

UBC REPORTS

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Totem in 3D: Museum of Anthropology Recreates a Northwest Coast Monument

Imagine being able to "travel through" a traditional Northwest Coast village site that no longer exists.

Thanks to three-dimensional laser scanning technology, the Museum of Anthropology (MOA) at UBC may one day make this virtual re-creation a reality.

"New tools are changing the way we're teaching and conducting research, the way we're preserving and presenting cultural objects," says MOA projects manager/curator Bill McLennan. "The future is almost scary."

In consultation with the Haida Nation, McLennan and his colleague, designer Skooker Broome, worked with a Vancouver-based firm to scan a totem pole collected from the Ninstints Village on the Queen Charlotte Islands in 1957 and now housed in the museum. The totem, which dates back to the mid-19th century, features a bear with a frog in its mouth and a wolf. It has weathered, been broken into three parts and carries only small traces of its original paint.

"The technology allows us to basically retrieve the information that is in a piece so the information isn't lost," says McLennan. "We can make it available for people studying the culture, or for young artists learning their craft."

The tripod-mounted portable scanning system measured every square millimetre of the entire surface geometry of the totem in "xyz" coordinates, thereby completing a digital record of the monument and capturing it in the form of a point cloud – a dense, accurate and interactive 3-D model that can be rotated and viewed from any perspective on a computer.

"First we get an exact wire mesh of the whole piece," McLennan explains. "Then we can lay on the 'skins' [layers of wood]. Working with contemporary artists, we can determine what the One pixel at a time. BY ERICA SMISHEK



colours were like in the 1850s when it was carved. We can also bisect the pole at any point and can get an exact representation of the thickness of the wood."

A plastic model generated from a 3-D laser printer as well as two-dimensional prints provide additional documentation of the object.

Developed by Leica Geosystems, an international company serving customers in surveying, engineering, construction, GIS, mapping, industry and other areas of activity, the 3-D laser scanner has traditionally been used as a tool to create "asbuilt" documentation of large structures and sites like pulp mills, oil refineries and dams. Scanning provides a safe, time-efficient, cost-efficient and accurate way to determine how a building has changed since it was built.

More recently, companies that market the product have looked for other applications to showcase the technology, using it to prepare "asfound" documentation of dinosaur bones, European cathedrals and castles, and even the Statue of Liberty.

"Traditional technology has not been able to capture that much data," says Christine Young, who worked on the pilot project with MOA. "With 3-D scanning, it's almost overkill what you can do with it."

Young, director of marketing for a firm that distributes the scanners, explains they can be positioned at significant distances from the structures that are being measured, eliminating the need for activities such as climbing and crawling that pose the risk of accident or the need to physically touch items that are often very vulnerable.

Moreover, she says, people don't have to be in the same room as the object in order to benefit from the data, thereby expanding the research *continued on page 8*

Saving the Sea Star



Dead sea creatures a popular souvenir. BY MICHELLE COOK

Dried starfish candleholders. Toy cars sporting sea urchin wheels. Sand dollar necklace pendants. Souvenirs crafted from dead sea life have become such a ubiquitous part of the scenery in tropical resorts, it's easy to forget that these curios were once living animals.

In a new exhibit opening this month, Chicago's Shedd Aquarium hopes to raise public awareness of the issue using research conducted by Project Seahorse, an international marine conservation and research organization based at UBC.

Project Seahorse's contribution to the "Sea Star Quest" exhibit comes in the form of a survey of the Mexican echinoderm trade, which includes sea stars – more popularly known as starfish – as well as sea



Project Seahorse conducted research on the Mexican curio trade in sea stars for a new exhibit at Chicago's Shedd Aquarium.

urchins, sand dollars, and heart urchins. More than 1,500 different species of these live in tidal waters worldwide but little is known about the global trade in sea stars or urchins for use as souvenirs.

Drawing on her previous experience as a trade surveyor in southeast Asia, Project Seahorse researcher Kristin Lunn traveled to Mexico in February to interview fishers, distributors and retailers in several of Mexico's key resort areas including Mazatlan, Puerto Vallarta, Cancun and Cozumel.

"We had this idea that sea stars were being taken for the curiosity trade but we didn't have any idea how many were being traded and what that would mean for wild populations," Lunn says. *continued on page 5*



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IN THE NEWS

Highlights of UBC Media Coverage in May 2004. COMPILED BY BRIAN LIN

Troy Good for the Classics

Commenting on the recent blockbuster epic film *Troy*, starring Brad Pitt as Achilles, *Shirley Sullivan*, head of the classics department at UBC, said most of her colleagues are willing to overlook the film's faults for the interest it will spark in the ancient world.

"Anything that broadens the person's perspective, that takes them into the past and makes them see a wider range of history, can't but do good. Even if it's a distortion," Sullivan told Canadian Press.

Sullivan said other epic movies have boosted the study of the antiquities, including *Gladiator*, starring Russell Crowe and movie classic *Ben Hur*.

Jelly Fish for Lunch?

Kicking off the World Fisheries Congress in front of 1,500 fisheries scientists from around the globe, UBC fisheries professor *Daniel Pauly*, one of the world's leading fisheries researchers, showed how people's growing appetite for seafood has driven fishing boats from industrialized countries ever farther into Southern Hemisphere seas controlled by Third World nations.

In the wake of the disastrous crash of the North Atlantic's cod stocks, the Newfoundland government is encouraging fishermen to go after jellyfish, said Pauly, who in November was chosen by Scientific American as one of the top 50 fisheries scientists in the world, reports **The Seattle Post Intelligencer.**



UBC professor Daniel Pauly, one of the world's leading fisheries researchers.

Bell Gives UBC \$1.25 Million for Tech Research

Bell Canada recently announced a \$1.25-million commitment to UBC to support technology research. The five-year commitment is the first in Western Canada for the Bell University Laboratories program, reports **The Globe and Mail**.

Bell is exploring a number of potential projects with UBC researchers. Projects will focus on wireless technology and social computing.

The Truth About Echinacea

Commenting on a new U.S. study that says echinacea doesn't help prevent colds, UBC alternative therapy researcher *Lloyd Oppel* told **Global National** that "echinacea is not delivering on the promise that it's held out to have. So this study is very much in keeping with that."

Placebo Effect Revealed

Experiments conducted by Italy's University of Turin Medical School have revealed the action of the placebo effect in Parkinson's disease patients.

"The research provides further evidence for a physiological underpinning for the placebo effect," UBC neurologist *Jon Stoessl* told **New Scientist**. His team demonstrated in 2001 that placebos can relieve symptoms by raising brain levels of dopamine, a beneficial neurotransmitter. □

Dynamic Teaching Earns Faculty Killam Awards

There are three rules in Dr. Bob's classroom, says one student of music professor Robert Pritchard. 1) Don't Panic; 2) Stay with the tour; and 3) If you don't understand, it's the teacher's fault! Pritchard's creative approach earned him one of 22 Killam Teaching Prizes, awarded to faculty members during Spring Congregation ceremonies.

Other winners include Education Prof. Pat Mirenda, North America's leading authority on autism, and Botany Prof. Jennifer Klenz, an expert on plant and drosophila (fruit fly) genetics.

Killam winners are selected by their faculties based on recommendations from students and colleagues. Each receives \$5,000 from university endowment Senior Instructor Judy Brown, English Dept.
Prof. Anthony Dawson, English Dept.
Dr. Diane Roscoe, Pathology and Laboratory Medicine
Prof. Ralph Hakstian, Psychology Dept.
Senior Instructor Jacques Bodolec, Dept. of French, Hispanic & Italian Studies
Assoc. Prof. Ann Curry, School of Library, Archival & Information Studies
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Other Killam Teaching Prize recipients for 2004 are: Prof. Geoffrey Herring, Chemistry Dept. • Prof. Michael Ward, Mathematics Dept. Environmental Hygiene • Prof. Alan Lowe, Oral Health Sciences Dept. • Assoc. Prof. Brian Rodriques, Pharmacology & Toxicology; Prof. Nicolas Jaeger, Electrical & Computer Engineering • Lecturer Mike Le Roy, Marketing/Sauder School of Business. \Box

UBC REPORTS

Director, Public Affairs Scott Macrae scott.macrae@ubc.ca

Editor Paul Patterson paul.patterson@ubc.ca

> Design Director Chris Dahl chris.dahl@ubc.ca

Designer Sharmini Thiagarajah sharmini@exchange.ubc.ca

Contributors Cristina Calboreanu mccalbor@exchange.ubc.ca Michelle Cook michelle.cook@ubc.ca Brian Lin brian.lin@ubc.ca Erica Smishek erica.smishek@ubc.ca Hilary Thomson hilary.thomson@ubc.ca

Advertising Fran Hannabuss hannabus@exchange.ubc.ca **UBC Reports** is published monthly by the UBC Public Affairs Office 310 – 6251 Cecil Green Park Road Vancouver BC Canada V6T 1Z1

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UBC Researcher Seeking a Cure for Baldness

Solution could be available within ten years. BY HILARY THOMSON

Researcher Kevin McElwee -

one of only a few people in the world who hold a doctoral degree in hair biology - thinks a cure for baldness that uses the technique of hair cloning could



be commercially available within 10 years.

Hair cloning is a slang term for engineered hair growth. The process involves isolating a group of cells at the base of the hair follicle - the living part of hair rooted in the skin. Once the follicular cells are multiplied in a laboratory, they can then be implanted back into the donor's scalp where they divide to create new follicles and generate new hair.

A sample of about 10 hairs could produce several million cultured cells, which, in turn, could grow several thousand hairs. (See sidebar for information on scalp hair population.)

Scientists have been studying hair cloning in animal models for a few years, but McElwee is the first investigator to demonstrate exactly how cloning works.

"Now that we have proof of how this process works, we can accelerate the research toward creating a limitless supply of hair - in effect, a cure for baldness," says the 34-year-old.

While early results are promising, he estimates it will take almost a decade of further study, clinical trials and meeting regulatory requirements before cloning is widely available.

Common or pattern balding affects about 20 per cent of men in their 20s. By age 50, about half the male population and 20 per cent of women have problems with baldness or hair thinning.

An expert in the cellular mechanics of hair loss and growth, McElwee was recruited by Dr. Jerry Shapiro, a world authority on hair disorders, to join the division of dermatology in UBC's department of medicine in March 2004. Also an investigator with the Vancouver Coastal Health Research Institute, McElwee came to Canada from Philipp University in Germany where he was a senior scientist in the department of dermatology. A biologist and immunologist, McElwee completed his unique PhD in the immunological mechanisms involved in alopecia areata, an inflammatory hair loss disease that can affect men, women and children and cause full body hair loss. The cause of the disease is not fully understood but it is believed that an individual's own immune system prevents hair follicles from producing hair fibre. This month, McElwee will travel to the International Meeting of Hair Research Societies in Berlin to present his

findings on the cells believed to be the primary culprits in causing the disease.

By separating cells in lymph nodes, McElwee has determined which cells are capable of inducing the disease. He found two types of cells caused balding problems: CD8, which produce patchy baldness and CD4, which produce systemic balding.

"This research is the first

Recent recruit Kevin McElwee (l) joins Jerry Shapiro's hair disorders lab. http://www.hairinfo.org/

evidence that CD4 cells are our primary target in fighting alopecia areata," he says. "This new data will help us develop interventions and treatments to ease or stop this condition which can be psychologically devastating for patients."

Shapiro and McElwee will host the International Meeting of Hair Research Societies in Vancouver in 2007.

For more information on hair

loss, visit

Did you know?

- On average, each person has a total of 20 million hair follicles on their skin, of which 90,000 to 140,000 are scalp hair follicles.
- You can lose up to 25 per cent of your scalp hair before it becomes noticeable.
- Typically, scalp hair fibres grow for two to seven years before being replaced by a new hair fibre.
- People may lose up to 100 scalp hairs a day as a result of normal hair cycling.
- The numbers of hairs on the head vary with colour. Redheads have about 90,000 hairs and black-haired people about 108,000 hairs, while brown- and blonde- haired people have up to 140,000.
- On average, hair is composed of about 50 per cent carbon, 21 per cent oxygen, 17 per cent nitrogen, as well as hydrogen and sulphur. Hair also contains trace amounts of magnesium, arsenic, iron, chromium and other metals and minerals.
- Circus performers who hang by their hair know how strong it is. In theory, you could gradually hang between 5,600kg and 8,400kg from one head of hair without breaking individual hairs.
- The North American hair loss industry is estimated at \$7 billion a year. 🗆





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The first co-development project on the UBC campos, Hawthorn Green, is now underway. Ten townhouses are being 'co-developed' by 10 enterprising faculty and staff members. The group has appointed UBC Properties Trust as Project Manager.

Following this success, further co-development groups are now evolving. Faculty and staff interested in participating in a co-development project are invited to register their interest with UBC Properties Trust.

To obtain an application form, please email: jhindle@ubcproperties.com or call: 6/14-731-3103



Respectful Research Paramount to First Nations Studies

BY BRIAN LIN

Traditional research methodologies often fall

short in their approaches to First Nations issues, according to the director of UBC's new First Nations Studies Program in the Faculty of Arts.

"University researchers tend to deal with First Nations communities from a position of expert privilege," says Linc Kesler, who joined UBC to help launch the program in January 2003. "That's not always the most productive approach."

First Nations have a strong oral history tradition, says Kesler. But researchers aren't always aware of community concerns regarding the sharing of information.

"Most First Nations cultures believe that as the mode of transmission changes, the way knowledge functions also changes," says Kesler, whose family comes from the Lakota Nation in South Dakota. "Some information is also considered very private, so there is a reluctance to having it published in the public domain."

Kesler says there have been instances where researchers identified locations of natural resources on First Nations land as part of an academic study, which resulted in the resources being exploited commercially, putting the community at risk of losing its livelihood. That's why the program is focused on building relationships that emphasize reciprocity and respect.

"Students are not only taught the research skills but challenged to consider the implications of their approach and its impact on the community's cultural integrity," says Kesler.

In order to receive a major designation in First Nations Studies, students are required to complete a core curriculum and a year-long practicum in which they collaborate with First Nations communities and organizations to identify their needs and design projects that address the challenges while building on the opportunities.

This year, student practicum projects ranged from needs assessment of Aboriginal women in the Downtown Eastside to increasing accessibility to important political and historical documents through modern technology such as digital videography and the Internet.

"Undergraduate research can have immediate and practical benefits for First Nations communities and organizations. And our first class of students have – through their practicum – demonstrated what university researchers have to offer if their capabilities are matched by their respect for the needs and wishes

of the community."

Where possible students also work to develop further tools that will sustain the project beyond the term of the internship.

"Students have the opportunity to see the theories they learn in class at work," says Kesler.

The program will also increase Aboriginal content and discussion on Aboriginal issues in other UBC departments to the benefit of all students. Through collaboration in faculty recruitment and curriculum design, says Kesler, both students and instructors will become more aware of the Aboriginal perspective and how issues are presented in areas such as history, politics, art and culture.

Kesler admits it's a balancing act satisfying the needs of a diverse group of students, including Aboriginal students who are seeking knowledge about their own heritage – perhaps for the first time in their lives; non-Aboriginals who want to work in the First Nations community, and those who come with a strong Aboriginal background.

"By identifying critical issues that are universal to minority groups and addressing individual needs through a flexible assignment structure, we're ready to meet the challenge head on."



First Nations Woman Reclaims Identity Through Education

Adopted by white parents, she knew she was different.

BY BRIAN LIN

Helen Bell came to UBC to pursue a bachelor's degree, but will be walking away with much more than a piece of paper: learning to conduct research has opened the door to a wealth of knowledge – and her own identity.

Adopted by white parents at the age of four, Bell, from the Nak'azdli Band of the Carrier Nation near Prince George, always knew she was different but felt no particular urge to explore her Aboriginal heritage. That is, until her adopted sister, also of Aboriginal descent, died of complications of alcohol abuse in 1999.

"She had suffered from racism and struggled with her identity her whole life. When she died, I felt angry and wanted to know why so many First Nations people struggle with substance abuse and die young," says Bell. process to learn the history of First Nations people in Canada. It was mind-boggling. But in the long run, the knowledge made me stronger."

After receiving an Associate of Arts Degree in First Nations Studies from Langara College and the Institute of Indigenous Government, at 44, Bell went on to become one of the first students in UBC's First Nations Studies Program in the Faculty of Arts.

Bell says the research capacity she has acquired at UBC has made a tremendous difference in the way she pursues knowledge of her culture, and may even pave the way to a career in academe.

"The research component at this institution is excellent," says Bell. "The respect, integrity and recognition of the uniqueness of First Nations people has really stood out for me.

"I also wanted to find my true self."

Having lost contact with her birth family for more than three decades and now with a family of her own – including three daughters who are inquisitive about their Aboriginal heritage – returning to her band was not an option. "I'm no longer an active part of the community, but I know that through research and a university education, I will come to a better understanding of who I am and where I came from," says Bell, who enrolled in a two-year First Nations Studies Program at Langara College in early 2000.

Bell says catching up on a lifetime of cultural education in just two years was challenging. "It was an extremely painful "It's crucial for me that we're doing research for and with First Nations people, not studying them like specimens under a [magnifying] glass."

Most Aboriginal cultures have strict guidelines regarding passing on sacred stories and traditional knowledge that are inherent to the individual communities. Bell says the methodology in First Nations-related research is as important, if not more, than the knowledge derived from it.

"Research in Aboriginal communities has to utilize methods that are different from conventional strategies," says Bell, "with an aim to provide practical benefits to the very community where the knowledge comes from." □

Helen Bell makes peace with her past and looks to the future through research and education.



Construction has begun on a major component of University Town. This new mixed-use building at the corner of Wesbrook Mall and University Boulevard is the future home of the Dentistry Faculty.

New Survey Reveals Support for University Town Project

A recent survey conducted for UBC reveals that the majority of people contacted are in favour of University Town, a project that will bring a new mix of housing, academic buildings, shops and amenities to the UBC campus.

Pollsters surveyed residents in the Greater Vancouver Regional District (GVRD), neighbours who live near the university and members of the university community including students, faculty and staff. McAllister Opinion Research conducted the poll in February and March.

The research was designed to determine support for University Town, concerns and benefits and how UBC's consultation efforts are viewed.

The survey found that 85 per cent of GVRD

About 2,200 people participate

residents polled said University Town was a good idea. About 75 per cent of the neighbours approved and a majority of students and staff also approved. However, four in 10 faculty expressed ambivalence.

The concerns were also clear. Respondents were concerned that the cost of the housing units may be too expensive, green space could be lost and traffic congestion might be increased.

On the other hand, the understanding of benefits was also clear. They felt the main benefits were that revenue from the project could support the university's academic mission, provide affordable housing and more bursaries and scholarships.

Fifty-nine per cent of the faculty and 58 per cent of the students said that UBC had not consulted with them enough on the project, while the majority of all UBC neighbours, staff and GVRD residents polled said there was enough consultation.

"I am extremely pleased with the strong endorsement of University Town as a further distinctive, interesting and vibrant community within the family of groups comprising metropolitan Vancouver," said Dennis Pavlich, UBC VP External Affairs. "We will make even greater efforts to consult with our stakeholders, especially with our faculty, to explain how this project will benefit our academic mission." \Box

Saving the Sea Star continued from page 1

With almost no records available to work from, Lunn's goal was to gather information on the structure of the Mexican trade in echinoderms including the types of fisheries involved, the volume and types of species being caught, the main trade centres, the value of the industry and trade regulations. Mexico

are currently an estimated 62 sea star fishers nationwide supplying the curio industry. Those fishers are each collecting an average of 12,000 sea stars annually. The survey reports nine sea urchin fishers each collecting about 6,800 sea urchins annually for use as curios. At least 200 retail stores in major tourist cen-

detachment between where the animal came from and what you're selling it as. It's not treated much differently than a plastic sea star."

Lunn stresses that the survey is only a preliminary one but it gives researchers a good base to conduct further studies on the potential impacts of the sea star curio trade. She hopes the



was chosen for the survey because it is known to be a tres sell sea stars or sea urchins individually or as

research Project Seahorse has contributed to the

"We had this idea that sea stars were being taken for the curiosity trade but we didn't have any idea how many were being traded and what that would mean for wild populations."

major exporter of shell products and because of its huge tourism industry.

Lunn and research assistant Maria José Villanueva Noriega from the Universidad Nacional Autónoma de México spent a month interviewing almost 100 people involved in various aspects of the echinoderm trade along Mexico's Pacific and Caribbean coasts, where collecting is typically done by hand in shallow waters.

The interviews provided the first large-scale look at the Mexican industry. There part of other shell crafts. In the survey's other main findings, fishers' opinions were split on whether sea star stocks were in decline. Lunn also found that many retailers didn't know or weren't interested in where their stocks of marine animals had come from.

"When asking retailers about their sources, I had a lot of people telling me that their animals had come from the Philippines, when those species aren't found in the Philippines," Lunn says.

"By the time it has moved up the chain, there is a

Shedd Aquarium exhibit will make people think carefully about the souvenirs they see on offer at their next tropical vacation destination.

"The souvenir trade is one where you can directly reach a consumer audience and have it make a difference because this is not sea life that people have to catch - it's not medicine and it's not a food fishery. At the same time, some people do depend on this trade for full-time employment and we have to consider that as well.

"I think that people are really detached from where these curios came from and I think that is what Shedd is trying to get across with the exhibit – that these are wild animals and that you could be having an impact on wild populations

when you buy them." The Shedd Aquarium's Sea Star Quest runs from June 17, 2004 - January 9, 2005. For more information, visit www.sheddnet.org. For more information on Project Seahorse, visit *www.projectseahorse.org.*

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Paying it Forward Mentors pass it on. By CRISTINA CALBOREANU

Trying to find your way and

your place in the world as a university student can be exciting and rewarding. It can also be overwhelming, confusing and frustrating.

A new mentoring program developed by UBC Career Services with support from the Counselling Foundation of Canada is helping students gain clarity about their educational and career paths. The program's tri-level structure gives mentoring an innovative twist. Third- or fourth-year students are matched with faculty or industry mentors in the students' areas of study. These students, in turn, mentor first- or second-year students.

"There are only three Canadian universities funded to pilot trimentoring programs and UBC is one of them," explains Diane Johnson, mentoring projects manager with Career Services. "There is great interest from other universities and organizations in what we're doing here."

Approximately 300 students and 140 mentors from industry and academia are currently involved in the program and, starting in September, close to 525 students and 260 mentors will participate in tri-mentoring in areas such as agricultural sciences, applied science, dentistry, computer science and life sciences.

Julianne Sun, a third-year food and nutritional sciences student, says meeting with her industry mentor gave her confidence to proceed on her chosen career path. "I know now it will not be easy

to search for my first job once I



graduate and that I should be getting as much experience as I can during the summer or working part time during the next school year," she explains. "Therefore, right now I am busy planning and searching for appropriate companies and workshops to help myself gain knowledge and experience."

The unique structure of the program allows senior students to benefit from the knowledge and experience of their industry mentors, while at the same time building mentorship and citizenship skills. In turn, junior students receive information and suggestions on matters such as course selection and volunteering. For some, the lessons learned go well beyond career advice.

In a survey of program participants, a third-year horticultural student wrote, "At first I was disappointed that my industry mentor was not a professional agricultural researcher, but then I was inspired by the fact that my mentor was

able to bring her other job experiences into her current career as a landscaper. Instead of learning how to get from a degree to my dream job, I learned how a person can make the most of their experiences to do something they love."

For a group of engineering students, tri-mentoring provided an opportunity to address a social need, according to PhD candidates Donna Dykeman and Erin Young, the program co-ordinators of the Engineering Mentoring Program pilot in the Faculty of Applied Science.

"We wanted to provide a support network for women in engineering," explains Dykeman. "Twenty per cent of all engineering students are women, but the number of women actually working in the field is much lower, around five per cent. We would like to see women not be a minority in this area." With support from the continued on page 7

HIGHER STANDARDS



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GRAND OPENING



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New Centre Promises Better Treatments for Depression, Bipolar Disorder

Plans to translate research rapidly into improved care. BY HILARY THOMSON

People suffering from disabling mood disorders such as depression and bipolar disorder can expect improved assessments and treatment with the opening of the Mood Disorders Centre of Excellence at UBC Hospital, part of the Vancouver Coastal Health Research Institute (VCHRI).

"This facility will offer research and patient care with a 'bench to bedside' approach focusing on rapid translation of research into improved care," says Dr. Alison Buchan, associate dean, Research, UBC Faculty of Medicine. "Coordinating mood disorder research in B.C. will help us recruit faculty to this outstanding multidisciplinary team," adds Dr. Bernie Bressler VCHRI director.

Directed by Dr. Raymond Lam, a UBC professor of psychiatry and a key investigator with VCHRI, the Mood Disorders Centre has received approximately \$4.5 million in new research funding from community support. Its two program streams are the Bipolar Disorder Program and the BC Credit Union Centre for Excellence in Depression Research and Care.

The depression centre is supported by a gift of more than \$1 million from B.C. credit unions that will provide for additional researcher positions to expand the reach of the centre. New programs of treatment include ReChORD (Relief of Chronic or Resistant Depression) that uses an integrated and comprehensive approach, including expert medication management, psychotherapy, and occupational therapy.

A key element of the Bipolar Disorder Program is an early mania treatment program. Called Systematic Treatment Optimization Program in Early Mania (STOP-EM), it is made

possible through unrestricted funding of \$1.5 million from pharmaceutical company AstraZeneca.

STOP-EM will provide early and accurate identification and diagnosis, using comprehensive clinical assessment as well as neuropsychology and neuroimaging approaches. Treatment will include pharmacological and psychosocial therapies.

"Patients, especially young adults, with bipolar disorder often suffer for years without correct diagnosis or treatment. We want to increase chances of improvement and recovery by diagnosing and treating individuals soon after their first manic episode," says UBC professor of psychiatry Dr. Lakshmi Yatham, a VCHRI researcher and world leader in bipolar treatment, who will oversee the program.

Patients aged 14 and older with a current or recent first manic episode can be referred to the program for assessment, treatment and optional participation in the research component of STOP-EM. Researchers will assess social and intellectual functioning, brain structure and chemistry and provide genetic testing.

AstraZeneca is a leading global pharmaceutical company with an extensive product portfolio spanning six major therapeutic areas: cardiovascular, gastrointestinal, infection, neuroscience, oncology, and respiratory.

The B.C. credit union system is the largest network of financial institutions in the province with 61 credit unions with 340 branches in 125 communities, employing 7,000 people.

VCHRI is a joint venture between UBC and Vancouver Coastal Health that promotes development of new researchers and research activity. \Box

Depression

Nearly three million Canadians will experience clinical depression – an illness that usually develops between the ages of 24 and 44. Symptoms include sleep, appetite and energy problems, social withdrawal and irritability, and despair. However, four out of five people with depression can be successfully treated within weeks. Depression is a leading cause of disability from work and costs more than \$5 billion per year to manage. About 15 per cent of people with severe depression commit suicide.

Bipolar disorder

Bipolar disorder, previously known as manic-depressive illness, is a severe mood disorder that affects about one million Canadians. Patients with this disorder experience both severe depressions as well as manic episodes (common symptoms include irritability, aggressive behaviour, lack of judgement, impulsivity, decreased sleep and increased energy, and often psychosis), both of which are debilitating. A brain disorder, it typically develops in adolescence or early adulthood. Affecting up to four per cent of adults, bipolar disorder is the sixth leading cause of disability worldwide among 15-44-year-olds. □

Don Proteau B.Comm, CFP Senior Financial Planning Advisor Assante Financial Management Ltd. dproteau@assante.com



Frank Danielson B.Ed., CFP Senior Financial Planning Advisor Assante Financial Management Ltd.

fdanielson@assante.co



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Paying it Forward

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Association of Professional Engineers and Geoscientists of British Columbia, the Engineering well as developing internship and co-operative education programs, but she found tri-mentoring opened new doors.

"What I like about tri-mentoring is the fact that it is self-sustainable," says Nichols. "You're linking junior students with seniors, and if you do it right the juniors will stay connected with the program and come back as seniors. Our senior students soon realize the value of mentoring for all parties and come back as alumni.

path and career development." While there are great hopes for

tri-mentoring at UBC, for some the program has already proven successful for all involved. For mentors, explains Johnson, this is an opportunity to network with

Mentoring Program pilot started in January 2004 with 30 students and 15 academia and industry mentors. There are also plans to expand the program to all engineering students in September.

"The program is showing students that there's a great variety and a broad spectrum of careers in engineering, not just your stereotypical manufacturing environment," says Young. "The field is very broad and can be broadened further to fields like law, ethics, and medicine."

The Faculty of Agricultural Sciences was the first unit at UBC to implement the new program. In September 2001, 42 students were matched with 21 industry mentors.

Community Partnerships Co-ordinator Cathleen Nichols says that before implementing tri-mentoring, she had coordinated other mentorship programs in agricultural sciences, as

"Tri-mentoring is helping us reconnect with our alumni, which is a struggle for all the faculties on campus," she adds, "and it's also helping students make good decisions in terms of their chosen

other professionals in the field and especially to "give back to the community."

For the students, Nichols says tri-mentoring "gives them self-esteem. It gets them asking some really good questions about career development, and it's helping them to see into the future. It's exciting to see the growth in them, and it would be wonderful if tri-mentoring was implemented campus-wide."

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Controlled burning has brought native spring blooms back to the Cowichan Gary Oak Preserve.

Fighting Fire with Fire

Controlled burns bring back native plants. BY MICHELLE COOK

As British Columbians brace for another summer of high forest fire risk, UBC researcher Andrew MacDougall is preparing to deliberately set alight some patches of the Cowichan Garry Oak Preserve south of Duncan to study fire's power to restore native plants.

This summer will mark the fifth year that MacDougall has conducted controlled burn experiments in the preserve to examine whether low-intensity fires will help native plants regenerate in the rare ecosystem. The goals of the project are to better understand the causes and consequences of plant invasion on native species, as well as examine possible strategies for managing the ecosystem through the re-introduction of controlled burning that had traditionally been done by First Nations people.

"The area is a hot spot for biodiversity in Canada," says MacDougall, who recently completed a PhD thesis on his work in the Garry oak preserve under the supervision of botany and the barn owl.

Historical records, researched by MacDougall and colleagues at the University of Victoria, show that prior to European settlement, First Nations people in the area used planned burns to manage the land and cultivate a supply of indigenous camas bulbs. Camas, a lily plant that produces a potato-like tuber, was an important food source for many Coastal tribes. The under-burning also encouraged the growth of native grasses, presumably to attract deer and elk to the area to graze.

The one-square-metre patches of ground that MacDougall burned in past years have begun to produce results.

Earlier this spring, colourful purple-flowered camas plants and native prairie violets were thriving in meadows amid the stately oaks. MacDougall says it has been interesting to watch the ecosystem respond to fire management techniques.

"We've noticed significant increases in the growth and reproduction of many native

Tim Ennis, the Nature Conservancy's director of land stewardship for the B.C. region, says the UBC research will not only help people doing conservation in other parts of Canada, it will help the Conservancy to make management decisions for the Maple Bay property.

"When dealing with the invasive species, they are difficult to control because they grow in among the native plants," Ennis says. "We needed to find more efficient strategies for management, and Andrew's results have given us the tools we need to handle them. We're taking the same treatments he has succeeded with and are applying them on a larger area."

The Nature Conservancy is currently using a combination of controlled burning, mowing and seeding to transform the Garry oak landscape in the years to come.

"Rather than a carpet of exotic grasses punctuated by one wildflower, what we want to achieve is a carpet of native wild-

"We've noticed significant increases in the growth and reproduction of many native plants. Prairie violet has tripled in cover."

TIMEPIECE 1925



These nursing students studied at Fairview hospital site in Vancouver until 1925 when the Dept. of Nursing was relocated to the UBC campus. UBC's School of Nursing celebrates its 85th anniversary this month and wants to locate alumni, especially those from the class of 1954 or earlier, who will be special guests at a gala event. For more information, visit www.nursing.ubc.ca. 🗆

Totem in 3D continued from page 1



MOA's Bill McLennan (l) and Skooker Broome with totem pole.

and learning capabilities.

In the case of Northwest Coast artifacts, McLennan explains, many were dispersed in museums and private collections throughout the world and are not always accessible. Even those remaining in the province "are so isolated and

researchers can digitally capture an entire scene and draw on other resources like historical photographs to get a complete picture of the setting.

With the innovative pilot project complete, McLennan hopes to secure a virtual museum grant from Heritage Canada or other sources to digitally record Ninstints Village, a world heritage site and the earliest recorded Haida village of the south Queen Charlotte Islands, where some free standing poles (but no other structures) remain.

professor Roy Turkington. "It hasn't seen fire in more than 150 years, and invasive grasses and other introduced species have come in and choked out the native plants. They also generate large amounts of highly combustible plant litter, increasing the risk of forest fire."

In Canada, Garry oak ecosystems are found only on Vancouver Island, the nearby Gulf Islands and in the Fraser Valley. They support 91 species that have been designated at risk in B.C. or nationally. The 18-hectare Cowichan preserve, owned by the Nature Conservancy of Canada, is the most intact remaining example of the ecosystem in the country. It is home to five endangered or threatened species: the yellow prairie violet, white-top aster, Howell's tritelaia, the Propertius dusky wing butterfly plants. Prairie violet has tripled in cover," MacDougall says.

"The other good news is we've gotten rid of the invasive grasses. We'll never have the fuel loads that we did before we began the burning experiments."

He says the experiment also produced some unexpected results.

"At first glance, the high abundance of invasive plants suggests that they drive biodiversity decline," MacDougall says. "However, our research has also revealed a hidden but significant impact of habitat fragmentation on the ability of native species to re-colonize invaded areas. Because exotics [introduced species] thrive in our highly developed, contemporary landscapes, they can dominate by default rather than by competition even though their dominance suggests otherwise."

flowers," Ennis says.

MacDougall says it remains to be seen whether some of the rarer native plants will be able to make a comeback, and the study is expected to continue for at least another five years. But the initial results have proven that larger scale, rotational controlled burns are a conservation option that could also help to lower the risk of forest fires.

"Invasive [introduced] grasses are fuel for fires and we need to get a handle on these fuel loads. Low intensity fires can greatly reduce the hazard of larger, destructive wildfires. Controlled burning would have the benefit of protecting an area from damage in the event of a forest fire," MacDougall says.

As for the oaks themselves, MacDougall says they love fire.

"Unless they are very small, it doesn't harm them." \Box

often difficult to get to." Plus they are rapidly

deteriorating.

"The poles in SGang Gwaay 'llnagaay [Ninstints] are really on their last legs," says Guujaaw, president of the Council of the Haida Nation and an acclaimed carver who once assisted Bill Reid. "In another decade, they won't be here. Our people want to let them finish their course."

Guujaaw consulted with the museum on the scanning project and sees great potential in the technology for his people and for their own research centres.

"By getting that record, we would be able to preserve the poles and information about them for future generations," he says.

Since scanning can be completed hundreds of metres from a structure or geographical site,

"The rocks and hills are still there and we can determine where the poles were," he says. "We can essentially step back in history and reconstruct villages."

Such projects, he says, demonstrate how technology can bring cultural works back to First Nations and give the rest of us more insight into the First Peoples and B.C. cultural communities.

"It's a fantastic way of studying history, of bringing it back and of helping people understand and respect world cultures," McLennan says. "It's really exciting." \Box