



## Shakespeare reaches new heights online

*"There's magic in the web of it."*

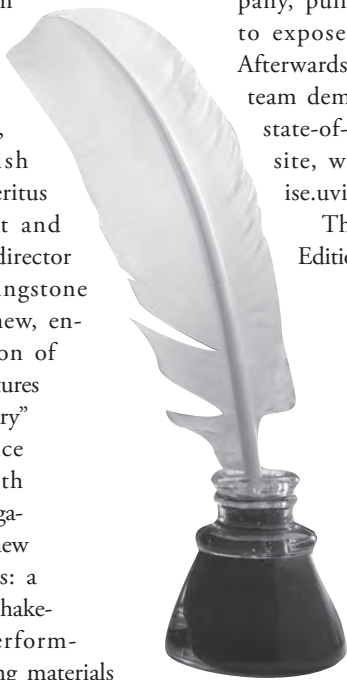
—Othello Act III, scene 1V

by Beth Haysom

Shakespeare enthusiasts have a new, powerfully enhanced version of Internet Shakespeare Editions (ISE) at their fingertips—a University of Victoria-based website offering unprecedented access to the plays and a Renaissance library of the life and times of their favourite bard.

The existing ISE website—established as a non profit organization with the help of UVic's Innovation and Development Corporation and the McPherson Library—is one of the university's most popular sites. It records more than a million hits a month from browsers all over the world.

Last month, UVic English professor emeritus Michael Best and ISE creative director Roberta Livingstone launched a new, enhanced version of the site. It features a virtual "library" of Renaissance resources with improved navigation and two new research tools: a database of "Shakespeare in performance," featuring materials from theatre archives all over North America; and the "Illuminated Text," a multimedia function that allows students and scholars to research an archive and resources for each play, including the texts as they were originally published.



"This website gives people an authentic experience of the past through the Internet and is setting a new standard for website publishing," says Marnie Swanson, head of UVic libraries and a strong supporter of making academic resources available online. "Through this website, UVic is helping to educate thousands of students around the globe, most of whom have never attended a single class at this university."

The new website was unveiled at UVic's Maltwood Gallery when Glynis Leyshon, artistic director of the Vancouver Playhouse Company, pulled a virtual "curtain" to expose the new homepage. Afterwards, Best and the website team demonstrated some of the state-of-the-art features of the site, which can be found at [ise.uvic.ca/index.html](http://ise.uvic.ca/index.html)

The Internet Shakespeare Editions is a non-profit organization based at UVic and supported by the Social Sciences and Humanities Research Council of Canada, UVic, the Innovation Development Corporation and the McPherson Library.

All the resources and tools on the Internet Shakespeare Editions website are provided free of cost. Each play is edited by a leading scholar or team of scholars from around the world.

## VENUS makes a splash



UVic marine biologist Dr. Verena Tunnicliffe stands on coils of power and fibre optic cable destined for VENUS, the world's most advanced seafloor observatory. The first stage of the UVic-led project is being installed in Saanich Inlet this month. See the full story on page 5.

DIANA NETHERCOTT

## University names new VP external relations

Dr. Valerie Kuehne is UVic's new vice president external relations.

Kuehne's appointment was approved by the board of governors on Nov. 29 and is effective Dec. 1. She was formerly the university's associate vice president academic planning before assuming the vice president's role on an acting basis on July 1.

"We conducted a national search and it was clear to the committee that we have found the very best candidate," says UVic President Dr. David Turpin, who chaired the selection committee. "Valerie enjoys a remarkable amount of support on campus. She's able to articulate the university's vision to faculty, students, staff, alumni and the community. She's the person we need to build support for UVic as we head into a time of significant expansion."

Prof. Kuehne has been a faculty member in the school of child and

youth care since 1990. As associate vice-president academic planning she was instrumental in leading UVic's planning for the Island Medical Program.

Kuehne earned her BSc in nursing from the University of Alberta, a master's in child development from Loyola University and a PhD in human development and social policy from Northwestern University, both in Chicago.

"I'm very much looking forward to future opportunities and challenges as UVic moves ahead with a renewed strategic plan," says Kuehne. "Since coming to external relations in July I've enjoyed working with the people in the division and getting to know them better. I'm impressed with both their commitment and ability to contribute to UVic's success."

"We have some significant work ahead of us with securing external



UVIC PHOTO SERVICES

Kuehne

support for the university's priorities, implementing our strategic communications plan, and engaging a growing number of alumni. I look forward to working with colleagues across the

SEE KUEHNE P.3

## Celebrate the season at annual reception

UVic President Dr. David Turpin invites the university community to celebrate the festive season at a holiday reception on Wednesday, Dec. 14 from 4 to 5:30 p.m. in the University Centre cafeteria.

The reception will include presentation of the President's Distinguished Service Awards which recognize employees for their outstanding contributions to the university's learning and working environment.

This year, the awards committee received 15 nominations for the Award for Distinguished Service (honouring up to three employees, or groups of employees) and two for the Team Award for Innovation, which recognizes a team or group for innovations that improve an educational, administrative, or organizational process. Recipients receive a plaque and \$1,000 for professional development (\$6,000 maximum limit in the case of team awards).

The presentation ceremony begins at 4:15 p.m. and light refreshments will be served.

## UVic to host new national aboriginal chair

The governments of Canada and British Columbia have announced their intention to support the establishment of a national chair on aboriginal economic development at the University of Victoria.

The first chair of its kind in Canada, it will be supported by \$2 million in federal and \$1 million in provincial funding.

Housed in UVic's business and law faculties, this new chair will serve as a national focus of expertise for the advancement of aboriginal business and economic development, and generate collaboration on measures that can in-

crease the participation of aboriginal people in the regional, national and international economies.

"B.C. has taken a leadership role in working to overcome the injustices of the past treatment of Canada's aboriginal people, and advancing new economic opportunities for aboriginal communities is critical to achieving that goal," says Premier Gordon Campbell. "This new chair at UVic is an example of the innovative partnerships we can form at all levels of government and society to achieve our shared goals for closing the social and economic gap between aboriginal and

non-aboriginal Canadians."

"Canada needs a way to generate new ideas, and to bring together the results of many institutions and organizations that are doing excellent work in the area of aboriginal business and economic development," says Dr. Keith Martin, MP for Esquimalt-Juan de Fuca in announcing the chair on behalf of federal Minister of Industry David Emerson. "If we are to find lasting solutions, we must work together as partners to move forward with measures like this one

SEE ABORIGINAL CHAIR P.2



# Property board names new president

UVic’s purchase of the Vancouver Island Technology Park last spring significantly added to the scope of property owned by the university off campus. To oversee specific real estate holdings, which include Dunsmuir Lodge and property and the Marine Technology Centre, UVic recently created a separate legal entity, University of Victoria Properties Investments Inc. (UVPI).

On Nov. 1, John Armstrong was appointed president by the UVPI board to oversee its holdings and develop the university’s real estate portfolio.

“Over the years, UVic has been the beneficiary of a number of unique properties,” says Eric Donald, UVPI

director and a member of UVic’s board of governors. “Now we have in John Armstrong a senior property executive, experienced in both the private and university sectors, to lead their advancement.”

UVPI recently hired Dale Gann as vice president technology parks. He’ll work with Armstrong, with particular emphasis on developing the Vancouver Island Technology Park.

Since 1986, Armstrong has been the University of Guelph’s director of real estate, establishing and managing a land development program for the university’s surplus lands. Prior to that he worked in the private sector, developing various properties in Ontario, Quebec, Alberta and



Armstrong

Florida. Armstrong earned a bachelor of science and master of science in civil engineering from the University of Toronto.

# VIKES TAKE TWO MORE NATIONAL TITLES

Whether it was on Edmonton’s Foote Field or Victoria’s Elk Lake, the University of Victoria Vikes were in championship form this fall, winning two more national titles to add to the university’s already impressive list of honours

The UVic Vikes women’s soccer team won their first national title last month, blanking the University of Ottawa Gee-Gees 3-0 in Edmonton on Nov. 13. The team, which had earned silver and bronze medals in their previous two appearances at the national Canadian Interuniversity Sport (CIS) championships, earned a berth in the gold medal game with a 2-1 win over the McGill Martlets.

Vikes defender Carey Gustafson was named tournament MVP and earned a place on the All-Canadian second team. Striker Amelie Mercier was named to the first team. Prior to their trip to Edmonton, the Vikes took the silver medal in the Canada West Championships in Calgary, losing 1-0 to the host University of Calgary Dinos in penalty kicks.

Team members also claimed three of five major Canada West awards with Mercier named the most valuable player. Vikes coach Tracy David was named Canada West coach-of-the-year, after guiding her team to a record of 10-4-2 and a second-place finish in the conference. The Vikes also captured the Fair Play Award.

At Elk Lake, the women’s rowing team captured the Canadian University Championship, earning their eighth title in the past nine seasons. The Vikes narrowly lost to UBC last year.

The two titles bring UVic’s total national athletic championships to 61. Vikes teams have captured 45 CIS banners and 16 Canadian university championship titles.

Meanwhile, in other sports,



Women’s soccer co-captains Marlesa Manson, Carey Gustafson and Jaimie Moore celebrate their victory.

Vikes men’s team rower Mike Lewis has been named male rower-of-the-year and men’s coach Howie Campbell is the recipient of the Petro Canada coaching excellence award.

The Vikes men’s and women’s cross country teams both won bronze medals at the CIS cross country championships last month in Halifax. The Vikes Daniel Mallie was the fastest rookie in the field and was named CIS rookie-of-the -year for his accomplishment. Teammate Kris Swanson and Vikes women’s team member Tiffany Evans were both named to the second All-Canadian team. The trio was also named Canada West all-stars, along with teammates Geoff Martinson, Adrienne Attorp and Christina Heisterman.

Vikes women’s field hockey midfielder Ali Lee was named the 2005 Canadian Interuniversity Sport women’s field hockey player-of-the-year Nov. 10, winning the Liz Hoffman Award, her second major CIS major award in as many seasons. The second-year biochemistry/microbiology student was also named

rookie-of-the-year in 2004. Lee and teammate Ali Fraser were named Canada West all stars.

The Vikes men’s soccer team just missed out on advancing to the Canada West playoffs, but Cole McFarlane was named rookie-of-the-year and the second team all-star striker in Canada West. Bruce Wilson was chosen coach of the year and the team won the Fair Play Award. Kyle Finner and Will Moore were selected as first team all-stars.

In November, UVic hosted the CIS women’s rugby championships and Vike Brittany Waters was named to the tournament’s all-star team, while teammate Jenna Waddy was named to the Canada West all-star team.

In ongoing Canada West action, Vikes men’s basketball team member Jacob Doerksen was named Canada West athlete-of-the-week for his role in leading UVic in back-to-back victories over the University of Winnipeg Wesmen Nov. 18 and 19. One of Canada West’s outstanding rookies, Doerksen racked up 47 points in two games.

# Cosmology study suggests Einstein didn’t err after all

An international study involving several University of Victoria researchers is creating quite a buzz in the world of astrophysics.

The first results from the Supernova Legacy Survey, co-led by UVic astrophysicist Dr. Chris Pritchett, suggest that dark energy—the mysterious force believed to be driving the expansion of the universe—behaves just like famed physicist Albert Einstein said it did more than 80 years ago.

When Einstein was working on his theory of general relativity he added a “cosmological constant” into his equations to explain the presumed static nature of the universe. When the universe was later discovered to be expanding, Einstein retracted the cosmological constant, calling it his “biggest blunder.”

Based on its ongoing study of exploding stars, known as supernovae, the survey team has concluded that Einstein wasn’t far off the mark. The dark energy that is speeding up expansion of the universe is actually within 10 per cent of Einstein’s cosmological constant.

“The existence of dark energy is the single most amazing result from the last 50 years of cosmology,” says Pritchett. “We have the best measurements on the nature of this dark energy of any group in the world, and these measurements are going to get better and better as we accumulate more supernova observations over the next few years.”

The Supernova Legacy Survey is an international collaboration involving about 40 researchers that seeks to discover far supernovae and measure their spectral light to

determine distance. This analysis allows the team to make the first precise measurements of the nature of dark energy.

The five-year survey began in 2003 and is the largest observational project of its kind. So far, the team has measured the distance to 71 supernovae that exploded between two and eight billion years ago.

To search for these distant points of light, the team uses a 340-million pixel digital camera known as MegaCam—the world’s largest—attached to the Canada France Hawaii Telescope atop Mauna Kea, Hawaii. To record the spectrum of each faint supernova identified by MegaCam, the team uses some of the largest telescopes on Earth.

Their first results, to be published in the journal *Astronomy and Astrophysics*, fit the most conservative theory of dark energy—that space has an inherent and constant energy density.

“This survey is the world leader in the quest to understand the nature of dark energy,” says Pritchett. He oversees supernova observations for the project, provides software for detection and analysis, and leads some of the science, especially on galaxies that contain supernovae.

Other UVic researchers involved in the survey are research associate David Balam, postdoctoral student Dr. Don Neill, and graduate students Melissa Graham and Eric Hsiao.

The survey is funded in Canada primarily by the Natural Sciences and Engineering Research Council, with additional support from the National Research Council’s Herzberg Institute of Astrophysics.

## Aboriginal chair continued from p.1

that will have long-term positive impacts for aboriginal people and for Canada.”

While the chair’s specific activities are yet to be developed, they’ll include: providing a venue for independent and collaborative research and consolidation of knowledge on aboriginal economic development; acting as a partnership broker among various parties; offering relevant learning opportunities and a supportive environment for new, and especially aboriginal, students in disciplines related to economic development; and publishing and sharing knowledge and best practices from which aboriginal economic development practitioners, and many others, can benefit.

“This chair provides an opportunity for research to be conducted independently,” says Dr. John Borrows, UVic’s professor of aboriginal

justice and governance. “The work will be developed independently of government and institutes that may have produced similar research in the past. The chair will generate educational opportunities and bring businesses, aboriginal communities and aboriginal students together.”

A national search will be conducted to identify a qualified individual to fill the position. UVic will also establish a forum for aboriginal organizations, business, and others involved in aboriginal economic development to provide advice on the design and implementation of the chair’s activities, research agenda and education program.

The announcement is recognition of the university’s commitment to and expertise in innovative programs and initiatives that support aboriginal students and aboriginal communities, adds Borrows.

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ring

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Bob Reimer





Navarro, in front of an image from the Millennium Run.

## IS THE UNIVERSE UNFOLDING AS IT SHOULD?

Yes, it is—all around us and on a computer screen near you

by Shannon McCallum

Ask University of Victoria astrophysicist Julio Navarro what he did during his recent research sabbatical and he'll fill your head with terms like dark matter, galaxy clusters and black holes.

Oh, and he might mention how he helped create the universe.

A virtual universe, that is. Navarro is a member of the Virgo consortium, an international team of astrophysicists who earlier this year developed the largest computer simulation ever of the structure and growth of the universe. Known as the "Millennium Run," the simulation charts how the cosmos may have evolved since the Big Bang 13.7 billion years ago.

The consortium fed current information on the composition of the universe and the basic laws of physics to one of the largest supercomputers in Europe. One month and 500,000 trillion calculations later, out popped a universe that looks very much like our own.

According to current theory, the universe is a very strange place indeed. The matter we humans are familiar with makes up a scant five per cent of the universe. About a quarter is invisible "cold dark matter," which can only be observed by its gravitational effects on surrounding objects. The remaining 70 per cent is "dark energy," a mysterious force field that is causing the universe to expand at an ever-increasing pace.

"The amazing thing about the Millennium Run is that it shows for the first time that you can cook up a universe like the one we observe with very simple ingredients, even though we don't exactly understand the true nature of those ingredients," says Navarro, who helped conceive and design the simulation.

"For example, if we don't include dark energy, we produce a universe that looks quite different from ours. This tells us our theories are on the right track."

Simulations such as the Millennium Run are crucial for understanding what the universe is made of, where its structure came from, and how it evolved into the galaxies we see today. When combined with observational studies, simulations provide astronomers with powerful tools for probing the mysteries of the universe.

"Our simulation can guide future observational surveys," says Navarro. "For example, it can indicate where and when the earliest black holes would have appeared, so we can tell observational astronomers where to point their instruments."

"Furthermore, we now have a duplicate universe that we can experiment with, instead of passively observing."

The simulation also raises new questions about the Milky Way galaxy, home to our own solar system. This is why Navarro, a world leader in the study of galaxy structure and

dynamics, is working with Virgo scientists on a new project—the Billennium Run—to simulate a single galaxy such as the Milky Way.

The simulation will use one of the world's most powerful academic supercomputers, located in the Netherlands.

"This simulation will enable us to predict with great accuracy the speed, density and direction of the flow of dark matter particles that whiz past Earth—and our own bodies—at any particular time," says Navarro. "This information is invaluable for detecting these subatomic particles, which presumably make up the bulk of the mass of the Milky Way."

Navarro's research is funded by the Natural Sciences and Engineering Research Council, the Canada Foundation for Innovation, the B.C. Knowledge Development Fund, the Canadian Institute for Advanced Research, and UVic.

- The Big Bang is the primeval explosion that most astronomers think gave rise to the universe as we see it today. The age of the universe is calculated by projecting the motion of galaxies backwards through time.
- To see movies and graphics from the Millennium Run simulations, go to [www.mpa-garching.mpg.de/galform/press/](http://www.mpa-garching.mpg.de/galform/press/).

## Ringers

Dr. **Budd Hall**, dean of education, has won the Innovation in International Education Award from the Canadian Bureau for International Education. "I'm very surprised and thrilled to win the award," says Hall. "It really is due to my association with some wonderful people throughout the world over the years—people who are concerned about the role of education in creating a better world." Hall is internationally known for his pioneering work in participatory community-based research and for his leadership in international policy circles on adult education issues.

UVic swimmer **Stephanie Dixon**, who won eight medals at the 2004 Paralympics, was named B.C.'s Female Swimmer with a Disability (SWAD) of the Year at the B.C. Swimming Awards in October. Dixon, who is also UVic's female athlete-of-the-year, set three world records at the Canadian Interuniversity Sport swimming championships in 2005 and was named an honorary all-Canadian. **Ron Jacks**, who worked with Dixon, is 2005 B.C. SWAD coach-of-the-year, and **Rod Barratt** is B.C. 14 and under coach-of-the-year. Jacks and Barratt are assistant coaches with the Vikes.

Five UVic computer science instructors are included on the IBM Centre for Advanced Studies Pioneers of Computing in Canada list. Pioneers on the list earned a PhD in 1972 or earlier and have spent a significant part of their career contributing to computer science research and education at a Canadian university. Included are Dr. **Ian Barrodale**, founding chair of the department of computer science in 1980; Dr. **Eric Manning**, who has made significant contributions to computing and computer networking; Dr. **Jon Muzio**, the computer science department's current chair; Dr. **Dale Olesky**, who played a role in establishing the co-op program in computer science and mathematics at UVic; and Dr. **Maarten van Emden**, who has taught logic programming, artificial intelligence, and software engineering.

Recently retired law professor and centre for Asia-Pacific initiatives director **Bill Neilson** has been awarded the Memorial Medal for Justice by Vietnam's Ministry of Justice. Neilson was presented the medal in Hanoi "for his contribution to the development of justice in Vietnam" by Nguyen Ngoc Hien, Vietnam's Vice Minister of Justice. The medal recognizes Neilson's 13 years of work on Vietnamese legal reform.

When it comes to tantalizing desserts, chefs at UVic's Dunsmuir Lodge Executive Training and Conference Centre don't mess around. Pastry chef **Ian Bragoli**, assisted by executive chef **Candace Hartley**, recently won first place in the judge's competition at the 2005 Grand Marnier Dessert Challenge. Their prize-winning creation was "Autumnal gâteau à la Suzette"—gingerbread cake filled with marscarpone Bavaroise and pineau des Charentes-poached apricots, Italian chestnut ice cream, brandy snap crisp and Grand Marnier Suzette sauce. Fifteen chef teams from Vancouver Island participated in the competition.

Dr. **Wolfgang Hoefer** (electrical and computer engineering) has won the Distinguished Educator Award from the Microwave Theory and Techniques Society of the Institute of Electrical and Electronics Engineers (IEEE) for "outstanding achievements as an educator, mentor and role model of microwave engineers and engineering students." Hoefer is recognized as a world-class scholar, author, educator, technical leader and editor in microwave engineering and computational electromagnetics.

Dr. **Stephen Tyler** (global studies/geography) is the recipient of China's national Friendship Award. Until recently, Tyler ran an International Development Research Centre (IDRC) office at UVic that was devoted to supporting applied research on development issues in Asia. He won the award for his contribution to a long-term research program on water resource management in the far western province of Xinjiang. China's Friendship Award is the country's highest honour conferred to a small number of foreign experts who are judged to have made a special contribution to the country's scientific advancement and economic development.

### Kuehne continued from p.1

campus, and with community and government partners in support of UVic's vision to be a university of choice for outstanding students, faculty and staff from British Columbia and beyond."

Kuehne is responsible for advancement, alumni services, development, government relations, ceremonies and events, community relations, market-

ing, communications, and the Maltwood Art Museum and Gallery.

In choosing Kuehne as vice president external relations, the selection committee was impressed with her ability to integrate the division more closely with the core mandate of the university to support high quality academic and research programs, and her strong leadership and communications skills.



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In the event of bad weather, listen to your local radio stations and CFUV for updates on possible class cancellations, road closures or other service disruptions. UVic will notify local broadcasters as soon as possible about any schedule changes that inclement weather may cause on campus. You can also check the UVic website at [www.uvic.ca](http://www.uvic.ca) for the latest on any service disruption caused by bad weather.

It's not too late for your FCP survey response

In late October all employees received the Federal Contractors Program workplace survey. Survey responses are still being collected. If you have one, please send it in. If you need a replacement, phone 721-6143 and it will be forwarded to you. Why is the survey so important? It's an objective snapshot of how equitable UVic is as an employer. It's your chance to provide honest feedback in confidence. The federal government requires all organizations that receive over \$200,000 annually in federal grants and that employ more than 100 people to conduct the survey. All employees must return the form, but you have the option of declining to answer any or all of the questions. To learn more about the survey visit [web.uvic.ca/eqhr/fcpsurvey](http://web.uvic.ca/eqhr/fcpsurvey).

Four elected to senate

Four representatives of the university's convocation have been elected to the UVic senate in voting that concluded Nov. 18.

Andrew Ian MacPherson (251 votes), Cheryl Borris (183), Larry Cross (182) and Betty Clazie (179) were elected to three-year terms.

MacPherson is an emergency room physician in Victoria and the medical chief for emergency services for the Vancouver Island Health Authority. He completed a bachelor of science degree in biology in 1993.

Borris, who holds an MA in cultural anthropology along with two undergraduate degrees from UVic, has been re-elected to senate. She has specialized in social policy development during a 27-year career in the provincial public service.

Cross, BEd '64, was a member of UVic's first graduating class. The retired public school administrator is also presi-

dent of the UVic Alumni Association and a Sidney town councillor.

Clazie completed her UVic education degree in 1973 and was a principal for 15 years in the Saanich School District. She's a former president of the UVic Alumni Association.

Chancellor Ron Lou-Poy was acclaimed for a second term.

Members of convocation include alumni, past and present board and senate members, faculty, degree-holding staff members employed by UVic for at least a year, and Victoria College students who completed at least one year at the college prior to 1963.

Senate is responsible for the university's academic governance, granting degrees and recommending enrolment levels. It also determines admissions and transfer procedures and recommends new programs, awards and scholarships to the board of governors.

EXPLORERS OF THE DEEP

Innovative marine technology developed by UVic engineers will help us all become ocean explorers

by Shannon McCallum

University of Victoria mechanical engineer Colin Bradley barely has time to come up for air these days. But if all goes as planned, the instruments he designs won't be coming up for air for a very long time.

Bradley, who is the Canada Research Chair in Design and Computational Modelling, directs a team of engineers that is developing specialized equipment for use in oceanographic studies. The team's main focus is the design of equipment for underwater cabled observatories—two of which are being built virtually on his doorstep.

UVic is the lead institution in the VENUS (Victoria Experimental Network Under the Sea) project and the Canadian leader of the NEPTUNE (North-East Pacific Time-series Undersea Networked Experiments) project. Both are interactive cabled observatories being installed off the B.C. coast.

The VENUS and NEPTUNE observatories will consist of a network of instruments on the ocean floor. These instruments, connected to shore by cable, will continuously relay measurements, images and sounds in real time to land-based

computers, providing researchers with unprecedented amounts of data. The cables will also deliver power and commands to instruments, lights, and remotely operated vehicles.

The deep ocean is an inhospitable place for research. With ocean temperatures just above freezing, crushing pressures and barely a smattering of sunlight, oceanographers depend on engineers like Bradley to build instruments and equipment robust enough to function in these harsh environments.

In one of their latest projects, Bradley and his team have designed an autonomous underwater vehicle (AUV). Research assistant Jeff Kennedy developed the mechanical design and control systems, and graduate student Emmett Gamroth provided the software and electronic components.

These free-swimming, battery-powered vehicles can be customized to carry a variety of oceanographic sensors and instruments. "Underwater vehicles have the potential to advance the kind of science that will be conducted with cabled observatories," says Bradley.

For his next project, Bradley will work with researchers at McGill University to transmit video images from

around the VENUS site back to land-based computers. The images will be relayed by a high-definition camera attached to a tethered underwater vehicle.

"Since this transmission will be happening in real time, scientists on land will be able to control the vehicle and see the imagery at the same time," says Bradley.

Before this scenario becomes a reality, however, there are some engineering challenges to overcome. A big hurdle is how to navigate an AUV in a dark environment where ocean currents can steer it off course.

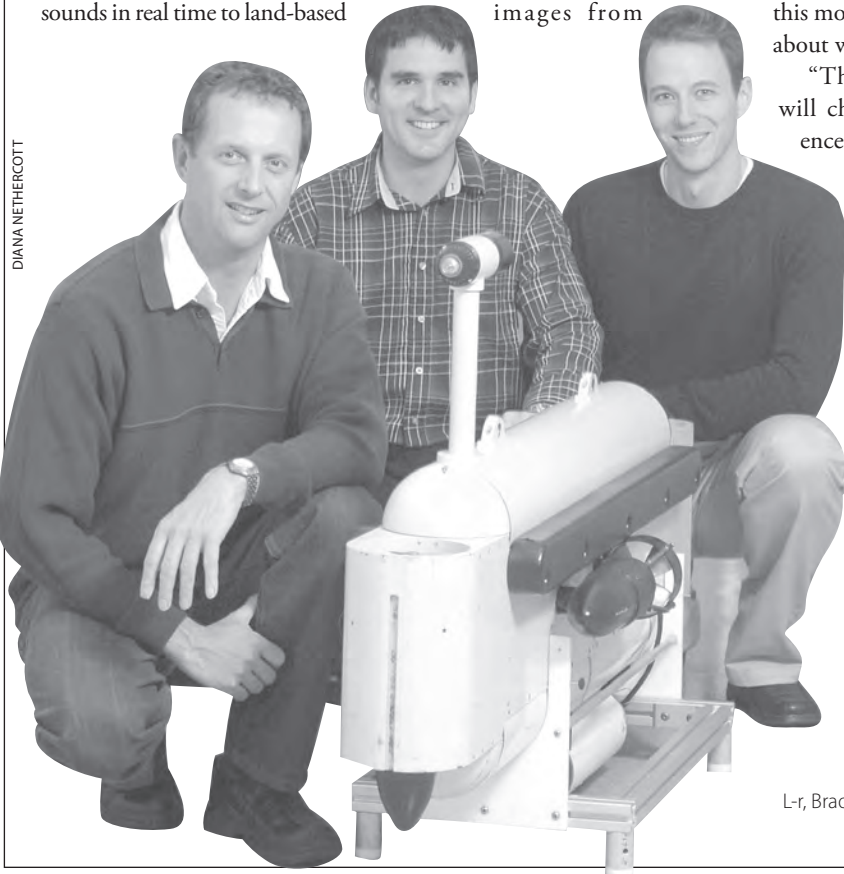
It's a hurdle that Gamroth may have found a way around. He has designed an underwater positioning system, similar in concept to the global positioning systems (GPS) that are now commonplace in today's road vehicles.

"In the same way that cell phones connect to nearby microwave towers, this navigation system will allow AUVs to acoustically connect to a node to determine its exact position," explains Bradley. "We expect this system will be tested on VENUS within the next year."

With the installation of the first leg of VENUS in Saanich Inlet this month, Bradley is enthusiastic about what the future holds.

"These cabled observatories will change the way ocean sciences are conducted," he says, "and our team of engineers will see the benefits, as well. We're thrilled about exploring the new opportunities in underwater vehicle research that these observatories are giving us."

Bradley's research is funded by CANARIE and the B.C. Innovation Council.



L-r, Bradley, Kennedy and Gamroth with their underwater vehicle.

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Do you have technology anxiety?

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The latest in the learning and teaching centre's instructional Critical Incidents DVD series tackles technology anxiety with "Issues That Byte: Teaching and Instructional Technology." The new DVD, the sixth in the series, contains 10 dramatizations of situations that can, and do, occur when using technology to teach.

The 10 teaching moments set up learning and teaching incidents

that involve instructional technology and the accompanying guide book offers tips for a facilitator using the DVD as an instructional tool to generate discussion about the incidents.

"The DVD is not just for university professors. It's also useful for any trainer or instructor using high tech equipment," says Yolanda Olivotto, the centre's program co-ordinator.

"Issues That Byte" dramatizations include preparing students to use technology, handling equipment failure, and preparing classroom presentations. The DVD and the guidebook cost \$250.

Over 600 institutions and organizations have purchased the previous productions in the series which were originally produced on tape. They're now available on a compilation DVD for \$750 (previous purchasers can take advantage of a reduced rate). UVic faculty, staff and students can access this resource for free through the learning and teaching centre resource room.

For more information about the DVDs and tapes visit the learning and teaching centre website at [web.uvic.ca/terc/index/index.htm](http://web.uvic.ca/terc/index/index.htm). The ability to order the DVDs and tapes online will be part of a new website, expected to be launched in the new year.



# VENUS makes a splash

UVic unveils world's most advanced seafloor observatory

A project led by the University of Victoria is about to make oceanographic history. VENUS, the world's most advanced interactive cabled seafloor observatory, is being installed this month in the waters of Saanich Inlet north of Victoria.

The Victoria Experimental Network Under the Sea project pioneers a new approach to observing and studying the oceans. Through the Internet, VENUS's underwater network of fibre optic cables and instruments will continuously feed measurements, sounds and images from the ocean depths to laboratories, classrooms, science centres and homes around the world.

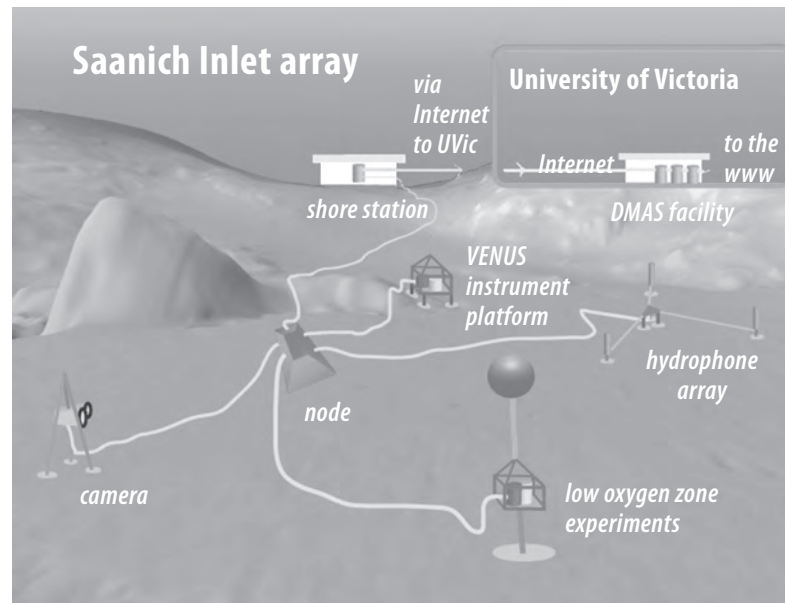
But VENUS does more than observe. It is interactive, meaning that ocean scientists are no longer bound by the limitations of ship schedules, bad weather, or delayed access to their data. VENUS scientists can operate their instruments and download data online, day or night, in real time.

"The installation of VENUS is a scientific milestone for UVic, for Canada and indeed for the world," said UVic President Dr. David Turpin at a Nov. 16 reception to showcase VENUS technology. The event was held aboard the *Wave Venture*, a marine cable installation and repair ship docked at Ogden Point.

"VENUS lets us all 'enter' the ocean whenever we wish and opens up a whole new era of ocean exploration," said Turpin. "It builds on UVic's recognized strengths in ocean sciences and we're very proud of the hard work, strong partnerships and innovative thinking that have brought us to this exciting threshold."

VENUS will support two cable arrays. The Saanich Inlet array will extend 4 km into Patricia Bay, and reach depths of 100 metres. It comes ashore at the Institute of Ocean Sciences in North Saanich. Another 40-km array will be installed in late 2006 in the Strait of Georgia near Vancouver.

Operating 24 hours a day, VENUS will support studies on: long-term



ocean change; tides, currents and ocean mixing; fish and marine mammal movements; seismic activity; seafloor community ecology; underwater acoustics; sediment and slope dynamics; and plankton behaviour.

Over its 20-year lifespan, VENUS will grow as new instruments develop, new extensions are added, and new questions arise about the oceans. The VENUS scientific community will drive this growth.

VENUS users will include researchers, resource managers and policy-makers, ocean technologists, students, educators, and anyone curious about a world that is largely hidden from view.

"We want to get everyone into the ocean and break down the barriers to a world that most people can't see," says Dr. Verena Tunncliffe, a UVic marine biologist and project director of VENUS. "If we're going to make wise decisions as stewards of the ocean, then we all have to see it and to care what happens to it."

Tunncliffe, who is the Canada Research Chair in Deep Ocean Research, has spent more than 20 years studying the world's oceans and is a leading authority on deep sea life. She leads the 10-person VENUS team that has spent the

last five years planning for the moment the cables are lowered onto the seafloor of Saanich Inlet this month.

"This has never been done before," she says. "We're the first to create the end-to-end observatory concept. As a scientist you can now interact with the ocean. You can ask it questions, and you'll get a response."

From their computers anywhere in the world, VENUS scientists can tell instruments to change measurements or instantly respond to unusual events, such as a storm, an earthquake, or a passing school of fish.

"A scientist in Ottawa can connect a current meter and see real-time data," explains Tunncliffe. "An engineer in Ireland can change settings on a remotely operated vehicle connected to the array. Or a student in Saskatoon can download acoustic files of whale calls."

The main industrial partners for the Saanich Inlet array are Global Marine Systems Ltd., operators of the *Wave Venture*, and OceanWorks International Inc.

"The VENUS project further advances our commercial expertise into the cutting edge of undersea research," says Gabriel Ruhan, managing director of Global Marine. "We're very pleased to be working with UVic on this important project and we look forward to supporting our relationships throughout the undersea research community."

"We're very excited to be a part of the VENUS project," says Glen Viau, sales and commercial manager at OceanWorks. The North Vancouver-based firm designed and manufactured two key components of the VENUS array—the node and the science instrument interface module, or SIIM.

"The unique challenges involved in the project have given us an opportunity to showcase local capabilities in subsea technology," continues Viau. "UVic and the VENUS team are leading the world with this ground-breaking project."



## VENUS at a glance

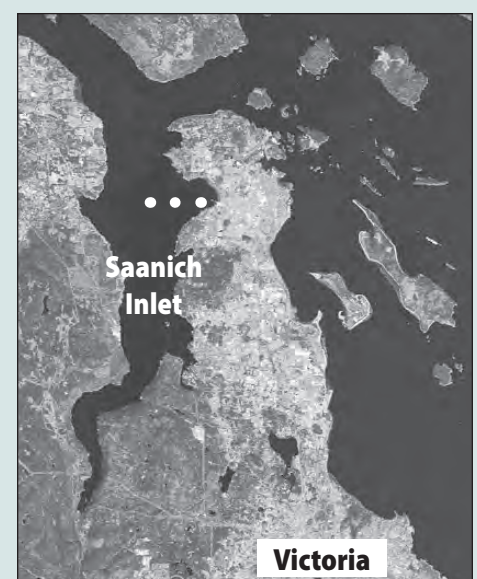
There are five components to VENUS: an array of scientific instruments connected by power and fibre optic cable to a central node; power and fibre optic cable linking the node to shore; a shore station relaying power and two-way communication to the instruments; a data management, archive and distribution centre; and a network operations centre at UVic.

The broad goals of VENUS researchers are: full-time monitoring of oceanographic conditions; documentation of ocean change; studying how species adapt in natural and altered conditions; capturing rare and significant oceanographic events; assessing ocean dynamics and stability; and developing new techniques for ocean study.

VENUS is a sister project to NEPTUNE Canada, a seafloor observatory that will install 800 km of cable and instruments off the outer coast of British Columbia, starting in 2007. NEPTUNE Canada is also led by UVic.

Together, VENUS and NEPTUNE Canada are building a common data management and archive system to reside at UVic. This archive of continuous, long-term ocean data will be a legacy for future ocean researchers.

The VENUS Project is a testbed for the ocean technology industry and features ocean technological designs developed in B.C. Over its 20-year lifespan, VENUS will generate jobs in information technology, engineering, and research and support services.



Dots indicate location of VENUS array.



Tunncliffe speaks at the Nov. 16 reception to showcase VENUS technology. Also in attendance were (l-r): Murray Coell, B.C. Minister of Advanced Education and Minister Responsible for Research and Technology; UVic President David Turpin; and UVic Vice President Research Martin Taylor.

Enter the ocean online at [www.venus.uvic.ca](http://www.venus.uvic.ca)

Live data from Saanich Inlet is expected to begin in mid-January.





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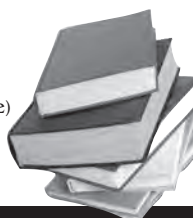
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## United Way campaign enters final stretch

As this year's United Way campaign draws to a close, donations continue to add up and push the total closer to the goal of \$220,000.

As of press time, the total amount of donations collected was more than \$180,000, which is more than 80 per cent toward the goal.

"The campaign is going well," says UVic campus campaign chair Dr. Ron Skelton. "Thousands of people in the Victoria area will benefit from the generosity of our donors, who have each given about 15 per cent more than last year. One group that deserves special mention is the retirees, who contribute through UVic despite being mostly off campus."

Support from students has been stronger than ever before, adds



**United Way**

Skelton, with nearly \$10,000 coming in from student societies and online donations.

The Hearts and Hands Craft Fair and raffle baskets full of crafts raised about \$1,360. Student Stefan Atalick won the online draw and received over \$150 worth of cash cards and gift certificates for campus businesses.

The official end of UVic's campaign is Dec. 14, although the United Way of Greater Victoria will continue accepting donations until Dec. 31 for this year's campaign.

The last day to buy tickets for the iPod mini raffle is Dec. 4, with the draw taking place the next day. The deadline for the other prize draws is Dec. 12. The grand prize for pledgers is an Acer Travelmate laptop from the UVic computer store. New pledgers have a chance to win a Malahat Park Retreat and a \$50 Smile Card from Thrifty Foods, and retirees can win a Discovery Coast Pass from BC Ferries.

For more information and details on all prizes, visit [unitedway.uvic.ca](http://unitedway.uvic.ca). All draws take place Dec. 14.

## UVic lauded for environmental excellence

At last month's annual EcoStar Awards, the Capital Regional District recognized UVic for its excellence in environmental education and water stewardship.

The restoration of natural systems program received the Environmental Education EcoStar Award for its projects aimed at increasing public awareness of the importance of natural systems.

"Receiving this award goes a long way to validate our achievements and confirms that the program is making a real difference for the local community," says Dr. Val Schaefer, program director.

"Through participating in local initiatives like the Quercus project (a Garry Oak meadow restoration project), students are educating local people about the field of restoration while at the same time helping to bring back an endangered ecosystem. This kind of program is a win-win situation."

The Quercus project can be seen at the Henderson Road entrance to campus, where students and volunteers are working on 74 plots to determine the best growing conditions for native grasses and flowers. Signs describing the details of the project are available on-site and the students are sharing information

with local conservation groups.

The CRD also recognized UVic's water re-use initiative by granting it the Drinking Water Stewardship EcoStar Award. This project, coordinated by facilities management, involves redirecting treated wastewater from the outdoor aquatic facility into toilets and urinals located in the Medical Sciences Building—for a saving of more than two million litres of water every year.

Facilities management plans to introduce this water conservation technology to seven other buildings on campus, helping to save money and the environment.

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Calendarhighlights

Events free unless otherwise indicated. For a complete list of events, see [www.uvic.ca/events](http://www.uvic.ca/events)

At the Galleries

[www.maltwood.uvic.ca](http://www.maltwood.uvic.ca)  
721-6562

**Wadi to Jebel: Humayma—Landscape of Culture** (until Dec. 15) A compilation of artifacts and photographs consolidating 2,000 years of culture at Humayma. The artifacts represent a selection of archaeological findings unearthed by UVic professor John Oleson. McPherson Library Gallery.

**Three River/Wild Waters, Sacred Spaces** (until Dec. 23) Exhibit of eight nationally acclaimed artists who journeyed down the Peel, Snake and Bonnet Plume Rivers in 2003. Maltwood Art Museum and Gallery.

Thursday, December 1

**Visual Arts Students Open Studios** 10 a.m. Fourth-year honours visual arts students open studios. See completed works, as well as those in progress. Visual Arts A102 & A131. 380-9337

**Public Administration Seminar** 4 p.m. *Rethinking the Red Zone in Victoria*. Warren Magnusson, UVic, and Serena Kataoka, PhD candidate, UVic. Hickman 120. 721-8056

**Friday, December 2**

**National Day for Remembrance and Action on Violence Against Women** 11:30 a.m. Members of the UVic community and the public are invited to attend this annual memorial ceremony. Ziggurat near the MacLaurin Bldg. 721-6249

**Music** 12:30 p.m. *Fridaymusic*. School of music students in a program for various instruments. MacLaurin B125. 721-7904

**Sunday, December 4**

**Music** 2:30 p.m. *Tuba Christmas Reprise*. Featuring guest soloist Paul Beauchesne, Victoria Symphony. MacLaurin B125. 721-7904

**Wednesday, December 7**

**Graduate Student Centre Brown Bag Lunch Series** 12 p.m. *Help, I Married a Grad Student*. UVic Family Centre. 472-4543

**Studies in Religion and Society Lecture** 4:15 p.m. *Origins of Society Narratives and the Framing of Political Relations with First Nations: The Role Played by Anthropological*

*Theory*. Dr. Michael Asch, UVic. Hickman 110. 721-6695

**Friday, December 9**

**Music** 7:30 p.m. *“Oh Happy Day!” A Christmas Concert by the UVic Lieder Singers*. MacLaurin B125. Tickets \$15/\$12 721-7320

**Sunday, December 18**

**Music** 2:30 p.m. Greater Victoria Youth Orchestra. Yariv Aloni, conductor with guest PRIMA Youth Choir. University Centre Auditorium. Tickets \$19/\$15/\$8 721-8480

Winter 2005–06 Ring Schedule

Calendar items should be sent by 4 p.m. on the copy deadline date shown below to UVic Communications (Sedgewick C149, fax 721-8955, e-mail [ucom@uvic.ca](mailto:ucom@uvic.ca)) or entered into the online calendar ([www.uvic.ca/events](http://www.uvic.ca/events)). For more information call 721-7636.

Publication Date	Copy Deadline
Friday, Jan. 6	Monday, Dec. 19
Thursday, Feb. 2	Wednesday, Jan. 25
Thursday, March 2	Wednesday, Feb. 22
Thursday, April 6	Wednesday, March 29

Homegrown authors offer stocking-full of holiday reading

Searching for the perfect gift? Looking for some holiday reading for yourself? Check out this selection of books written by UVic authors.

If you know someone who loves poetry, consider *Whetstone*, a book of verse written by writing department chair Lorna Crozier. There's also *37 Small Songs and 13 Silences* by Dr. Jan Zwicky, associate professor in the philosophy department.

If you're looking for non-fiction, there's *Selling Sickness: How the World's Biggest Pharmaceutical Companies are Turning Us All into Patients*. Co-written by Alan Cassels (health information science) and Ray Moynihan, the book examines how drug companies expand boundaries that define illness and looks at conditions from attention deficit disorder to high cholesterol to social anxiety disorder.

*Make Me a Man: Masculinity, Hinduism, and Nationalism in India*, by Dr. Sikata Banerjee (women's studies) examines masculine Hinduism as characterized by martial prowess, muscular strength, moral fortitude, and readiness to go to battle.

For the political buffs on your list, try *Challenges and Perils: Social Democracy in Neoliberal Times*, co-edited by R.S. Ratner and UVic sociologist Dr. William Carroll.

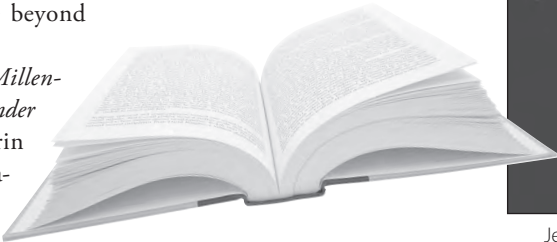
In *Wasáse: Indigenous Pathways of Action and Freedom*, Dr. Taiaiake Alfred (indigenous studies) traces the journey of indigenous peoples who have found ways to move beyond colonial identities.

There's also *The Lost Millennium: History's Timetables Under Siege*, written by Dr. Florin Diacu (mathematics and statistics). This book raises the intriguing possibility that

our calendar is off by 1,000 years.

*The Earth's Blanket: Traditional Teachings for Sustainable Living*, by environmental studies professor Dr. Nancy Turner, looks at the ecological knowledge and spiritual connection to the natural world that is fundamental to indigenous cultures.

For more book ideas, check out the "Books That Matter" catalogue, available in the bookstore. It includes a section featuring works by UVic authors.



Jennifer Cameron, general book buyer at the bookstore, with a selection of works by UVic authors.




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# New classroom technology just a click away

by Jessica Gillies

Professors know it's not always easy keeping distracted students in a large class engaged in lectures. But what if there was a way to encourage student participation, give feedback to instructors, and enrich the learning experience all at once?

In the near future, there just may be. Personal response systems—also known as classroom performance systems or “clickers”—are making their way onto the University of Victoria campus. The clickers look like TV remote controls and allow students to immediately and anonymously respond to questions asked by a professor.

“The technology has been around since the 1980s,” says Mary Sanseverino, a computer science instructor and associate director of information technology development at the learning and teaching centre. “But since the advent of wireless standards, it's getting cheaper and more manageable.”

Student responses are sent from the clickers to a receiver that connects to the instructor's computer, allowing access to student answers.

Sanseverino is heading a group of instructors—including Drs. Penny Coddington (chemistry), Sara Ellison

(physics), and Rosaline Canessa (geography)—in a study on the effectiveness of clickers in large first-year classes.

There are many possible applications for the clickers. Professors could use them to find out how well students understand the material at the end of a class. “I hate leaving a class and thinking, ‘How many students understood this?’” says Sanseverino.

With clickers, students can make their opinions heard—silently. The clickers can be registered so the professor can keep track of responses, but the students will never know how their peers are individually responding.

This anonymity has other advantages, especially for students who are reluctant to speak up in class for fear of being wrong. “It's always the same few students who answer questions,” says Sanseverino. “This is an opportunity for everyone to contribute.”

The clicker also has implications for participation marks, says Dr. Geri Van Gyn, director of the learning and teaching centre.

“A lot of professors try to give some marks for class participation, and it's almost impossible to do well, particularly in large classes. With the clickers, the instructor can look at how the students responded after the class and give feedback to the students

individually. It's another way of communicating with students.”

Currently, the clicker technology is being used in only a few classrooms across campus— Dr. Herbert Schuetze's first-year economics class, and Dr. Yin Lam's first-year anthropology class. Drs. Leslee Francis Pelton and Tim Pelton, both in curriculum and instruction, are using modified personal digital assistants (PDAs) as clickers that allow students to answer a wider variety of questions, such as mapping the slope of a line.

Clickers can range in price from \$5 to \$50 US, says Sanseverino, although there can be other costs to the student, such as registration. These costs vary by company.

Sanseverino stresses the importance of an early, unified decision on which type of clicker to recommend. The instructors doing the study will report their recommendations to the vice president academic.

“If we don't take the bull by the horns in January, I think the technology will be all over the map by September. Students will balk if they have to buy five clickers for five different classes. If they could use one clicker for all their classes, and students and professors can see the benefits, I think people will work with the technology.”



Sanseverino with some clickers.

Depending on the business model, some clickers can be sold back to the bookstore, similar to textbooks. For

more information on the clicker technology at UVic, contact Sanseverino at 721-8753.

## Gifts that make the grade <sup>A+</sup>

UVic business alumni attending the Toronto business alumni reception in September learned that Tim Price (BA '64), chairman of Brascan Financial Corporation, has established a new scholarship for MBA students. The **Tim Price MBA Entrepreneurship Scholarship** of \$6,000 will be awarded annually to an entrepreneurship student in the faculty of business. This is the second entrepreneurship endowment established by Price. The first scholarship was established in 2002 and is given annually to a bachelor of commerce student. “We have an award-winning entrepreneurship program,” says business dean Ali Dastmalchian, “and this scholarship will go a long way to helping us recruit the best and brightest students.”

Guests who were invited to UVic in June to discuss the possible establishment of the UVic Friends of Jazz have since been very generous to the school of music. **Dr. Joyce Clearihue** and **Helen Mogensen** have made donations in support of the study and performance of jazz at UVic. **Anne McLaughlin** has provided funds for the purchase of a drum set and other percussion instruments for the program and performances. **Byron Price** has matched these donations, and also matched funds obtained through recent student fundraising efforts for jazz.

Three new scholarships have been established in the school of music by the Koerner family in memory of Nicholas and Karin Koerner. The **Nicholas and Karin Koerner Memorial Scholarships in Music** will support undergraduate students in voice, brass, woodwinds or percussion, and music composition. The late Nicholas Koerner was a significant force in the establishment of Victoria's musical and cultural community, including the Victoria Symphony and the Pacific Opera.

Created by a generous gift to the faculty of science by Aspreva Pharmaceuticals, the **Aspreva Distinguished Speaker Series** will support academic and public lectures by prominent local, national and international speakers. UVic will host a multi-disciplinary program of lectures by individuals of exceptional accomplishment in the fields of life and medical sciences, health economics, and public policy development as it pertains to human health. Aspreva is a pharmaceutical company that develops and commercializes new applications for existing medicines that are anticipated to have high therapeutic value.

## UVic gift ideas that keep on giving

by Jessica Gillies

Looking for a way to help worthy causes this holiday season? UVic offers a variety of ways for you to do just that.

Consider buying your Christmas tree from the Vikes during their annual tree sale in Centennial Stadium. Starting Dec. 3, the Vikes will be selling B.C.-grown trees Monday to Friday from 12 to 7 p.m. and weekends from 10 a.m. to 7 p.m.

The proceeds will benefit Vikes athletics programs, and the sale runs until Dec. 19. For more information, contact Brent Fougner at 721-8408.

The holiday season can be especially hard on students with

families. Donations of non-perishable food items or gifts (wrapped or unwrapped) are appreciated by staff at the UVic Family Centre. They'll make sure the donations go to families in need.

The centre is also looking for donations of a small deep-freeze, good quality pots and pans, a food processor, diapers (of all sizes) and wipes, a large area rug, and child-safe side and coffee tables.

The Family Centre is located at 39208-2375 Lam Circle (off Finnerty Rd.) in the Lam Family Student Housing Complex. For more information visit [web.uvic.ca/family-centre/](http://web.uvic.ca/family-centre/), call 472-4062 or e-mail [familyc@uvic.ca](mailto:familyc@uvic.ca).

Christmas music sounds better on a tuba, and this year fans of the big brass instrument will have two opportunities to catch a TubaChristmas concert. The event, which features musicians from UVic, public schools, community bands and the military, is now in its 27th year in Victoria.

The TubaChristmas ensemble will perform carols in Market Square downtown on Dec. 3 from 1 to 3 p.m. Donations at the event will go toward the Times-Colonist Christmas Fund,

which supports families in need.

On Dec. 4 at 2:30 p.m., take in the TubaChristmas reprise recital in UVic's Phillip T. Young Recital Hall. This performance will feature tuba and euphonium students from the school of music, as well as guest soloist and UVic alum Paul Beauchesne, principal tubist with the Victoria Symphony.

Your donations at this event will benefit tuba and euphonium projects within the school of music. The event is co-ordinated by Eugene Dowling, a senior instructor in the school of music. For more information, contact Jill Michalski at 721-7904 or [michalsk@uvic.ca](mailto:michalsk@uvic.ca).

At campus security, you can help the needy while giving yourself a break. If you pay outstanding parking tickets anytime before Dec. 23, bring a can of food with you and have your fine reduced by \$5.

Only one food item counts per ticket, so if you have multiple outstanding tickets you can bring in a can of food for each one to save \$5 on each. But if you bring in multiple cans to count toward the same ticket, you'll be out of luck. Last year, five or six big boxes of food were donated to local food banks.



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