

UBC REPORTS

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PHOTO: MARTIN DEE

A 15-Year Portrait of the Class of 1988

BY LORRAINE CHAN

Today's young women rank among the most educated in Canadian history, yet many grapple with frustrations never imagined by their mothers and grandmothers.

"Women are juggling careers and family," says Lesley Andres, a UBC education profes-

Andres says despite having earned comparable post-secondary credentials, women are twice as likely than men to be employed part-time, pooling in the clerical, sales, and services sector and in semi-professional occupations. In contrast, men work primarily in middle management, and

"We're trying to cram female life trajectories into models based on male trajectories; these models do not fit the lives that women lead."

sor who has gathered 15 years of data on youth's transition to adulthood in her research project *Paths on Life's Way*. "Men experience these roles in very different ways."

Paths on Life's Way is the only project of its kind in B.C. and one of a handful in Canada. Between 1988 and 2003, Andres conducted surveys and interviews at five-year intervals to trace the major rites of passage for more than 730 individuals.

The study yields a rich and complex portrait of the high school graduating class of 1988, from post-secondary education through to work, marriage, friendships and children.

A picture emerges of a generation that enjoys more educational choices than ever in B.C.'s history, yet these young people tend to repeat the class and social patterns and gender roles seen within their families, schools and communities.

Andres found that between 1998 and 2003, 95 per cent of the women in her study were engaged in paid work. Yet prevailing social institutions don't support this reality, says Andres.

"We're trying to cram female life trajectories into models based on male trajectories; these models do not fit the lives that women lead."

as semi-professionals and professionals.

"It's not surprising that for the most part, women are less happy than men."

Andres points out that it has taken women 15 years to catch up to men in the area of employer-paid benefits such as health care. She adds that women are also less likely to participate in work-place training required by their employers and receive fewer hours of training.

"One finding that really surprised me is the relationship between delayed parenthood and social class," says Andres.

For example, she says, within five years of leaving high school, 27 per cent of women and 10 per cent of men with no post-secondary education had children.

"In contrast, for that same period, only .09 per cent of women who had earned university degrees had children. For the men, it was .05 per cent."

The study reveals how blithely and even blindly young people make choices that will mark their lives forever.

"What really struck me right from the beginning," says Andres, "was how little they knew or had thought about their post-secondary educational choices or careers. You see this naiveté of youth, how unproblematic they think their

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UBC Education Prof. Lesley Andres traces the steps and decisions of more than 730 individuals in their transition from youth to adulthood.

UBC Okanagan Sitting on Geothermal "Gold Mine"

Vast aquifer below Kelowna campus provides more sustainable heating options. BY BUD MORTENSON

Groundwater will be used to heat and cool \$400 million worth of new buildings planned for the UBC Okanagan campus in Kelowna, with the promise of major benefits for the local environment.

Technology known as groundwater geo-exchange will eventually replace the existing natural gas plant, which is nearing the end of its lifespan. Built to heat and cool today's 500,000 square feet of building space, the current conventional plant lacks capacity to service an additional one million square feet of space on the Campus Master Plan drawing board. Turning to a natural resource in plentiful supply under the campus presented a great option.

"It's a huge win-win for the environment and for the University," says Aidan Kiernan, Associate Vice President of Operations at UBC Okanagan.

"Over a 20-year period, a groundwater heat exchange system will prevent 38,000 tonnes of carbon dioxide emissions into the atmosphere," he says. "That's equivalent to taking 8,000 cars off the road, or planting 18,000 acres of fruit trees or vineyards — four times the current vine-producing land in the Okanagan."

The concept is relatively simple: pump 10.5°C (51°F) water out of a natural underground water body — known as an aquifer — and compress it in winter months to raise the temperature to about 54°C (130°F) to heat buildings, or use it for cooling in the long, hot Okanagan summers.

"Then we'll put it all back into the aquifer," says Kiernan. "That's the important thing, to put the water back. We will

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PHOTO: MARTIN DEE

The UBC Okanagan campus in north Kelowna sits atop an enormous gravel deposit and a plentiful supply of groundwater — an ideal combination for geo-exchange heating and cooling.

UBC's AGM and Annual Report

Join UBC's Annual General Meeting via webcast from 12 noon — 1 p.m. on Thursday, November 3, 2005. The event will be broadcast from UBC Okanagan and features reports from President Martha Piper and Terry Sumner, Vice President, Administration and Finance. Students, faculty and staff will be able to submit questions via e-mail for the question and answer session.

www.ubc.ca/webcast

Read UBC's annual report at www.ubc.ca/annualreport

Retiring Within 5 Years?



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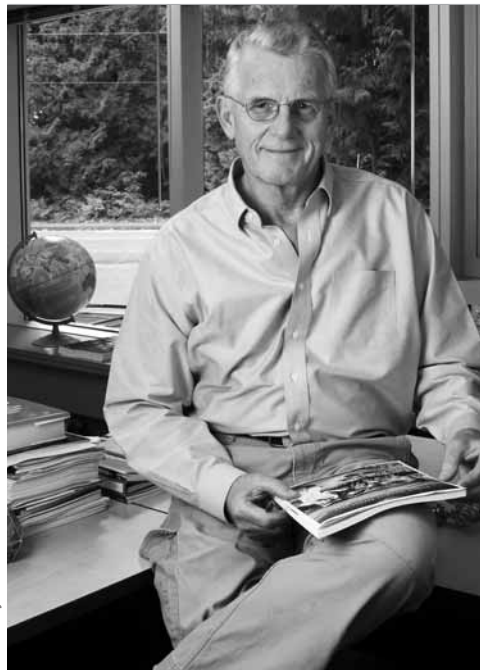
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IN THE NEWS

Highlights of UBC Media Coverage in October 2005. COMPILED BY RANDY SCHMIDT



Andrew Mack is the former Strategic Planning Director in the Executive office of U.N. Secretary-General Kofi Annan.

The World is More Peaceful than at Any Time in 12 Years
In a story carried by *Associated Press*, *Reuters* and *United Press International*, and picked up in many Canadian, U.S. and international dailies including the *Globe and Mail*, *Washington Post* and the *Guardian*, Andrew Mack unveiled the first Human Security Report at the United Nations.

Mack, who is director of the Human Security Centre at UBC's Liu Institute of Global Issues, led an effort to track political violence around the world and found, among other things, conflicts seem to be down 40 per cent since 1992, and the deadliest conflicts (those with more than 1,000 battle-deaths) are down by 80 per cent.

"What is actually the case is that we've seen this extraordinary improvement across the board in nearly all forms of political violence, except international terrorism, which doesn't kill a lot of people. And yet most people believe things are getting worse," said Mack, in the *Globe and Mail*.

Something Else to Lose Sleep Over: Getting Sick

According to recent studies reported in dozens of major media outlets throughout the U.S. and around the world last month, too little or erratic sleep may heighten people's risk for a variety of major illnesses including cancer, heart disease, diabetes and obesity.

"We're shifting to a 24-hour-a-day, seven-day-a-week society, and as a result we're increasingly not sleeping like we used to," said Najib T. Ayas of the University of

British Columbia, in *The Washington Post*. "We're really only now starting to understand how that is affecting health, and it appears to be significant."

A large, new study, for example, sampled nearly 10,000 adults in the United States and found that lack of sleep may disrupt hormones that regulate appetite, resulting in a greater chance of obesity.

Bathtubs, Black Holes and Theoretical Physicists

Theoretical physicist Bill Unruh, a world-recognized expert and professor at the University of

British Columbia, says part of understanding black holes might come from developing a sonic model.

"At that point where the velocity of the water is just equal to the velocity of sound, sound trying to get out is pulled back in just as fast as it's trying to get out. So you have a surface that's just like in a black hole where light can never escape, except here you have a surface where sound can never escape."

You can see this happening whenever you drain a bathtub, he explains in an article in the *Toronto Star*.

"As the water gets shallow enough, eventually the water flowing out the plug hole is going faster than these waves can travel and you get the analogue of a black hole in your bathtub. The interesting thing is because the water is always swirling as it goes out of the bathtub, that's actually an analogue to a rotating black hole," he says.

Time Out: Take this Job and Shelve it

Executives who take a mid-career break often return to work with new perspectives and renewed energy, says Marc-David Seidel, an assistant professor at the University of British Columbia's Sauder School of Business.

Many top executives are taking a break from work in their 40s and 50s, using the time to re-evaluate their careers and personal lives reports the *Globe and Mail*.

The time away from work can be used to sharpen skills or investigate options in another industry. "[I]f you are looking for a new

challenge, if you are trying to change to a better industry, you should build your skills and be prepared to give a convincing story that will be helpful when you look for a new job," Prof. Seidel says.

Prof. Seidel also advises people to leave their jobs in a way that does not cause friction. "Don't leave people high and dry because, if the organization gets damaged by your departure, that will come back to haunt you and damage your future career," he recommends.

Theory: Attractive Males Pass Genes that Put Daughters at Risk

UBC graduate student Arianne Albert has proposed a theory that implies females may be better off choosing less attractive mates because they will produce daughters who are fitter.

Albert worked with Zoology Prof. Sarah Otto to proposed the evolutionary model of sexual selection that was published in *Science*. Explaining the theory in related stories printed in the *Ottawa Citizen*, *Winnipeg Free Press*, *Calgary Herald* and *Vancouver Province*, Albert said that when a female mates with a flashy male, his traits may also be passed on to the daughter and put her at a disadvantage.

"With humans, you could think about it as being something as minor as hip width," she says of the theory's possible applications.

"Say males with narrow hips are more attractive, which is pretty accurate, I think. But if he's going to make his daughters have narrow hips, that's going to be bad for them because they're going to have a hard time during childbirth." □

Fall Congregation

Fall Congregation ceremonies at UBC will be held Wed.

Nov. 23 and Thurs. Nov. 24

at 8:30 a.m., 11 a.m., 1:30 p.m., and 4 p.m. each day at the Chan Centre for the Performing Arts. On Nov. 23, an honorary degree will be given to Shirley Thomson, a leading advocate for creative and performing artists in Canada. For more information about Congregation and to view ceremonies live via web-cast, visit www.graduation.ubc.ca. □

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Promoting Health in Canada's Far North

Research Reveals Challenges in Infection Prevention

BY HILARY THOMSON

Sexually transmitted infections (STIs) among some Canadian Inuit people may be almost six times the rate previously estimated, according to research done by a UBC graduate student.

Audrey Steenbeek, who receives her PhD in Health Care and Epidemiology at this month's Congregation ceremonies, spent a year in a Nunavut community, exploring STI prevalence, screening and sexual partner networks.

It is the only such study ever done in Nunavut.

"Government bodies need to understand that northern communities are not being well represented in research," says Steenbeek. "You have to live up there to get the data and get the trust to really find out what's going on."

Steenbeek is the first PhD graduate and one of 30 students in the Western Regional Training Centre for Health Services Research (WRTC), an interdisciplinary centre designed to support training of applied health services researchers.

A UBC alumna, Steenbeek spent a year working as an outpost nurse in the Baffin region and collecting data for her study.

Individuals living in the region have particular challenges in combating STIs, she says. Isolation — most communities are accessible by plane only — and a relatively small population create a limited pool of potential sexual partners. In such isolated communities, groups of friends can have sexual partners in common, allowing re-infection to occur within the sexual network.

Steenbeek surveyed 181 Inuit men and women aged 15-65 years and tested them for chlamydia and gonorrhoea. Survey questions asked about use of health services, knowledge of STIs, high-risk behaviours and perceived risks and barriers of condom use.

In addition, a random sample of 100 individuals from this group was followed up in an additional four visits. At each visit, people were screened for chlamydia and gonorrhoea and asked about sexu-



PHOTO: COURTESY OF AUDREY STEENBEEK

PhD grad Audrey Steenbeek spent a year in Nunavut researching issues surrounding sexually transmitted infections.

al/social networks and condom use.

Steenbeek found 35 cases of chlamydia during the entire study period. The number of cases gave an overall prevalence of 15.6 per cent in comparison with 2.7 per cent estimated from previous STI counts. No gonorrhoea was detected.

National rates of chlamydia infection were 179.3 cases per 100,000 people, in 2002, according to Health Canada.

Infections were most prevalent among 15-25 year-olds, with many individuals unaware of the consequences of STIs, which for women can include pelvic inflammatory disease as well as being a risk factor for cervical cancer. Nunavut has some of the highest rates of cervical cancer in Canada.

Reducing STIs is often not a high priority in Canada, especially in these regions where they are struggling to establish a basic health-care system, says Steenbeek. Challenges to delivering health care in the far north include the high turnover of health-care personnel and costs of travel to hospital — which alone can eat up more than half of overall health budgets.

"Prevention programs need to be customized to northern communities," she says. "Residents and community health nurses often aren't involved in developing disease prevention and health promotion strategies so community members don't feel like they have ownership. Also, there's a paternalistic view of health care in these areas — people and programs 'parachute' in and then leave. Ideally, Inuit people should be assisted to run their own health programs."

Existing prevention strategies offered by Nunavut Health and Social Services do identify some infections among women at the time of prenatal or other exams. None of the prevention strategies include men, however, creating a potential pool of undetected infections. Because chlamydia can be asymptomatic for both men and women, infected individuals may transmit infections without being aware of it.

Steenbeek recommends that individuals who live in Inuit communities, and who are not in monogamous relationships, be screened every six months or annually. Results can be available within 48 hours, even in remote locations, and effective treatments are available.

"We need to use initiative, effort and money to break these destructive patterns of infection. Inuit people are incredible people, who deserve better access to health care, screening and prevention programs," she says.

She has shared some results with the community and has presented her findings to the Nunavut Research Institute and in Siberia at a conference on circumpolar health.

After Congregation, Steenbeek will take up a faculty position in the Dept. of Nursing at Dalhousie University in Nova Scotia.

The WRTC, headed by Sam Sheps, a UBC professor of Health Care and Epidemiology, operates in collaboration with the University of Manitoba. WRTC recently received renewal funding of \$1.2 million over six years from the Canadian Health Services Research Foundation. For more information on WRTC, visit <http://www.wrtc-hsr.ca>. □

Update: UBC United Way Campaign

With over \$290,000 raised, the 2005 UBC United Way Campaign is well underway.

"Support from the campus community has been tremendous — we're already halfway to our goal and the donations continue to come in," says Laura Laverdure, co-ordinator for this year's campaign. "While traditional fundraisers such as the Kick-Off Event in September or Land and Building Services' International Food Festival continue to be very successful, new fundraisers, such as the \$1 donation coupons being sold at Food Services establishments or the VP Students & Equity Relay Race on Oct. 25 are helping to raise funds and awareness throughout campus."

One of the reasons this year's campaign is continuing to build on the success of previous years is

the participation of staff in presentations hosted by this year's UBC Loaned Representative, Don Erhardt. "Presentations go beyond United Way's website and brochures by incorporating personal stories, further insight as to where your dollars go and an opportunity to answer any questions donors have," says Erhardt.

To learn more about how contributions make a difference, visit www.unitedway.ubc.ca. There is still time to book a presentation for your department and donations will be accepted until the end of the tax year, Dec. 31. For more information about this year's campaign or to book a presentation, please contact Laura Laverdure, Campaign Co-ordinator at 604-822-8929 or by email at united.way@ubc.ca. □

Finding Order in Chaos

Prof finds new clues in puzzle that has stymied

mathematicians. BY BRIAN LIN (with files from Mari-Lou Rowley)

Water freezes at zero degrees Celsius and vapourizes at 100. These are just two of the most common examples of phase transition, where changes in a single



“Phase transitions are observed in nature, studied by physicists and seen numerically on the computer, but from a mathematical perspective, they are still very mysterious,” says Slade.

The heart of the mystery lies in the critical point that divides two completely different but stable states of being — as zero degree Celsius is to water and ice. While typically

very different possibilities, and appears to exhibit utter irregularity.

“One way of looking at it is that the molecules can’t decide which form of behaviour they want to adopt.”

By applying probability theory to this randomness, however, Slade has found order in the form of fractals, a geometric pattern that, on a large scale, appears irregular but when divided and magnified, repeats the original pattern.

“Imagine the molecules moving randomly along a path. If you take a section of that path and blow it up mathematically, it bears amazing resemblance to the original path. The similarity appears again when you take a little piece of that section and

“Phase transitions are observed in nature, studied by physicists and seen numerically on the computer, but from a mathematical perspective, they are still very mysterious.”

parameter cause physical properties to metamorphose.

By studying and mathematically modeling the fine line between two completely different physical properties — the temperature where ice melts or water vapourizes, for example — math professor Gordon Slade has proven there is order in chaos.

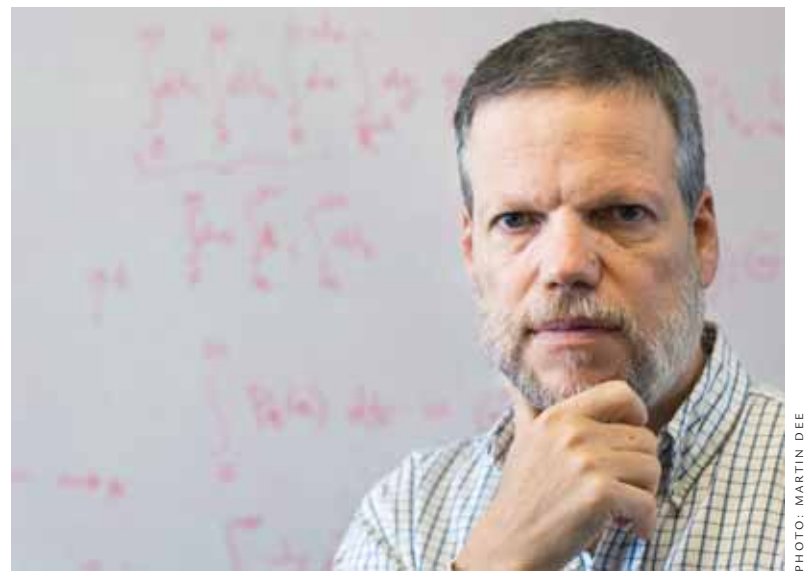
characterized as sporadic and random, Slade is convinced there is underlying mathematical structure.

“During phase transition, varying a particular parameter such as temperature changes the physical properties of the entire system,” says Slade. “Right at the critical point, the system is poised between two

magnify it, and so on.”

Slade has also found that Brownian motion — a mathematical model discovered by botanist Robert Brown in 1827 — proves extremely accurate in modeling this self-similarity.

Often described as a “drunkard’s walk,” Brownian motion has been



Prof. Gordon Slade applies probability theory to everyday critical phenomenon.

used to describe random movements in a variety of areas, from subatomic physics to stock market fluctuations. The application of Brownian motion to critical phenomena, Slade says, greatly contributes to the understanding of critical phenomena and helps enable scientists to accurately predict behaviour at the critical point.

“One of the main goals in

mathematics is finding elegant and short solutions that cut to the heart of things. Intriguing clues are now being found towards solving a puzzle that has stymied mathematicians for more than half a century.”

Read more about Prof. Slade’s work in probability theory in the latest issue of Synergy, the Faculty of Science newsletter, at <http://www.science.ubc.ca/synergy.htm> □

Coaching Program a First among Universities

BY LORRAINE CHAN

Elite athletes like Tiger Woods along with Fortune 500 CEOs have long touted the potent benefits of coaching.

A more surprising advocate of coaching is Dr. Dorothy Shaw, Associate Dean of Faculty Affairs, at

UBC Faculty of Medicine.

Shaw was one of the first clients of UBC Coaching Services, a unique program that UBC Human Resources’ Organizational Development and Learning (ODL) unit piloted in 2003. Through the

program, UBC makes this service available free of charge to its 15,000 staff and faculty members. Its leaders believe UBC is the only university in the world to do so.

“Coaching supports what I’ve always believed — that communication has to be two-way, either with students or patients,” says Shaw, who specializes in obstetrics and gynecology.

During 2000 to 2005, Shaw served as the Associate Dean of Equity in the Faculty of Medicine and saw up close the need to spark change.

“If you want people to excel, they

discovering a small change that can act as the lever for even greater change.”

The strong feedback and support from Shaw and the Faculty of Medicine were key in growing the service, says Erna Hagge, who leads UBC Coaching Services.

“While other universities provide executive coaching,” says Hagge, “we want to develop everyone’s leadership potential as part of UBC’s Trek 2010 vision and People Plan.”

Hagge travels to San Jose, California this month to present UBC’s coaching initiative at the 10th annual International Coach Federation (ICF) conference, an event that attracts more than 5,000 delegates.

Coaching’s popularity signals a widespread cultural shift, says Hagge.

Non-university clients must pay \$200 to \$400 an hour for UBC Coaching Services. UBC Human Resources is working on a pilot project to offer students complimentary coaching by next fall.

The program has 42 volunteer coaches who are all certified by ICF or the International Association of Coaches. Ten are UBC faculty and staff — who coach in addition to their regular jobs — and 32 are external coaches with private practices in B.C., Alberta and Toronto.

Vancouver coach Doug Brockway has volunteered with UBC Coaching Services since its start in 2003.

Brockway is currently seeing two UBC clients and would take on more if his busy schedule allowed him to.

“I want to see this program succeed because I believe in the power of

To date, more than 200 UBC staff and faculty have received individual or group coaching sessions.

have to feel valued,” says Shaw.

Shaw says UBC Coaching Services helped her and senior colleagues clarify their goals and values. “We became clear that we want to create a culture where it’s the norm to give positive feedback. We’re looking at ways to help people bring more balance to their lives.”

To hone her leadership abilities, Shaw completed a six-month training and coaching certification program at Royal Roads University in Victoria last September.

“Coaching is asking questions, listening without judgment,” says Shaw. “It’s about helping people understand they have the answers within and

Dr. Dorothy Shaw makes coaching part of her everyday practice.

“We’re moving away from the deficit-based society to instead looking at what’s right about the person, the situation or organization, and building from there.”

To date, more than 200 UBC staff and faculty have received individual or group coaching sessions. For confidential, one-on-one sessions, clients commit to a three-month contract. Every two weeks they spend one hour with their coach, either in person, or by phone with occasional e-mail support. Upon completion, they may request another three-month contract if coaches are available.

coaching to create a sustainable work environment,” says Brockway, a former behaviour therapist.

He usually charges \$325 per hour and has a client list that includes Telus, BC Hydro, Fairmont Hotel and Steelcase Canada.

“The existing culture at UBC is for senior managers to be available 24/7,” says Brockway. “It’s lonely at the top, and I’m a safe place for them to bounce ideas, to strategize. It could be something as simple as, ‘I need balance, this weekend is mine.’”

For more information, visit <http://www.hr.ubc.ca/odl/coaching/> □

What Attracts People to UBC and What Makes them Stay and Thrive?

During this summer and fall, UBC consulted staff and faculty about best people practices in areas of faculty and staff renewal, leadership, management practices and day-to-day workplace contributions. Input from interviews, surveys and focus groups will shape Creating the

Extraordinary: A People Plan for UBC. The People Plan aims to create a study and work environment that carries out the vision articulated in UBC’s Trek 2010 strategic plan. The People Plan will be implemented between June 2006 and December 2009. www.peopleplan.ubc.ca



Engineer Cooks up Recipe for a Pollution-Free Future



PHOTO: MARTIN DEE

A research project at UBC could help reduce harmful vehicle emissions and help Canada meet its Kyoto Protocol goals.

BY BRIAN LIN (with files from ErinRose Handy)

A UBC mechanical engineer is cooking up a recipe to dramatically reduce harmful vehicle emissions.

Asst. Prof. Martin Davy is launching a new research project intended to reduce harmful vehicle emissions by gradually replacing traditional fuels with blends of natural gas and hydrogen until pure hydrogen with zero harmful emissions can be used.

“Traditional hydrocarbon fuels such as gasoline and diesel contain a substantial quantity of carbon and produce significant amounts of carbon dioxide,” says Davy. “The more completely these fuels burn, the more greenhouse-gas emissions are produced.”

Methane — commonly referred to as natural gas — on the other hand, contains approximately half the carbon content compared to traditional fuels, and is at the centre of current fuel cell research aimed at creating vehicles that produce water vapour as their only by-product.

While fuel cell vehicles won't be a reality for at least another decade, Davy says progressively modifying current internal combustion engines to include methane and other gaseous fuels can reduce greenhouse-gas emission right

away.

He is building on research by fellow UBC professor Robert Evans, whose partially-stratified-charge technique allows the use of natural gas in conventional engines to reduce emissions and increase fuel efficiency. Davy recently received a Canada Foundation for Innovation grant to determine how to best inject methane into the engine — and how much gaseous fuel to throw into the mix.

“We have this fuel soup swirling around with different chemicals. Identifying harmful emissions within this soup is a significant challenge,” says Davy. “However, by using lasers to excite molecules with a burst of energy, we can cause certain of the pollutants to fluoresce. We photograph the reaction to identify where they are in relation to the flame, which helps us determine how well the fuel and air have mixed and how we can optimize the mixing process so the combustion occurs as cleanly as possible.”

Read more about Prof. Davy's research in the latest issue of *Ingenuity*, the Faculty of Applied Science newsletter, at www.apsc.ubc.ca/publications/engneering.html □



UBC Okanagan Sitting on Geothermal “Gold Mine”

continued from page 1

ensure our impact on the environment is minimized. We have to walk the talk, not just talk the talk.”

Heating and cooling with groundwater will save a bundle in energy costs. Although building the geo-exchange system will cost \$6 million — about \$1 million more than a conventional gas-fired heating plant — it is expected to

directly above two extremely desirable geological features: a vast aquifer with a year-round temperature of about 10.5°C, and a 75-metre (250-foot) thick gravel bed that will allow groundwater to be pumped up and put back where it came from, with virtually no measurable impact on the aquifer's volume or pressure.

“It truly is exactly what you

people have the nuts and bolts to do this, and they don't do it. They don't have the vision,” he explains.

Sustainability is part of the UBC Okanagan Academic Plan, and it's being built into operational plans. Kiernan notes that he has been working with the UBC Campus Sustainability Office in Vancouver to establish a comprehensive pro-

“There are lots of places where people have the nuts and bolts to do this, and they don't do it. They don't have the vision.”

save at least \$100,000 a year in energy costs.

Kiernan has a history of seeking ways to apply alternative energy systems. He introduced a seawater heat exchange system for the marine science facility when he worked at Memorial University in Newfoundland. At the former Okanagan University College's KLO Road Campus in south Kelowna he devised a system that captures heat from the City of Kelowna's neighbouring wastewater treatment plant.

Bringing that experience to UBC Okanagan, Kiernan has been working with engineers and hydrogeologists for the past year to explore a geo-exchange system for the campus. “The analysis was that we are sitting on a gold mine,” says Kiernan.

The campus happens to sit

look for in an aquifer to support an open loop for groundwater exchange,” says Kevin Rafferty, an Oregon-based geo-exchange consultant on the UBC Okanagan project. “You want to see the ability of the aquifer to produce and accept a large flow of water.”

Taking water out of the aquifer is one thing. It's another thing to get the water back in. That's where the enormous gravel deposit comes into play. It has the capacity to receive water from either pressurized injection wells or a rapid infiltration lagoon that would allow water to percolate back into the ground.

A veteran of geo-exchange projects from Florida to the Yukon, Rafferty says tapping into groundwater is an energy-saving option that's often overlooked. “There are lots of places where

gram that will include recycling and selecting environmentally sustainable cleaning products, paint, building materials — even office furniture. And, passive solar heating is being considered to help meet peak hot water demands in two new residence buildings already under construction.

The first buildings to go online with geo-exchange heating will be a new multipurpose building in May 2007, and the Engineering and Management building in September 2007.

“We will provide geo-exchange technology for all new construction on campus and see if existing buildings can be retrofitted later,” Kiernan says. “We think this will receive worldwide attention — that we will be the go-to place to see how to do it.” □

The Annual Dickens Buffet

At Cecil Green Park Mansion
Thursday, December 8th, 2005

Lunch: 11:00 - 1:00pm & 1:45pm - 3:45pm

NEW Dinner: 5:30pm

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POLICY #130 – “MANAGEMENT OF THE WIRELESS NETWORK”

Call For Comments

The draft policy entitled “Management of the Wireless Network” was presented to the Board of Governors for information and review on September 29, 2005. It was prepared by a review committee of fifteen members, drawing from a broad cross-section of the University community at UBC Vancouver and UBC Okanagan, and is now being presented to the community for public comments. The members of the committee that formulated the proposed policy were:

Review Committee

- Hubert Lai, University Counsel (Chair)
- Brian Heathcote, Chief Financial Officer, Housing and Conferences
- Dan Murray, Physics and Astronomy, UBC Okanagan
- Don Thompson, Computing Services, UBC Okanagan
- Dave Michelson, Assistant Professor, Electrical and Computer Engineering
- Gwen Zilm, Associate Vice President, Learning Services, UBC Okanagan
- Jennie Orpen, Merchandise Manager, Bookstore
- Jonn Martell, Manager, IT Strategy Info Technology
- Jovan Miladinovic, Manager, IT Connectivity Services
- Karen Szeto, Legal Counsel
- Kent Ashby, Legal Counsel
- Peter Ward, Associate Dean, Faculty of Arts
- Richard Spencer, Executive Director, IT Strategy Information Technology
- Ulrich Rauch, Director, Arts Instructional Support and Information Technology
- Michael Pidwirny, Geography, UBC Okanagan

Access to Copy of Draft

The draft policy entitled “Management of the Wireless Network” was posted for comments on October 11, 2005 at www.universitycounsel.ubc.ca/news/index.html.


Submissions of Comment

Feedback may be submitted by email to the Office of the University Counsel at university.counsel@ubc.ca. All feedback should be submitted by **1:00 pm on November 10, 2005**.

Board of Governor Consideration

Subject to feedback from this public consultation process, it is expected that this proposed document will be submitted to the Board of Governors with a request for final approval at its regularly scheduled meeting in December of 2005.

Policy

 <p>THE UNIVERSITY OF BRITISH COLUMBIA</p> <p>Board of Governors</p>	Policy No.: 130	Approval Date: December 2005 [Anticipated] Last Revision: [N/A – New] Next Review: Annually
	Version No.: 1	
	Responsible Executive: Vice-President, Academic and Provost	
Title: Management of the Wireless Network		
Preamble – Background & Purposes The Problem The UBC wireless network, provided by UBCIT, is part of UBC’s telecommunications and data network. Devices that operate in the same frequency bands as the UBC wireless network, such as wireless networking devices, cordless phones, microwave ovens, audio speakers, still cameras, video cameras, and other equipment, can interfere with the UBC wireless network, and can introduce performance, reliability, usability, sustainability, and security problems. The Purpose UBCIT must be entitled to monitor and limit electromagnetic interference with the UBC wireless network in order to ensure the highest level of service while minimizing support costs.		
Note: Who Should Read This Policy Generally: <ul style="list-style-type: none"> • All units of UBC • Students in UBC housing Specifically: <ul style="list-style-type: none"> • Responsible Executive • Associate Vice-President, Information Technology • Director of UBC Department of Housing and Conferences • UBCIT 		
Related Policies, Materials, And Notes For further information on the use of University IT resources please review: <ul style="list-style-type: none"> • Policy #104 (Responsible Use of Information Technology Facilities and Services); and • Policy #106 (Access to and Security of Administrative Information Systems) 		

1. Governing Principles

Where UBCIT provides wireless network connectivity reliability, usability, sustainability, security and cost are paramount to the user and the provider.

2. Scope

2.1. Locations and Devices Affected By This Policy

2.1.1. This policy governs the deployment and use of electronic devices that operate in any licence-exempt radio frequency band used for high speed wireless network connectivity, including, but not limited to, the 2.400-2.483, 5.15-5.35, 5.470-5.725, and 5.725-5.825 GHz bands.

2.1.2. This policy applies in all areas where wireless access points installed by UBCIT provide wireless coverage, except as excluded elsewhere in this policy.

2.2. Exclusions

2.2.1. This policy does not apply where wireless coverage is not provided by UBCIT, such as the market developments within the University Town area of the Point Grey campus.

2.2.2. This policy does not apply to devices within a specific facility or area operated by the UBC Department of Housing and Conferences if:

- a) the affected area is entirely within the specific facility or area it operates; and
- b) the Director, or Director’s designate, of the UBC Department of Housing and Conferences determines that UBCIT wireless network connectivity is not required in the affected area.

2.2.3. This policy does not apply to devices in specific locations to the extent that the Associate Vice-President, Information Technology or his/her designate determines that wireless network connectivity is not required in the affected area.

3. Rights and Responsibilities

3.1. UBCIT may actively monitor electromagnetic interference with the UBC wireless network and carry out random checks on devices that interfere, or might interfere, with the operation of the UBC wireless network.

3.2. Any device that interferes with the normal operation of the UBC wireless network must be disconnected and powered off unless and until a method of eliminating the interference is found. UBCIT is authorized to request that such devices not be used, and to remove them if necessary. Anyone who wishes to use a device that interferes with the wireless network may be required to pay the costs of eliminating the interference.

4. Appeal Process

4.1. Anyone who is asked to remove a device, or pay related costs, may appeal.

Appeals are to be handled as follows:

4.1.1. Appeals are to be filed with the Responsible Executive or his/her designate(s).

4.1.2. Appeals are to be convened and heard by the Responsible Executive, or his/her designate(s), as arbitrator at a meeting of the relevant parties. The decision of the arbitrator will be final and binding.

4.1.3. The Responsible Executive may have more than one designate if he/she determines that local consideration of appeals at UBC Vancouver or UBC Okanagan campuses is desirable.

5. Definitions

In this policy the following terms have the meaning defined below, and shall have the same meaning in any administration and management procedures under this policy:

Term	Definition
Responsible Executive	<i>means:</i> 1) the individual(s) specified under the heading “Responsible Executive” in the heading information table above section 1 of this policy; and 2) any person delegated to fulfill that person(s) role except to the extent that delegation is specifically excluded.
UBC	<i>means:</i> The University of British Columbia
UBCIT	<i>means:</i> The University of British Columbia Information Technology Department

Approval

Certified Approved by Board of Governors

Dated Approved

Board Secretary (signature or seal)

Date Signed/Sealed

STUDENT DISCIPLINE REPORT

(01 September 2004 to 31 August 2005)

Under section 61 of the University Act, the President of the University has authority to impose discipline on students for academic and non-academic offences (see pages 48 & 49 of the 2004/2005 University Calendar). A summary of such disciplinary cases is published on a regular basis, without disclosing the names of the students involved.

In the period September 1, 2004 to August 31, 2005, 48 students appeared before the President's Advisory Committee on Student Discipline and 39 were subsequently disciplined. For each case, the events leading to the imposition of the discipline and the discipline imposed are summarized below. Discipline may vary depending upon the circumstances of a particular case.

1. A student committed several serious academic misconducts when he/she lied to a UBC Undergraduate Program Office in order to obtain academic concessions and he/she forged medical documentation in an attempt to deceive the Office about his/her illness.
Discipline: A suspension from the University for 12 months.*
2. A student plagiarized his/her term paper for a course and then he/she submitted substantially the same paper, with the plagiarized parts, for another course.
Discipline: In the circumstances, a mark of zero in both courses and a suspension from the University for 4 months.*
3. A student allegedly submitted an assignment that was plagiarized from another student.
Outcome: Allegation dismissed.
4. A student committed several acts of academic misconduct, namely; (i) he/she submitted an assignment for another student that he/she had plagiarized from his/her previous assignment in the same course, and he/she did so knowing it constituted plagiarism; (ii) he/she attempted to conceal his/her plagiarism when he/she deleted some files from the other student's account; (iii) he/she had access to the other student's password ID contrary to department policy; and (iv) he/she lied initially about what actually occurred.
Discipline: A suspension from the University for 8 months.*
5. A student committed plagiarism by asking another student to write and submit his/her assignment and the student lied to two professors about when he/she knew that the assignment was plagiarized and other details regarding the case.
Discipline: A mark of zero in the course and a suspension for 12 months from the University.*
6. A student submitted an essay with portions that had been written by his/her tutor and submitted these portions as his/her own work. The portions written by the student's tutor were plagiarized from Internet sources.
Discipline: A mark of zero in the course and a suspension from the University for 12 months.*
7. A student allegedly committed a misconduct by intending to injure another person.
Outcome: Allegation dismissed.
8. A student cheated in Language Proficiency Index examination by arranging to exchange his/her exam paper for the exam of another student so that he/she could submit the other student's exam under his/her name.
Discipline: A suspension from the University for 12 months.*
9. A student assisted another student to cheat on his/her Language Proficiency Index examination by arranging to exchange his/her exam paper for the exam of the other student so that he/she could submit the student's exam under his/her name.
Discipline: A suspension from the University for 12 months.*
10. A student submitted a plagiarized report.
Discipline: In the circumstances, a suspension from the University for 4 months.*
11. A student brought unauthorized materials (wallet size lecture notes) into a closed-book exam and attempted to refer to them during the exam.
Discipline: A mark of zero in the course and a suspension from the University for 8 months.*
12. A student was found to have (i) entered a private UBC residence building without authorization or invitation; (ii) discharged fire safety equipment, rendering it unavailable for use in case of an emergency; and (iii) used a water fire extinguisher to attack two residents.
Discipline: In the circumstances, a letter of reprimand.
13. A student was found to have (i) entered a private UBC residence building without authorization or invitation; (ii) discharged fire safety equipment, rendering it unavailable for use in case of an emergency; (iii) used a water fire extinguisher to attack two residents; and (iv) was involved in a physical altercation with one resident.
Discipline: In the circumstances, a letter of reprimand.
14. A student assisted another student to cheat on his/her Language Proficiency Index exam by arranging to exchange his/her examination for the exam of the other student so that the other student could submit the exam under his/her name.
Discipline: A suspension from the University for 12 months.*
15. A student cheated in the Language Proficiency Index by arranging to exchange his/her exam for the exam of another student so that he/she could submit the exam under his/her name.
Discipline: A suspension from the University for 12 months.*
16. A student committed an academic misconduct by cheating on examinations. In particular, the student and another student colluded with and copied from each other on four separate examinations in four courses.
Discipline: A mark of zero in all four courses and a suspension from the University for 12 months.*
17. A student committed an academic misconduct by cheating on examinations. In particular, the student and another student colluded with and copied from each other on four separate examinations in four courses.
Discipline: A mark of zero in all four courses and a suspension from the University for 12 months.*
18. A student allegedly submitted a report that was plagiarized from websites on the Internet.
Outcome: Allegation dismissed.
19. A student allegedly offered money to another student in order to join his/her study group for a course.
Outcome: Allegation dismissed.
20. A student cheated by arranging for another person to write his/her final exam.
Discipline: A mark of zero in the course and a suspension from the University for 12 months.*
21. A student plagiarized his/her assignment.
Discipline: A mark of zero in the course and a letter of reprimand.*
22. A student cheated in a final exam when he/she stole another student's exam paper from the room, erased the other student's name from the cover page, inserted his/her own name, replaced the cover page of the other student's exam with his/her cover page and submitted the other student's exam as his/her own.
Discipline: A mark of zero in the course and a suspension from the University for 16 months.*
23. A student plagiarized his/her written portion of a group report.
Discipline: A mark of zero in the course and a suspension from the University for 4 months.*
24. A student plagiarized his/her research project.
Discipline: A mark of zero in the course and a letter of severe reprimand.*
25. A student plagiarized in three courses.
Discipline: A mark of zero in all three courses and suspension from the University for 12 months.*
26. A student assisted another student to commit plagiarism.
Discipline: A letter of reprimand.
27. A student plagiarized an assignment.
Discipline: A mark of zero in the course and suspension from the University for 4 months.*
28. A student admitted that he/she had engaged in a strategy of deception to conceal the fact that another person submitted his/her formula sheet after the exam was finished.
Discipline: In the circumstances, a mark of zero on the examination and a suspension from the University for 4 months.*
29. A student committed a misconduct by breaking and entering and vandalizing a room in a university building.
Discipline: In the circumstances, a suspension from the University for 4 months.*
30. A student allegedly submitted a report that was plagiarized from Internet sources.
Outcome: Allegation dismissed.
31. A student allegedly submitted a plagiarized work for inclusion in a publication.
Outcome: Allegation dismissed.
32. A student allegedly plagiarized another student's assignment.
Outcome: Allegation dismissed.

33. A student failed to disclose his/her previous attendance at a college on his/her application for admission to UBC.

Discipline: In the circumstances, no discipline warranted.

34. A student failed to disclose his/her previous attendance at a college on his/her application for admission to UBC.

Discipline: In the circumstances, a letter of reprimand.

35. A student failed to disclose his/her previous attendance at a college on his/her application for admission to UBC.

Discipline: In the circumstances, a letter of reprimand.

36. A student failed to disclose his/her previous attendance at a college on his/her application for admission to UBC.

Discipline: In the circumstances, a letter of reprimand.

37. A student cheated by submitting an assignment as entirely his/her own work for which he/she had received assistance from a friend.

Discipline: A mark of zero in the course and a suspension from the University for 8 months.*

38. A student submitted a term paper that was plagiarized from several Internet sources.

Discipline: In the circumstances, a mark of zero in the course and a suspension from the University for 4 months.*

39. A student plagiarized his/her term paper for a course.

Discipline: A mark of zero in the course and suspension from the University for 4 months.*

40. A student plagiarized two term papers; one paper was plagiarized from Internet sources.

Discipline: A mark of zero in the course and a suspension from the University for 12 months.*

41. A student cheated by submitting an assignment, completed by another person, as his/her own and then assisted another student to cheat by providing him/her with a copy of the same assignment.

Discipline: In the circumstances, a suspension from the University for 4 months.*

42. A student received a copy of an assignment and submitted it as his/her own assignment.

Discipline: In the circumstances, a suspension from the University for 4 months.*

43. A student allegedly assisted another student to cheat.

Discipline: Allegation dismissed

44. A student cheated on a midterm examination by changing the original incorrect answers on the exam and then submitting the exam for regrading.

Discipline: A mark of zero in the course and a suspension from the University for 12 months.*

45. A student took pictures of his/her examination with his/her cellular phone when reviewing his/her completed and marked exam, and then denied that he/she had done so and that he/she had no intention of using the pictures for an improper purpose.

Discipline: A letter of reprimand.

46. A student cheated on a final examination by copying answers from the exam paper of another student.

Discipline: A mark of zero in the course and a suspension from the University for 8 months.*

47. A student allegedly assisted another student to cheat on a final examination by allowing the other student to copy his/her answers.

Outcome: Allegation dismissed.

48. A student submitted a term paper that was plagiarized from Internet sources.

Discipline: In the circumstances, a mark of zero in the course and a suspension from the University for 4 months.*

* In all cases indicated by an asterisk, a notation of disciplinary action is entered on the student's transcript. At any time after two years have elapsed from the date of his or her graduation the student may apply to the President to exercise her discretion to remove the notation.

Students under disciplinary suspension from UBC may not take courses at other institutions for transfer of credit back to UBC.



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A 15-Year Portrait of the Class of 1988

continued from page 1

lives will be."

Teenage girls had little or no notion of the competing pressures ahead of them, she says. "The girls said they would complete their post-secondary studies, embark on a career, get married, have children, and then at their leisure step back into the work force."

"They had no idea that they would have to juggle a career and family."

Funded by the Social Sciences and Humanities Research Council of Canada, Andres' analysis of Paths on Life's Way data will give parents, youth, policy makers and educators insights into issues that include:

- Despite gains in the number of girls who excel in sciences, women are chronically under represented in mathematics, engineering and sciences.
- Myth of Canada's brain drain — only three per cent of B.C. university graduates emigrated to the U.S. Most of the movement is within B.C. or to other provinces.
- Boys with physical science backgrounds in high school have the most career options. Boys without backgrounds in mathematics or sciences have the least options.
- Girls who take physics in high school have a wide range of post-secondary offerings open to them.

For more information on *Paths on Life's Way*, visit <http://www.edst.educ.ubc.ca/paths/>



More than Canadians, Australian youth value flexibility over predictability.

PHOTO: MARTIN DEE

How do B.C. Youth Compare with Australian Counterparts?

Both B.C. and Australian youth view post-secondary education as the norm and a vital investment for their future. However, unlike Canadians, Australian young people show greater ambivalence about the value of their education and are more likely to be part-time students.

UBC Education Prof. Lesley Andres and Australian youth scholar Johanna Wyn are conducting the first comparative study of Canadian and Australian young adults. They will explore how the two countries' educational and labour market policies shape and impact the lives of young people.

Wyn is the Director of the Youth Research Centre at Faculty of Education, University of Melbourne. Her project, *Life Patterns* tracks 14 years in the life of 2,000 individuals between 1991 and 2004. Participants are from Australia's southern state of Victoria, which has a population of

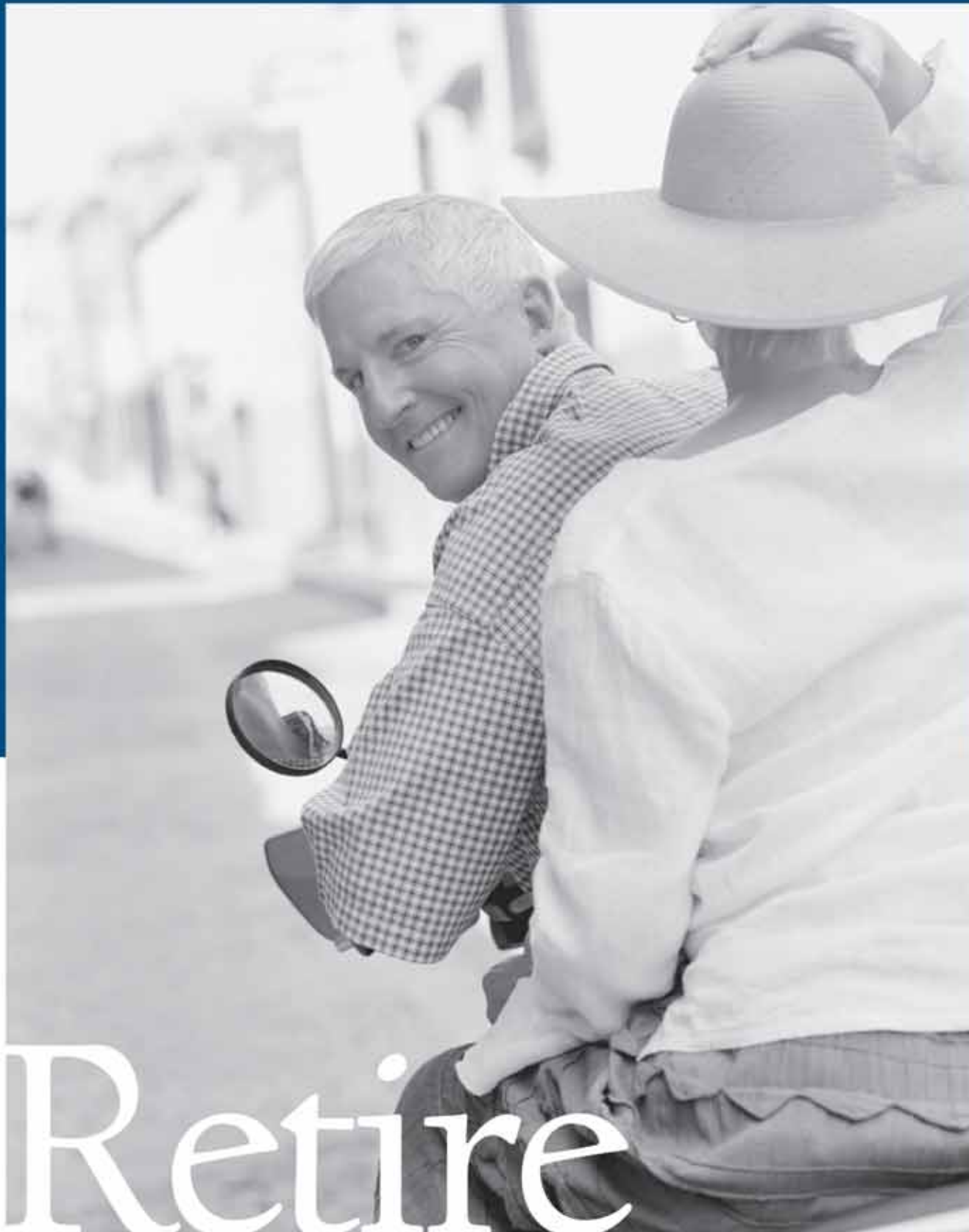
four million.

Wyn and Andres developed their projects independently, but are finding striking parallels given that Canada and Australia are both Pacific Rim nations with multi-ethnic societies. As former British colonies, they share similar traditions, educational and political systems.

"For both countries, there are clear class-based patterns in young people's employment patterns," says Wyn.

As for the differences, Wyn says that when it comes to security, Australian youth — more so than Canadians — value flexibility over predictability.

"The Australian data shows that this generation strives to achieve a balance in life between employment and other life interests. They believe that their own personal development is crucial to their success." □



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Director

School of Audiology & Speech Sciences

The Faculty of Medicine invites applications for the position of Director of the School of Audiology and Speech Sciences at the Professor or Associate Professor rank to assume duties July 1, 2006. This is a full-time tenured position which is subject to final budgetary approval. Salary is commensurate with qualifications and experience. The individual selected should have a PhD. and a strong background in Speech, Language and/or Hearing Science, or in Linguistics or Psychology focusing on speech, language, or hearing science. Preference will be given to applicants in areas related to speech and/or language studies. He or she should also be familiar with the nature of practice in speech-language pathology and/or audiology, and have a proven publications record, demonstrated ability to obtain grant support, teaching and administrative experience and an academic reputation commensurate with a leadership role in the School. The individual selected will be expected to have a clear commitment to a framework for education and research that emphasizes the relationships among disciplines and between research and clinical practice.

Located in Vancouver, a vibrant multicultural city renowned for its natural beauty, The University of British Columbia is among the best and largest of Canada's universities. The School (www.audiospeech.ubc.ca) is expanding, with new faculty on board, new lab spaces in place, and further space expansions planned. The School offers an intensive two- to three-year program of graduate coursework (Audiology and Speech-Language Pathology), research, and supervised community-based clinical practice leading to the M.Sc. degree. It also offers Ph.D. and postdoctoral education. School faculty have strong interdisciplinary links with other departments at the University.

Faculty of Medicine



Letters of application accompanied by a curriculum vitae, three recent publications and the names of three referees should be submitted by **December 15, 2005**, and directed to:

Dr. Gavin C.E. Stuart, MD, FRCPC
Dean, Faculty of Medicine
Room 317, Instructional Resources Centre
University of British Columbia
2194 Health Sciences Mall
Vancouver, B.C.
Canada
V6T 1Z3

The University of British Columbia hires on the basis of merit and is committed to employment equity. We encourage all qualified applicants to apply; however, Canadians and permanent residents will be given priority.



THE UNIVERSITY OF BRITISH COLUMBIA

Do You Remember an Inspiring Teacher From Your Past? Why not recognize that teacher with a nomination for a FACULTY OF APPLIED SCIENCE UBC KILLAM TEACHING PRIZE?

The University is again recognizing excellence in teaching through the awarding of teaching prizes to faculty members. Two prize winners from the Faculty of Applied Science will be selected for 2006.

ELIGIBILITY: The prizes are open to full-time tenure-track faculty and sessional lecturers in Architecture, Engineering or Nursing who have five or more years of teaching experience at UBC.

CRITERIA: The awards will recognise sustained teaching accomplishments at all levels at UBC, and will focus on those faculty who have demonstrated that they are able to motivate students and are responsive to students' intellectual needs, or have developed innovative course materials for laboratory or classroom delivery.

NOMINATION PROCESS: Students, alumni or faculty members may nominate candidates. Student nominations should include at least five student signatures. Letters of nomination and supporting documents should be sent directly to:

Dean's Office, Faculty of Applied Science
The University of British Columbia
5000-2332 Main Mall
Vancouver, BC, V6T 1Z4
Attention: Yuki Matsumura
E-mail: yuki@apsc.ubc.ca; Tel: 604-822-6413

DEADLINE: November 14, 2005

For further information about the nomination process, please contact the Dean's Office, Faculty of Applied Science, your Department or School office, or the Killam Teaching Prize Committee Chair, Marion Clauson, Clauson@nursing.ubc.ca



NEWS TV | RADIO

UBC Public Affairs has opened both a radio and TV studio on campus where you can conduct live interviews with local, national and international media outlets. To learn more about being a UBC expert, call us at 604.822.2064 and visit our web site at www.publicaffairs.ubc.ca/experts/signup

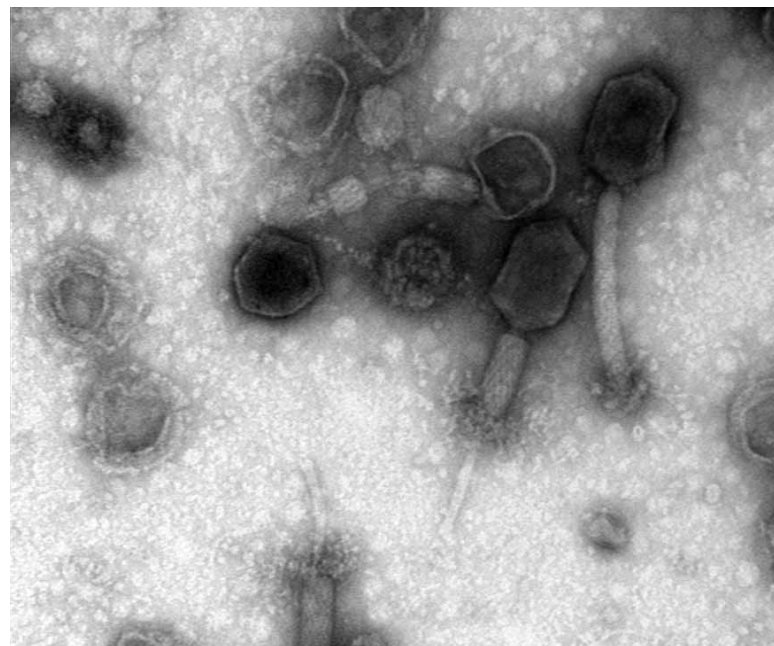
UBC Researchers Discover Viruses

UBC researchers have discovered five groups of previously unknown viruses living in a wide range of ocean environments.

The discovery, recently published in the *Proceedings of the National Academy of Sciences*, shows that a wide range of ocean environments contain previously unknown viruses that are distant relatives of viruses that attack bacteria in the human digestive system.

"On average, a teaspoon of sea-water contains a billion viruses, and we know very little about most of them," says Curtis Suttle, a professor in UBC's Dept. of Earth and Ocean Sciences and associate dean at the Faculty of Science.

Samples for the study were taken from many parts of the world including the coastal waters



Bacteria-killing virus of the type found in the sea.

of British Columbia, the Gulf of Mexico off Florida and as deep as four kilometres below the surface of the Arctic Ocean.

Suttle's research continues to focus on the discovery of

unknown and unusual viruses in the ocean, understanding their biology, and deciphering their role in the global ecosystem. Stay tuned for more exciting discoveries. □

TIMEPIECE 1953, 2005, AND BEYOND



A growing vision for the UBC School of Music
Professor Harry Adaskin was head of the Department of Music that was formed in 1947, and is pictured here performing with pianist Francis Marr in 1953. Today's School of Music building was constructed in 1967, and this past Spring completed the first phase of a renovation and renewal program with the arrival of 13 new Yamaha and Steinway pianos purchased from



Above: (l-r) Pictured with the new pianos are Henry Lee, Jesse Read, Henri-Paul Sicsic, Bob Burke, Jane Coop and Charles Gorling.

Tom Lee Music.

Says current director Jesse Read, "We look forward to the continued program of replacement of instruments, upgrade of facilities and renovations, and the fulfillment of our long-standing dream of renovating the Old Auditorium and ultimately, building a Creative and Performing Arts Centre beside the Music School." □

LETTER TO EDITOR

(The following is an edited version of a letter and an article submitted by Jason Li about his Zoology professor, regarding undergraduate research at UBC)

Dear editor,

I recently read the article by Vice President John Hepburn and his view on undergraduate research and its importance.

Most undergraduates remain oblivious to its existence. Those who acknowledge its existence and [have] tried to pursue discoveries with faculty members are usually turned down due to their inexperience.

While some professors may be reluctant to accept undergraduates, Zoology Prof. Robert Blake has been involving undergraduates in his research program for 25 years working on diverse projects such as bird flight, aquaculture and fish locomotion with great success. Over this year, there have been seven journal articles (in press and in review) written by undergraduates under intense one-to-one supervision.

When asked about their contributions to the manuscripts, Professor Blake [says], "While their ideas initially come out coarse and unconnected, with some refinement, they are first class." His purpose is to pass the notion to undergraduates that research is actually fun and interesting to do.

Professor Blake is shocked that most students continue to think that attending university is mainly about attending class, passing tests and graduating. "It is as if they had never thought that research plays a very important role in learning," says Blake. "Acquiring knowledge does not have to confine you to a desk."

Yours sincerely,

Jason Li

The Fourth Annual Multidisciplinary Undergraduate Research Conference

Enthusiastic undergraduate minds need a forum where they can share their knowledge of the research process with peers and faculty from across campus. One such forum is the annual Multidisciplinary Undergraduate Research Conference, *MURC*, and this conference is open to all undergraduates.

The *MURC* conference environment provides an opportunity to learn to talk about one's scholarly work. Communicating to a general audience is part of the research process across the sciences and the humanities. Reflecting on how one's research is relevant to society furthers knowledge in one's field and is also an integral part of the research process.

The Fourth Annual Multidisciplinary Undergraduate Research Conference will be held on Saturday, March 4th, 2006. To find out more please visit our web-site <http://www.RESEARCH.UBC.CA/2006UGConf.aspx> or email the conference coordinators at murc2006@shaw.ca. □

When New Parents Get Bad News

Pediatric surgeon's advances in fetal surgery offer new hope. BY HILARY THOMSON

Birth defect — two words that can chill the heart and fuel the fears of any prospective parent.

But some fears may be short-lived, thanks to the work of pediatric surgeon Dr. Erik Skarsgard, who is exploring new therapies to correct defects before baby draws its first breath.

A UBC associate professor of

formed before birth may offer the only hope of survival.

In utero surgery has traditionally involved large incisions and risk of premature labour, but fetal surgeons have now adopted less risky minimal-access techniques, involving two- and three-millimetre incisions, a video-telescope and miniaturized instruments.

Skarsgard.

In addition to his work as a surgeon, Skarsgard — in collaboration with UBC neuroscientist William Jia — is the only investigator in Canada exploring fetal gene therapies.

"We're just at the outset of research in this area," says the 44-year-old. "But the explosion of understanding of the human

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Surgery and Head, division of Pediatric General Surgery at Children's and Women's Health Centre of B.C., Skarsgard is an expert in therapies such as minimally invasive fetal surgery and fetal gene therapy.

"Advances in prenatal diagnoses have been the springboard for these new therapies," says Skarsgard, a UBC alumnus who spent eight years on the surgical faculty at Stanford University in California before returning to Vancouver in 2001. "They offer a whole new avenue of treatment and research to repair life-threatening and complex defects."

Of the approximately 350,000 children born in Canada every year, two to three per cent will be born with a serious congenital anomaly, according to Health Canada. Using diagnostic tools such as ultrasound, genetic testing and echocardiograms, defects are usually detected at 16-24 weeks gestation. For some fetuses with malformations of body structure, corrective surgery per-

Skarsgard helped to develop a minimally invasive technique for fetal treatment of a condition called congenital diaphragmatic hernia (CDH). In CDH, the diaphragm fails to form properly, allowing fetal intestines and liver to move into the chest cavity, interfering with normal lung development.

However, a recent U.S. clinical trial comparing fetal to postnatal treatment of CDH showed that most fetuses are still best served by surgery performed after birth. Skarsgard stresses the importance of subjecting these new treatments to the rigour of clinical trials before they are accepted and practiced.

Another U.S. clinical study is looking at the effectiveness of fetal surgery to treat spina bifida, a defect of spinal cord development that affects one in 750 Canadian babies.

"If the spina bifida trial shows a clear benefit with fetal surgery, our fetal diagnosis and treatment group at Children's and Women's Hospital would be ready to set up the first fetal surgery centre in Canada," says

genome and our ability to make early and accurate diagnoses of genetic disorders in fetuses allows us to consider a therapy such as fetal gene replacement."

Postnatal gene therapy to replace an absent or defective gene has not been very successful because the body's immune system reacts against vectors used to transport the replacement gene into the host. However, when replacement genes are transferred into a fetus with a genetic disorder, there is no pre-existing immunity to interfere with the transfer process.

If the idea of fetal gene replacement proves viable, it would offer new hope for genetic disorders such as cystic fibrosis, a condition that affects about one in 2,000 Caucasian births.

"We're still at a very early stage," says Skarsgard. "There is much we need to learn before we could ever test this treatment in humans. But it's on the horizon as an entirely new way to treat genetic disorders."

To enable researchers and clini-



Pediatric surgeon Dr. Erik Skarsgard used minimally invasive surgery to remove Dominique Marcotte's chest tumour.

PHOTO: COURTESY OF BC CHILDREN'S HOSPITAL FOUNDATION

cians to better understand the incidence of birth defects and effectiveness of available treatments, Skarsgard has set up a cross-Canada perinatal network that collects standardized, population-based data on fetuses and newborns.

Called the Canadian Perinatal Surgical Network (CAPSNET), the database offers information about incidence, treatment and outcomes and forms an evidence "template" that will help obstetricians, pediatri-

cians and pediatric surgeons to develop best practice models of care for their patients.

For more information on birth defects, visit Health Canada's website at www.hc-ch.gc.ca.

Children's and Women's Health Centre of B.C. is an agency of the Provincial Health Services Authority.

CAPSNET is funded by the Canadian Institutes of Health Research, Canada's premier health research funding agency. □



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**Did you know?**

Since November 2004 almost 2 million sq. ft. of construction has been completed at UBC to accommodate the University's growth. This includes 562,000 sq. ft. of residential and 1,422,534 sq. ft. of institutional facilities and student housing.

UNIVERSITY TOWN



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times

- UNIVERSITY BOULEVARD
- HAWTHORN PLACE
- HAMPTON PLACE
- SOUTH CAMPUS
- EAST CAMPUS
- CHANCELLOR PLACE
- NORTH CAMPUS
- GAGE SOUTH

Clement's Green Leads Market in Green Building Practices

UBC's latest residential apartment project, Clement's Green, is a leading example of the university's commitment to green building standards.

The four storey, 55 home building, was designed and is being built in accordance with UBC's Residential Environmental Assessment Program (REAP), a new UBC-made rating system for residential building performance. Clement's Green is among the region's leaders in terms of sustainable design, water and energy efficiency, waste management, healthy interiors, and building practices.

Sustainability features in Clement's Green include: a geothermal system for heating water, hot water meters for each suite, Energy Star appliances, dual flush toilets, and a building waste management and recycling plan.

Clement's Green is UBC's third successful faculty and staff co-development project. Co-development is central to UBC's strategy to create a work-study community. Under the program groups of faculty, staff, and others who work on campus (and would otherwise be commuting) partner with the university to develop and build townhouses and apartments, and as a result realize a cost savings of as much as 20 per cent below market value. 29 of 55 units in Clement's Green were sold to UBC faculty.

For further information on co-development visit: www.codevelopment.ca

UBC on Track to Surpass Kyoto 2012 Emissions Targets

UBC is on track to meet and surpass the Kyoto 2012 target of reducing greenhouse gas emissions by 25 per cent. As the first Canadian university to adopt a sustainable development policy in 1997, UBC opened the first Campus Sustainability Office in 1998 and leads Canadian universities in reducing emissions and improving energy efficiencies.

Last year, UBC was the first and only Canadian university to



Hawthorn Place neighbourhood (above) was once the infamous Lot B parking lot. Times are a changin'; below: UBC will showcase leadership in sustainability at the World Urban Forum



events that will explore the rapid urbanization of our globe in preparation for the coming United Nations' World Urban Forum in June 2006.

In addition to Living the Global City, UBC will showcase its sustainability achievements with a rich program including planning forums, sustainability tours, design workshops, and communications initiatives that will unfold through June 2006.

The Living the Global City series kicks off at UBC Robson Square on October 21 and will demonstrate how ideas, critical thinking, and creativity can directly improve policy and strengthen community, locally and globally.

All events are free and open to the public, unless where noted. To reserve a seat or for further information visit: www.wuf3.ubc.ca.

Lest We Forget

In honour of the Year of the Veteran and the 60th anniversary of World War II, UBC's Department of Ceremonies will host a traditional Remembrance Day ceremony on November 11th in the War Memorial Gymnasium. The programme will include a procession, hymns and readings followed with two minutes of silence and the placing of wreaths. Guests should arrive by 10:30 a.m. Formalities will begin at 11:00a.m. and conclude by 11:30a.m. Refreshments will be served.



UBC CONSTRUCTION UPDATE

Campus Roads in Transition

Traffic calming is underway on Wesbrook Mall. The number of lanes is being reduced from two in each direction to one in each direction, with dedicated bicycle lanes being added. A roundabout is also proposed for intersection control at 16th Avenue and Wesbrook Mall.

Work on Thunderbird Road between East Mall and Wesbrook Mall is now complete. The roadway was realigned in a straight configuration and traffic-calming measures were installed to improve pedestrian and bicycle safety. Thunderbird Road will extend west across Wesbrook Mall to provide the primary point of access to the new East Campus Neighbourhood.

Thunderbird Parkade Rising

Ground has been broken for the construction of the new Thunderbird Parkade situated between Wesbrook Mall, Thunderbird Boulevard and Agronomy Road. The new parkade is part of UBC's 10-Year Replacement Parking Plan and according to Danny Ho, Director of UBC Parking & Access Control Services, will replace 1,650 of the 3,000 stalls that have been removed from campus as a result of residential and institutional construction. Thunderbird Parkade will be completed in August 2006.



Artists rendering of the new Thunderbird Parkade