brazil.

Tremblay's latest project moves beyond her personal research—as the research associate with UVic's Office of Community-University Engagement (OCUE), she recently wrapped up a report that synthesizes the breadth and impact of UVic-led community-based initiatives.

"At UVic, so much incredible work is being done with and for local and global communities," says Tremblay. "This project is the first of its kind to capture the cumulative change that these diverse projects are making."

The report, Community-Engaged Research at the University of Victoria, was co-sponsored by UVic's vice-president research and OCUE. It covers the period 2009 to 2015 and includes a campus-wide scan of data provided in the Enhanced Planning Tool (EPT) for 2014/15.

Tremblay identified 167 unique instances of community-engaged research (CER) and a total of \$21 million in funding secured for CER initiatives between 2009 and 2015. More than 20 per cent of these initiatives involved Indigenous communities and 70



Sebastian Carlos dos Santos (left) of the Jardim Gramacho Cooperative of Collectors, with Tremblay during filming for the documentary.

PHOTO: JUTTA GUTBERLET

per cent involved communities on Vancouver Island. The most common areas of focus for these initiatives included healthy lives and well-being, inclusive and equitable education, and the conservation and sustainable use of oceans and marine resources.

The report also considers how UVic's projects intersect with the United Nations' 17 Sustainable Development Goals, the five guiding principles of OCUE and the four areas of international impact identified in UVic's International Plan.

"I've seen first-hand how the participatory process of community-engaged research is transformative for everyone involved," says Tremblay. "This type of research responds to pressing and complex challenges in society and has a lasting impact, and it's encouraging to see that UVic is

playing such a vital role."

In addition to the formal report, Tremblay conducted 12 case studies to showcase concrete examples of UVic's CER, including her own work supporting Jutta Gutberlet (geography) on the Participatory Sustainable Waste Management (PSWM) project in São Paulo.

The five-year community-university research partnership helped to create a more inclusive and participatory culture in waste management policy for one of the largest landfills in South America, with community members leading the way. They, along with Tremblay and Gutberlet, produced a documentary as part of the project.

More than a decade ago as a UVic master's student in geography, Tremblay also helped to shed light on the demographics and day-to-day lives of bidders in Vancouver, in a socio-

economic study which mapped out the routes of 10 bidders whom she interviewed extensively in 2005 while doing field work in the Downtown Eastside.

Tremblay has a doctorate from the Department of Geography at UVic and recently completed a SSHRC postdoctoral fellowship with the Institute for Resources, Environment and Sustainability at UBC. She currently teaches as a sessional instructor in UVic's geography department.

"Working alongside community members leads to change that changes lives," adds Tremblay. "The new impact report provides a peek at some of the ways UVic strives towards this every day."

Read the full report on CER at UVic, and explore the 12 case studies included in the project, at [uvic.ca/ocue/research/our-research-projects](http://uvic.ca/ocue/research/our-research-projects)



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# day in the life

BY STEPHANIE HARRINGTON

Fierce, smart and motivated, English PhD student Alana Sayers isn't afraid to create space for herself and other Indigenous students.

Sayers is the Department of English's first Indigenous support officer and teaching assistant in Indigenous literature. Her role is to provide a safe and welcoming space for Indigenous and non-Indigenous students, faculty and staff to receive support and information on Indigenous-related matters.

"I'm trying to support Indigenous students, build relationships and bring understanding about colonialism and decolonization to my role and the classes I lecture," she says. "I'm trying to create space."

Sayers is from the Hupacasath (Nuu-chah-nulth) and Kipohatkaw (Cree, Treaty 6) First Nations. She grew up on the Hupacasath reserve in Port Alberni where she attended Haa Huu Payak School. Her mother, Judith Sayers, was elected in September as the new president of the Nuu-chah-nulth Tribal Council. Sayers' brother Cole also attends UVic.

As part of her role, Sayers is lecturing in undergraduate and graduate English classes on colonialism, decolonization and Indigenous methodologies. The Social Sciences and Humanities Research Council scholarship recipient transferred directly into the English PhD program from her master's.

English department graduate advisor Alison Chapman says that the unprecedented move is a "marker of her brilliance as a scholar" and says Sayers played a fundamen-



Sayers. PHOTO: CHORONG KIM

tal role in crafting the new position.

"We hope to make it into a legacy position to support Indigenous students on campus and promote the study of Indigenous literature, as well as start more discussion and awareness about colonialism and decolonization in the classroom and beyond," Chapman says.

Sayers, who also writes fiction and poetry, hasn't always excelled at her studies. Although she loved literature as a child, Sayers found the transition to university difficult, and says she failed the academic writing requirement three times in her undergraduate degree.

"Indigenous understanding of the English language is different than the typical Canadian understanding," she says. "I want to help bridge that gap to make English literature relatable to people so they can be passionate about it and excel at it."

Sayers plans to become an English professor, something she said wasn't her original path but one she's looking forward to. She sees herself as part of an ongoing process to make universities more welcoming places for Indigenous students.

"It doesn't mean changing to fit something, but opening more space so different ways can exist."



Stone tools. PHOTO: JODY PATTERSON

## Class takes students back to the Stone Age

BY ANNE MacLAURIN

This summer, a group of 17 UVic anthropology students went back to the Stone Age working with bone, shell, obsidian, stone and wood to make hand tools and spear-like weapons that are thrown with a spear thrower known as an atlatl.

The "Living Technologies" ANTH 315 course exposed students to flintknapping, percussion and pressure techniques, stone pecking and grinding, all essential to making stone tools and spear points.

"I love teaching the stone tools course," says UVic sessional instructor Dan Stueber. "For the students who are planning to be archaeologists, it's so valuable to create a stone tool and see the flakes that break off using prehistoric percussion and pressure techniques."

Stueber, based in Oregon, travels up to teach the course most summers.

He's been a flintknapper and practitioner of primitive technologies for more than 30 years while also teaching courses in ground stone and lithic technology in the Pacific Northwest.

It was Stueber who played a key role in a world-first discovery on the early use of Stone Age tools last August, along with UVic paleoanthropologist April Nowell.

For fourth-year student Holly Miller-Stroes, the hands-on learning was invaluable. In the classroom she looked at flakes in diagrams but to the untrained eye, a flake just looks like a rock. It wasn't until Stueber's class that she could recognize the attributes of a flake.

"In Dan's class, I picked up a hammer stone and struck a piece of obsidian with the intent of making a tool. A flake came off, and for the first time when I looked at it I could point to it and say there's the bulb of force, that's the platform that was made where my

hammer stuck, those are the compression rings radiating out from the force of my strike."

In his outdoor classroom, Stueber enthusiastically instructs students on percussion techniques and flintknapping, as well as spear-throwing. Hands-on learning is essential to anthropology, he says. "Recreating stone tools and activities from as far back as 2.7 million years ago deepens our understanding of and appreciation for our ancestors' intelligence and ingenuity."

On the last day of class, Stueber took his students to an open area where they all practised throwing spears using an atlatl. (The atlatl is a stick with a handle on one end and a socket, or small hook holding a light spear, on the other). Hitting a target five metres away takes skill and precision—something the group of anthropology students now appreciates about their Stone Age ancestors.

## More stories online

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# HEALTHY OCEAN = HEALTHY COMMUNITIES



Ban. Inset: Yelloweye rockfish. UVIC PHOTO SERVICES/SCOTT STEVENSON

## Engaging BC's coastal communities in marine conservation is the path to a sustainable future

BY JODY PATERSON

In the villages where University of Victoria biologist Natalie Ban works on BC's central coast, Indigenous Elders tell stories of the 80-centimetre-long yelloweye rockfish they once caught routinely. These days, the fish are half that size.

The stories are indicators of a species in serious decline, says Ban. But federal fisheries managers can't base decisions solely on anecdotal information. So, Ban and her research team partnered with First Nations to take

those stories and transform them into the kind of data Fisheries and Oceans Canada (DFO) can use.

Further south in the Salish Sea, yelloweye and other rockfish species are already off limits to commercial fisheries. But recreational fishing continues. Research by one of Ban's students has fueled community initiatives to raise awareness among anglers of extensive Rockfish Conservation Areas around the Gulf Islands.

Community engagement is a hallmark of Ban's research method, and a critical element for ensuring that the

ocean's diversity and bounty will be there for future generations of British Columbians to enjoy.

"My interest is in the future of the ocean and the people who rely on its resources—the coastal communities," says Ban. "It's the intersection of biodiversity conservation and the health of human communities that interests me the most."

Ban's partnership with the Central Coast Indigenous Research Alliance has helped four coastal First Nations translate what they already know from their Elders' stories into statistics that

federal authorities can recognize as data.

The research focused on the dwindling size of rockfish over time, and reduced availability of Dungeness crab.

"The interview data showed declines in size and catches," says Ban of the project. "These data have opened the door to more discussions between the First Nations and DFO. The project succeeded because the research partnered with the people who live there. It helped to empower their knowledge."

The research project in the Salish Sea began in 2013, when one of

Ban's master's students set out to measure the compliance of recreational anglers with federal rockfish conservation efforts in place around the Gulf Islands for almost a decade. After interviews with 300 fishers, it was clear that many had no idea that yelloweye rockfish were threatened or that they were fishing inside federally protected Rockfish Conservation Areas.

"Rockfish are in bad shape in the Salish Sea," says Ban. "You're not allowed to use hook-and-line gear in the Rockfish Conservation Areas. But lots of fishermen just don't know."

While catch-and-release is common in recreational fisheries, rockfish are deepwater fish lacking the adjustable swim bladder that other species have. When they're pulled up from the depths, the impact on their swim bladder is often fatal.

The research in the Salish Sea involved partnerships with the Galiano Conservancy Association and Valdes Island Conservancy. When the extent of lack of information became apparent, they jumped into action to educate people. Maps of the conservation areas and information on rockfish are now posted at 44 boat launches in the southern Gulf Islands, Lower Mainland and southern Vancouver Island. Monitoring of fishing activity for research purposes continues.

"While the species we studied are in decline," says Ban, "the future is promising because First Nations and community organizations are actively involved in promoting sustainable fisheries and conservation."

Ban's research is funded through the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council and the Marine Environmental Observation, Prediction and Response Network.

## Off the beaten track

Anthropology students explore research techniques at Cuba Ethnographic Field School

BY ANNE MacLAURIN

How do you really live a field school experience? According to 23 UVic anthropology students, you start by going off the beaten track for 30 days in Cuba, the biggest island in the Caribbean. Some of our students created original media projects about their experiences.

"We did not simply talk about Cuban culture in a classroom," reflects Jenny Francoeur, a participant from the earlier field school in 2014. "Rather, we were invited to experience firsthand the dances, music and food we learned about through workshops, tours, dance classes and concerts."

"Cuba is a country undergoing rapid transformation," says UVic anthropologist and field school instructor Alexandre Boudreault-Fournier. "The field schools are an opportunity for students to capture some of that change through ethnographic anthropology, as they witness the shifting beliefs and cultural patterns of a country with a very rich history and social background."

Boudreault-Fournier has led two UVic Cuba ethnographic field schools (in 2014 and 2016) and a third is planned for May 2018. She says field schools offer students a unique opportunity to explore research techniques such as data collection, observation,

participant observation, interviewing and theoretical reflection while being immersed in a different linguistic and cultural context.

"This field school has been the most influential experience in my university experience to date," says Lydia Toorenburgh, a 2016 participant. "We engaged in original, primary ethnographic fieldwork; this is an exceptional and rare opportunity for an undergraduate student."

During the Cuban field schools, students experienced an intensive month of ethnographic field work using cameras, video and sound equipment. The students lived with families in the area and shared every-

day experiences. In the second field school, students acquired concrete research skills and produced original media projects based on their own research.

The students worked in collaboration with Boudreault-Fournier's research project, funded by an Insight Grant from the Social Sciences and Humanities Research Council, exploring media infrastructure in Cuba. They selected a topic related to the research project, then interviewed and filmed participants from the region. Working in teams, the students worked with Boudreault-Fournier and Oikos Experimental, a team of four dedicated young

Cubans from Santiago de Cuba, to produce audiovisual films, photo series, soundscapes and graphic novels—all on topics that grabbed their interests.

According to Boudreault-Fournier, the third field school will take place in 2018 during the annual Conference of the Canadian Anthropology Association (CASCA) in Santiago de Cuba. It is yet another vital component of the field school and another "once-in-a-lifetime" opportunity for UVic students.

Please contact Alexandre Boudreault-Fournier at alexbf@uvic.ca to find out more about participating in the 2018 field school in Cuba.

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