THE UNIVERSITY OF BRITISH COLUMBIA

UBC REPORTS

Volume 42, Number 7 April 4, 1996

D. Thomson photo

Up The Wall

The 17th annual Storm the Wall competition saw 470, five-person faculty, staff and student teams go up and over. The popular relay-style competition includes an 11-width swim of the Aquatic Centre pool, a 450-metre sprint to Main Mall, a 2.8-kilometre cycle loop on Main Mall and a one-kilometre run. The whole team goes over the wall at the end.

Strangway welcomes grant policy

UBC President David Strangway has welcomed the provincial government's decision not to pass cuts in federal transfer payments along to B.C. universities.

"It's an immense relief," Strangway said, adding that a recent decision to freeze salaries of public sector employees will help minimize any negative effect of the provincial grant, which remains unchanged from the previous year.

But Strangway pointed out that, when coupled with the recently announced freeze on post-secondary tuition fees, the university is actually faced with a one per cent cut in its 1996/97 operating budget. This cut is required to cover previous salary settlements and other costs.

Strangway said the government's decisions allow UBC to uphold its tuition policy as approved by the Board of Governors last year.

"UBC's tuition policy constrains UBC to operate within inflation, provides for offsetting a cut in the provincial grant, and provides for a fund to protect about one-third of students against the effect of a tuition increase," he said. "With the inflationary effect of salary increases controlled and no decrease in the provincial operating grant, the board's tuition policy remains intact."

The government also announced that each college and university will be required to increase productivity by four

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Crime rate suggests campus safe place

by Connie Bagshaw

Staff writer

Property crimes remain the highest reported incidents at UBC, a recent survey of campus crime statistics indicates.

"Members of the campus community are at greater risk of having their wallet, purse or computer stolen than being assaulted," says Meg Gaily, UBC's personal security coordinator. "It's the reality for most of us where we live, as well. Compared to other Lower Mainland communities, the campus is a relatively safe place."

> **" Compared to other Lower Mainland communities, the campus is a relatively safe place."**
>
> - Meg Gaily

Incident reports from UBC's Parking and Security Services (PASS) for January to March 23 this year list a total of 81 property crimes compared to two sexual offences. There are no sexual assaults reported to date.

There were nine trespass act offences, 43 reports of suspicious persons, 12 motor vehicle accidents and 28 other criminal activities which included intoxication, dumpster fires and verbal altercations.

Despite the statistical evidence, Gaily is concerned that persistent rumours about sexual assaults and murders purportedly taking place at UBC are causing fear on campus, especially among students.

"At a forum on personal safety, students complained about not having access to reliable information about crime at the university," Gaily said. "They may receive incorrect information, based on rumour, that is disturbing and frightening."

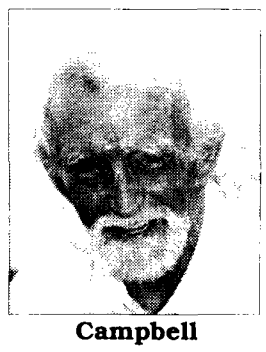
She noted that much of the problem stems from confusion about what constitutes the UBC campus.

"Often the media will report that a murder victim, for example, was found at UBC when in reality it may have

*See **CRIME** Page 2*

Alumni gift establishes new chair in design

A donation from a UBC alumnus and mechanical engineering graduate is leading to the establishment of a $1.5-million chair in mechanical engineering design.



Campbell

Patrick Campbell, who graduated from UBC in 1947, donated $750,000 to the Faculty of Applied Science. This amount will be matched with money generated through the development of the Hampton Place housing complex to create the Patrick David Campbell Chair in Mechanical Engineering Design.

Prof. Robert Evans, head of the Dept. of Mechanical Engineering, said the chair will enhance research in an area that is

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We may not be sleepless, but we could do with more, says Stanley Coren

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Letters

LETTERS POLICY

UBC Reports **welcomes letters to the editor on topics relevant to the university community. Letters must be signed and include an address and phone number for verification. Please limit letters, which may be edited for length, style and clarity, to 300 words. Deadline is 10 days before publication date. Submit letters in person or by mail to the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1, by fax to 822-2684 or by e-mail to paula.martin@ubc.ca.**

Kahn clarifies discrimination definition

Editor:

Dr. Dennis Danielson's letter (*UBC Reports*, March 21, 1996) gives me an opportunity to clarify a confusion over the term "systemic discrimination" that Dr. Danielson and others share.

"Systemic discrimination" is not a synonym for "pervasive discrimination" or "chilly climate." Rather, "systemic discrimination" refers to a specific type of discrimination that occurs when a practice that appears innocuous proves under certain circumstances to discriminate unreasonably and without justification.

For example, the practice of scheduling courses in rooms that can only be reached by stairs is not discriminatory until a student finds that his disability prevents him from attending class. A failure to provide a women's washroom in an all-male unit is not discriminatory until a woman joins the work force. Mandatory meetings held in the late afternoon are not discriminatory until parents discover that child-rearing responsibilities prevent their attending.

> **" 'Systemic discrimination' is not a synonym for 'pervasive discrimination' or 'chilly climate.'"**
>
> - Sharon Kahn

When matters such as these are brought to the attention of equity-minded administrators, they provide complainants with reasonable accommodation. Administrators who refuse to offer reasonable accommodation discriminate unfairly.

I trust this explanation of "systemic discrimination" resolves the semantic difficulties Dr. Danielson discovers in the wording of UBC's Policy on Discrimination and Harassment.

Sharon E. Kahn
Associate Vice-president, Equity

UBC team among math elite

UBC placed eighth in North America's most prestigious mathematics contest for undergraduate college and university students. The 1995 W. L. Putnam Mathematics Competition was written last December by 2,468 students from 405 colleges and universities.

Prof. Lon Rosen, coach of UBC's three-member team, said contestants spent six hours attempting to solve 12 problems.

"The median score was eight out of 120 so that gives some idea of the level of difficulty," said Rosen, who added that the highest score was 86.

UBC was represented by David Savitt, Erich Mueller and Mark Hamilton, each of whom is graduating this year.

Savitt's individual score of 71 was good for 13th place overall. This was the third consecutive year Savitt has placed in the top 15. The graduate of St. George's School in Vancouver will begin a doctoral mathematics program at Harvard next year.

The top five schools in this year's Putnam competition were: Harvard University, Cornell University, Massachusetts Institute of Technology, University of Toronto and Princeton University.

This is the third year UBC has received an honourable mention for finishing in the top 10. The University of Chicago, Duke University, New York University and Washington University (St. Louis) also received honourable mention.

Crime

Continued from Page 1

been Wreck Beach, Pacific Spirit Regional Park or the University Endowment Lands, none of which are within the university's jurisdiction."

Gaily also believes that people may take crime statistics published by the university detachment of the RCMP for the entire area they administer, which includes UBC, and apply them to the campus only.

"Suddenly, people are saying that the 85 sexual assaults reported to the RCMP in 1995 all occurred at the university."

Gaily stressed the importance of tracking down the source of information. She recommends that anyone troubled by rumours should call her office, PASS or the RCMP who will make printed crime reports available on request.

For more information, call Gaily at 822-6210.

Design

Continued from Page 1

key to the field of engineering.

"Design is really the synthesis of everything you learn as an engineer," he said. "And that design work touches on almost everything around us, whether it's a car, a home appliance or an airplane. It's ultimately designed by engineers."

While at UBC Campbell was a member of the Phi Kappa Sigma fraternity and was a three-time winner of the Big Block award for athletics.

Campbell's career as a pipeline engineer took him from remote corners of the world to the top ranks of Williams Brothers Overseas, one of the world's largest pipeline companies. He became president of that company in 1971.

He supervised construction of thousands of kilometres of pipeline around the globe, including the Trans-Ecuadorian pipeline that spanned the Andes Mountains at heights up to 4,500 metres.

Campbell and his brother Alastair, also a UBC engineering alumnus, earlier established a scholarship in honour of their mother, Mairi Grant Campbell, who emigrated from Scotland in 1924 and later taught at several Vancouver high schools.

Campbell has also recently funded the Patrick David Campbell Fellowships which will provide funding for graduate students in all areas of study. There are currently only 319 graduate fellowships available to 1,200 eligible students.

Grant

Continued from Page 1

per cent, implying a four per cent increase in student spaces. The university currently has about 2,000 weighted full time equivalent students more than it is funded for.

"For us it does not mean a change of direction. It's a stand-pat year in every sense," Strangway said.

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UBC REPORTS

UBC Reports is published twice monthly (monthly in December, June, July and August) for the entire university community by the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1. It is distributed on campus to most campus buildings and to Vancouver's West Side in the Sunday *Courier* newspaper.

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Sleep Thieves suggests we need to sleep more

by Gavin Wilson

Staff writer

Psychology Prof. Stanley Coren sees the evidence all around him: in concertgoers dozing in the Orpheum, airline passengers nodding off on a mid-morning flight, and even among his own students, one of whom damaged valuable equipment when she fell asleep in his lab.

"As a society," Coren says, "we are sleep deprived. The data suggests we may actually be getting two-and-a-half to three hours a night less sleep than our bodies were designed to have."

This is the thesis of Coren's new book, *Sleep Thieves*. In it he argues that the seven or eight hours sleep conventional wisdom says we need is inadequate. The cumulative effect of the resulting sleep debt is a deterioration of our physical and mental health that endangers ourselves and others.

Sleep Thieves' publication is timely. Coren warns that the onset of daylight savings time, which begins April 7, is responsible for hundreds of deaths and accidents each year.

"If sleep debt makes us more susceptible to the effects of any small additional sleep loss, then that hour of sleep we lose in the spring following the daylight savings time shift should make us more clumsy, inattentive and accident prone—and maybe more likely to die," Coren says.

In research that will also be published in the New England Journal of Medicine this week, Coren shows that traffic accidents in Canada jump by seven per cent the day after the shift to daylight savings time. Similarly, when we gain an hour's sleep in the fall, the accident rate dips.

Statistics also show that the number of accidental deaths in the U.S. spikes sharply on the first four working days following the onset of daylight savings time.

The effects of our general sleep debt are reflected year-round in accident statistics. Coren says that each year in the United States sleep-related accidents result in $56 billion in damage, 25,00 deaths and 2.5 million disabling injuries.

Sleep deprivation was a factor in some of the greatest calamities of recent times, including Chernobyl and the space shuttle Challenger explosion. The Exxon Valdez oil spill was another, caused when the captain's third mate fell asleep at the helm.

Sleep Thieves also contains anecdotes about how sleep debt affects shift workers, airline pilots, long-haul truckers, and hospital interns and residents who work round the clock making life and death decisions about their patients.

"The onset of daylight savings time... is responsible for hundreds of deaths and accidents each year."

- Stanley Coren

One story tells of the airliner that flew past its destination, Los Angeles International Airport, and continued for 160 kilometres over the Pacific, all three pilots fast asleep. Coren also interviews a trucker who fell asleep at the wheel and woke to find himself on the Utah salt flats 16 kilometres from the nearest highway.

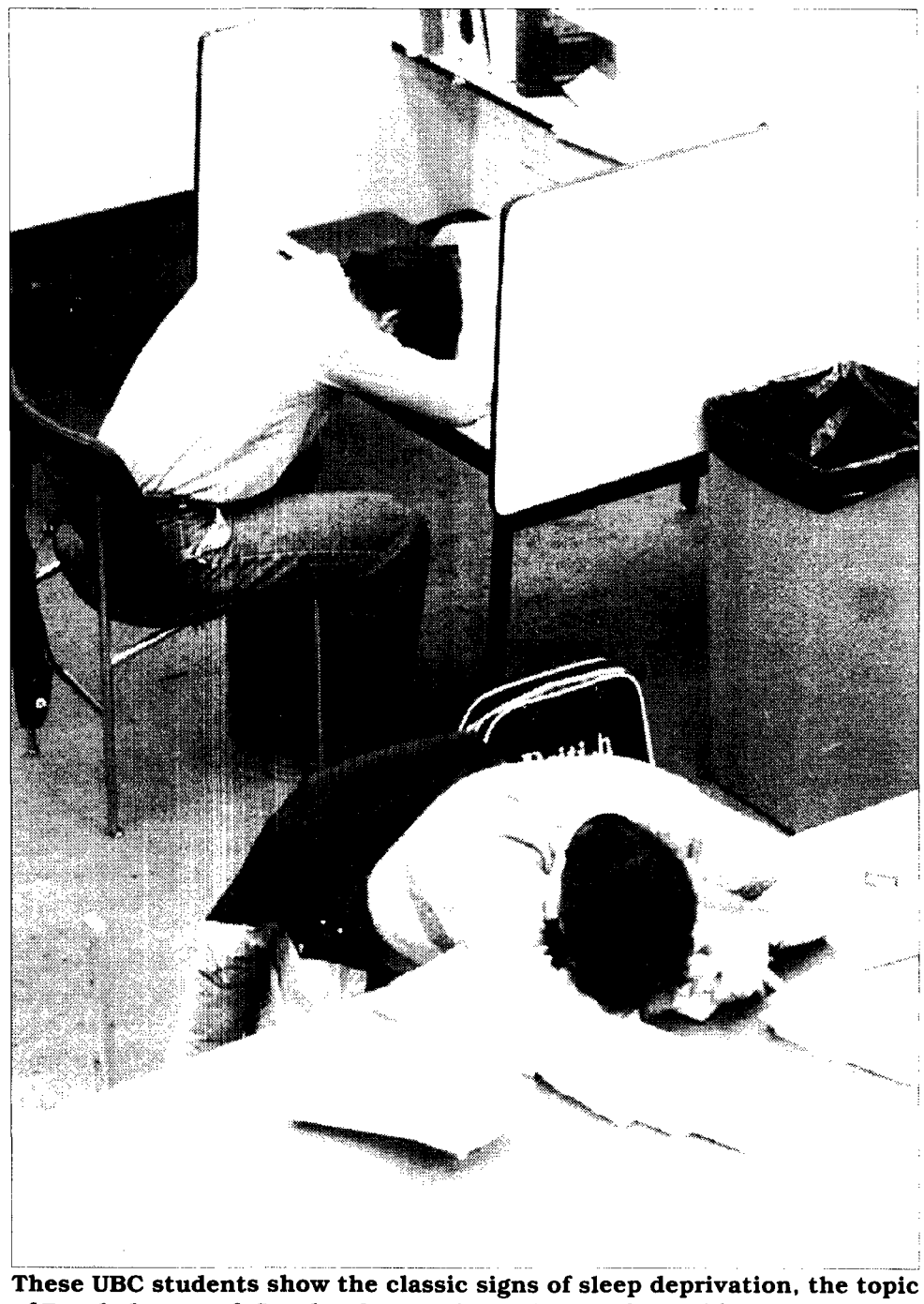
Coren says the culprit is the unnatural sleep patterns that the modern world imposes on us.

Blame Thomas Edison. He viewed sleep as wasteful and claimed to need just four hours a night. With his invention of the electric light bulb, society entered a world of perpetual daylight. The production line introduced round-the-clock shift work, and today, computer networks keep information flowing 24 hours a day.

Edison's feelings about sleep mirror those of contemporary society, which sees it as unproductive down time, but Coren says the data shows that we should be sleeping at least nine-and-a-half hours of every 24.

In an experiment at Stanford University, student volunteers were asked to sleep for one and a half hours longer than they normally do. Despite their fears about losing study time, the students increased their grades by an average of 10 per cent—the equivalent of a two or three point increase in IQ.

Some of the other topics covered in *Sleep Thieves* include insomnia, dreams, jet lag, sleep apnea, the differences in sleep among infants, children and teenagers, and the always futile attempts at reducing or even eliminating sleep.



These UBC students show the classic signs of sleep deprivation, the topic of Psychology Prof. Stanley Coren's latest book, *Sleep Thieves*. University students in 1910 slept about nine hours a night, compared with eight hours in the 1960s, seven hours and 18 minutes in 1978 and six hours and 52 minutes in 1988. A Stanford University study showed that students improved their grades by sleeping more each night, even though it gave them less time to study.

New centre to study immigration's impact

by Gavin Wilson

Staff writer

Vancouver has been transformed in recent years as immigration and off-shore investment have re-shaped its commercial and residential landscapes. But until now, few have studied this impact.

That will change with the creation of a multi-million-dollar Centre of Excellence for the Study of Immigration and Integration involving UBC and 14 other Canadian universities.

The Vancouver research centre, and three others located in Toronto, Montreal and Edmonton, were recently announced by Hedy Fry, federal secretary of state for multiculturalism.

"Few cities have changed so much, and so quickly, as Vancouver has in recent years," said Geography Prof. David Ley, who is co-director of the Vancouver centre along with SFU Economics Prof. Don DeVoretz.

"Aside from some sensational newspaper stories that have emphasized the atypical rather than the typical, little is known about immigration's impact. We need a better handle on the experiences of immigrants and their influence on our communities," he said.

The centre's findings will give all levels of government better information to develop policies and services including education, housing and health care needs, and assess how social, economic and cultural life will be affected.

Ley, a social geographer who has studied Canadian cities for 24 years, is part of a team of 45 researchers from UBC, SFU and UVic who will carry out the centre's work in partnership with other organizations.

UBC departments taking part in the project are Geography, Sociology, Economics and Civil Engineering, the schools of Nursing, Rehabilitation Sciences and Community and Regional Planning and the faculties of Education and Commerce.

Project partners include organizations that provide service to immigrants along with other public and private sector stakeholders such as municipal governments and school boards, the provincial ministry for Multiculturalism and Immigration and community based groups such as SUCCESS and MOSAIC.

"Their participation in this project is important and we hope that their inclusion produces benefits for them," Ley said. "Multiculturalism has to be a means of leading to a sense of Canadian citizenship that is shared by all. It should lead to a stronger Canada, not a more fragmented one."

The four research centres will receive a total of $8 million over six years.

Financial support comes from the Social Sciences and Humanities Research Council, Citizenship and Immigration Canada, Health Canada, the Dept. of Human Resources, the Dept. of Canadian Heritage, Status of Women Canada, Canada Mortgage and Housing Corp., and the Dept. of the Solicitor General.

The centres are a major part of Canada's participation in the Metropolis Project, an international initiative examining the impact of immigration on cities around the world.

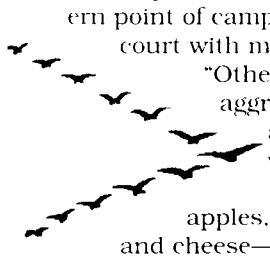
Offbeat

by staff writers

Chandelle Coleman freely admits it—she's gull-ible.

For three years, the donations processing clerk from UBC's Development Office has been sharing a lunch break with a seagull she calls No-Neck.

The feathered affair started in Feb. 1994 while Coleman was working out of the stately Cecil Green Park House situated on the most northwestern point of campus. From her third-floor window, Coleman held court with many a gull but No-Neck stood out.



"Other gulls were pushy but no-neck was not at all aggressive," said Coleman. "He just sat there quietly and waited patiently for what scraps came his way."

No-Neck was certainly not picky. Cheezies, apples, cinnamon buns, bananas, jelly-tots, macaroni and cheese—Coleman gaveth and gull didst taketh away.

So when it came time for Donations Processing to move into nearby Mary Bollert Hall last August, Coleman thought that was the end of their relationship.

She was wrong. It appears No-Neck is part homing pigeon.

Shortly after her move, Coleman looked out her window to find No-Neck staring back with his trademark slouch and cracked beak.

"He's taken to coming around in the mornings now but I don't mind," said Coleman. "I guess there's no accounting for good taste."

Purchase of a $500,000 photon machine would allow cost-effective stereotactic radio brain surgery to take place in Vancouver. Dr. Brian Toyota, pictured above, and colleagues are already using a type of stereotactic procedure to perform precise brain biopsies on a day-care basis.

Technology offers painless, bloodless brain surgery

by Gavin Wilson

Staff writer

UBC's Division of Neurosurgery and the B.C. Cancer Agency are working together to bring a unique tool to Vancouver that will combat brain tumours and strokes without invasive surgery.

Stereotactic radiosurgery allows painless and bloodless procedures that replace the surgeon's scalpel with powerful, highly focused beams of radiation, said Dr. Brian Toyota.

Toyota, an assistant professor in the Dept. of Surgery, is part of a group of physicians who are trying to build support for the purchase of stereotactic radio surgery equipment.

"There is often a lot of hype about these kinds of things, and this technology does have its limitations—we can't use it for every brain tumour or blood vessel malformation—but this is really quite a remarkable advance and we should be taking advantage of it," he said.

Stereotactic radio surgery offers many advantages to conventional surgery.

Lesions and tumours can be eliminated with little effect on surrounding brain tissue and there is none of the trauma involved with general anesthesia and open brain surgery that can take several hours. Complications such as stroke, infection and hemorrhage occur much less frequently.

Such surgery is also cost-effective, Toyota said. Procedures are usually performed under a local anesthetic and are complete in less than an hour. There is no need for post-operative care or long rehabilitation. Patients can be sent home on the same day instead of enduring a lengthy convalescence.

Stereotactic radio surgery is already in use in Europe, the U.S. and central Canada, but it is not yet available anywhere in Western Canada.

The reason is that cash-strapped hospitals can't afford it. Toyota said his group advocates the purchase of the least expensive option, a photon machine costing $500,000. It is basically a modification of what is already used in cancer radiation therapy.

The photon-based equipment is a fraction of the cost of other radio surgery hardware like the Gamma Knife, which costs more than $5 million, but it is equally effective, he said.

Toyota said UBC has recruited personnel in recent years, including himself, who are trained and experienced in using these techniques.

"The technology is available, people are eager and willing to use it, but now we've hit a wall," he said. "What we have learned may soon be outdated if we wait too long. If we had the money we could have this up and running by the fall."

Toyota and his colleagues are already performing a type of stereotactic procedure to perform precise biopsies of brain lesions on a day-care basis.

Stereotactic biopsies are performed by placing a cylinder-like frame around the patient's head to provide a reference for accurate coordinates. A CT scan is done and a small incision is made in the skull under a local anesthetic.

The tip of a very fine probe is then used to take a biopsy sample of the tissue. The entire procedure takes no more than two hours and does away with the need for a large opening in the skull and a long recovery period.

Stereotactic procedures are also used to diagnose AIDS-related neurological complications that are otherwise difficult to locate, plan the removal of lesions and tumours and locate small tumours.

Crisis point focus for institute study

At what point does a situation become a crisis?

This question is the first focus of study for the Peter Wall Institute for Advanced Studies. Over the next three years, a core group of nine UBC scholars will receive a grant of $500,000 to look at the phenomenon known as a "crisis point" —that juncture at which the character of a process changes abruptly.

"It may be the recurrence of a disease posing a major new threat, groundwater pollution reaching a level where it threatens our water supply, the collapse of fisheries due to a sudden drop in populations, an avalanche, earthquake or the collapse of a currency or market," said project co-ordinator Priscilla Greenwood. "The critical points at which such phenomena emerge are the crisis points we propose to study."

Greenwood, a professor of mathematics, said the interdisciplinary group of researchers will study both the general question of how to develop crisis point models and how to apply them to particular problems in areas such as biology, earth sciences, economics, epidemiology and psychology. The research team will be aided by graduate students, post-doctoral fellows and visiting scholars.

The study will have three components: a description of the nature of crisis point models; development of techniques for determining when and how to apply models to an area; and suggestions on how to implement practical applications guided by results and insights from modelling efforts.

"We will consider what aspects of model results are relevant to the real world problems at hand and how to make the case to the public and various authorities that models can be useful," said Greenwood. "We hope our models will enable people to evaluate danger better, to see crises coming and be in a position to make decisions based on good judgements."

The Institute for Advanced Studies was established by a $15 million gift from Vancouver financier Peter Wall. The first of its kind in Canada, the institute will have renowned scholars undertaking thematic enquiries into topical, cross-disciplinary issues.

John Grace, dean of the Faculty of Graduate Studies, said a new thematic grant proposal will be selected each year in an open competition. Successful proposals are supported by an endowment of $10 million drawn from the Hampton Place residential development. Grace added that the institute hopes to announce the appointment of a director in May.

Joining Greenwood in the proposal *Crisis Points and Models for Decision* are: Asst. Prof. Roger Beckie, Geological Sciences; Prof. Birger Bergersen, Physics; Prof. Leah Edelstein-Keshet, Mathematics; Prof. David McClung, Geography/Civil Engineering; Asst. Prof. Joris Pinske, Economics; Prof. Michael Schulzer, Statistics/Medicine; Prof. Carl Walters, Fisheries Centre/Zoology; and Prof. Lawrence Ward, Psychology.

D Thomson photo

Dig This

Graduating student Ho Min Um helped plant a dogwood tree in the North Meadow across from the Rose Garden Parkade recently. The tradition of graduating classes planting a tree on campus dates back to 1915.

Open House/ Public Forum

Official Community Plan for UBC

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Please Recycle

Teen pregnancy not at root of drop-out rate

Despite popular belief, pregnancy is not the main reason why teenage girls drop out of school, says a UBC researcher.

This is one of several myths about teen pregnancy, parenthood and education that are exploded in a recently completed study by Deirdre Kelly, an assistant professor of Educational Studies.

"Girls leave school for many of the same reasons boys do," says Kelly. "Rarely today are girls, who are academically and socially engaged in school, suddenly derailed in their education by pregnancy."

In 1993, Kelly began attending classes and extracurricular events at two B.C. schools with on-site child-care facilities for teen parents. Both schools integrated pregnant and parenting students into regular classes and activities.

In addition, she interviewed several hundred teachers, students, school administrators and trustees, community representatives and school-based child-care workers.

Kelly also observed 22 teenage mothers at school, socializing with friends and interacting with their children both at home and at daycare centres.

Preliminary data analysis shows that 73 per cent of the teens either quit school or were severely truant prior to pregnancy. Another 14.5 per cent dropped out during their pregnancy or after giving birth, while 12.5 per cent remained in school throughout.

Kelly's research also indicated that teenage motherhood did not impede the mother's ability to complete her education.

"Teen mothers told me that having a child is what re-inspired them to return to school and get an education," Kelly said.

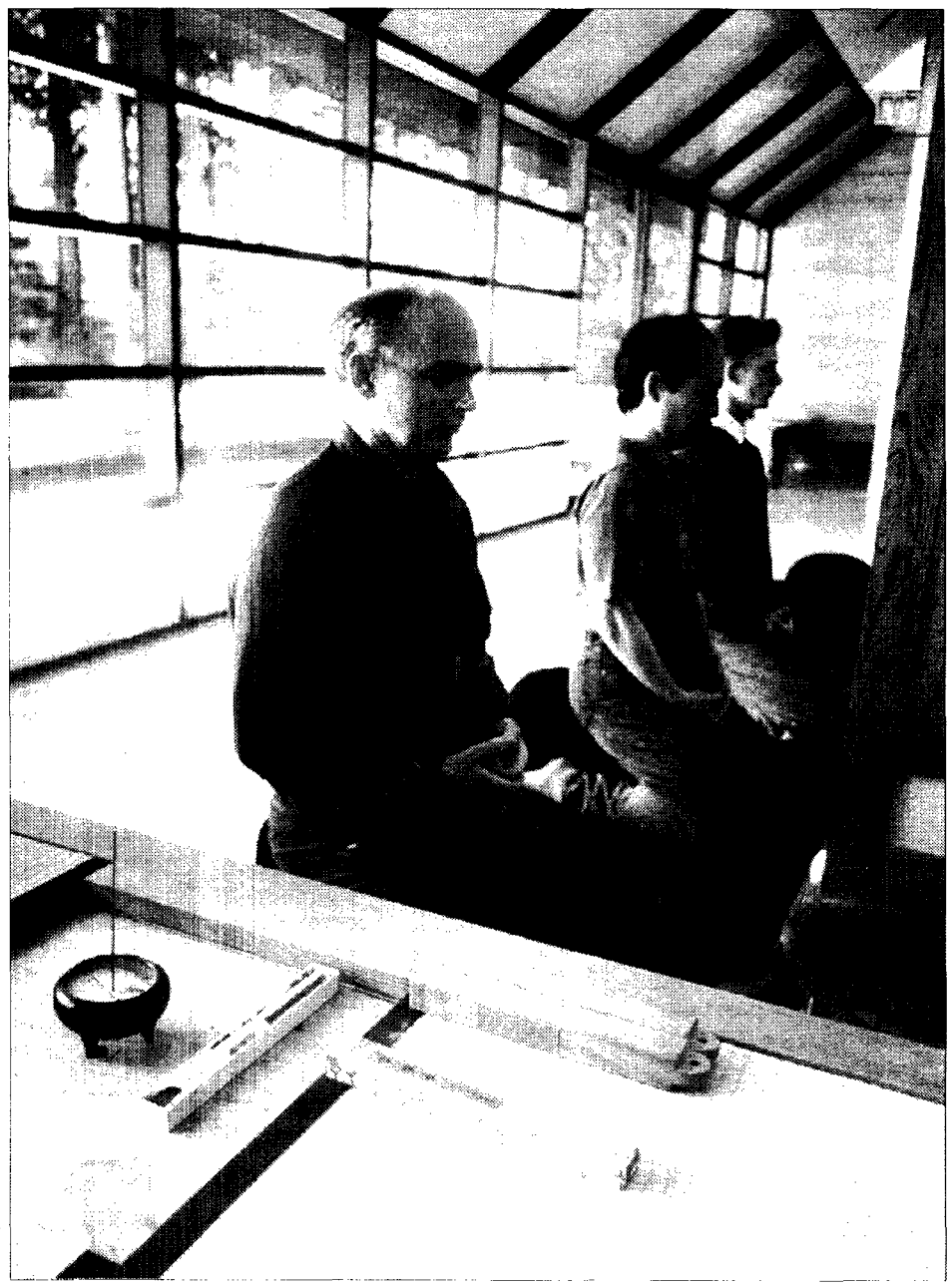
Her survey of students about whether or not school-based day-care centres encouraged other teens to get pregnant revealed that their presence actually contributed to the prevention of teen pregnancy.

"Not one student agreed that having a day-care centre at a regular high school had encouraged them to think about having a baby," Kelly said. "Instead, they emphasized that they had learned first-hand about the enormous responsibilities that teen parents face."

Kelly's research was supported by a grant from the Social Sciences and Humanities Research Council of Canada.

She will present these and other research results as she closes the Faculty of Education's lecture series on important educational issues in B.C. with a talk titled *Myths About Teen Pregnancy and Parenthood: Implications for Sexuality Education* on April 23.

The free lecture starts at 7:30 p.m. in the Judge White Theatre at the Robson Square Conference Centre. For more information, call 822-6239.



Gavin Wilson photo

Now And Zen

Members of UBC's Zen Society meditate each Monday afternoon in the tea gallery of the Asian Centre using cushions and other equipment donated by Komazawa University in Japan.

Teaching trends

Instructional skills workshops

Self-help key to training program's success

by Connie Bagshaw

Staff writer

Students teaching students teaching students is the winning formula behind a unique program developed by UBC's Centre for Faculty Development and Instructional Services for tomorrow's teachers today.

Since the inception of the Instructional Skills Workshops in 1992, UBC teaching assistants and graduate students have had the opportunity to train for future responsibilities as educators and learn to be more effective in their current university employment as laboratory assistants, tutorial leaders, markers and undergraduate course instructors.

"Knowing about content and having the ability to communicate that content to others to help them learn it are two distinct talents," says graduate student co-ordinator Janice Johnson. "The main purpose of the workshops is to help teaching assistants make the learning environment a good one so that everyone benefits from it."

The three-day workshops, funded by the Teaching and Learning Enhancement Fund, are offered free to teaching assistants and graduate students 16 times a year between May and February.

Each workshop accommodates 12 students who share ideas, practice skills and design and instruct mini lessons with help from two peer facilitators.

"It is quite a unique program among its kind in North America because it is taught, reviewed and revised by the facilitators who are teaching assistants themselves," Johnson explained. "Many similar workshops at other universities are planned and taught by faculty members."

UBC's workshops, which usually have a waiting list, are now one of the models for universities across Canada currently developing their own programs.

Johnson also attributes the workshops' success to the written and verbal feedback participants receive on their mini lessons, which are videotaped.

"Students consistently tell us that the mini lessons and the feedback are the most valuable aspects of the program," she said. "The facilitators guide constructive analysis of the lessons, enabling the participants to decide what changes may be necessary."

Johnson added that many of the participants indicate they have found employment as a direct result of their honed teaching skills.

"The workshops are constantly evolving to address issues such as changing ideas about teaching, the use of technology in teaching and diverse student populations," she said. "We've been told by participants that the practical training they've received and their enhanced ability to teach has helped them get jobs."

The Instructional Skills Workshops are accredited by B.C.'s Ministry of Education, Skills and Training and appear on participants' transcripts as an interdisciplinary non-credit course.

Follow-up sessions—which cover everything from time management to learning styles—are also available to students who have either attended a workshop, or who are interested in the topics.

For more information, fax 822-9826 or send e-mail to lynne.abbott@ubc.ca.

Ecologically friendly buildings focus of research partnership

by Stephen Forgacs

Staff writer

UBC's Faculty of Forestry has joined in a research partnership that will explore, among other things, how ancient design and construction wisdom of Japanese temples can be combined with modern technology to produce environmentally sensitive buildings.

UBC signed an agreement March 26 with the International Environmental Institute (IEI), a Japanese research institute established by KST-Hokkaido founder Akira Yamaguchi. The agreement involves about $1.3 million in research funding over six years.

Wood Science Prof. David Cohen, who will play a role in bringing a multi-disciplinary UBC research team together, said that under the terms of the agreement, IEI will contribute funding for still to be determined research projects, while UBC will provide the expertise.

"It's very much a Pacific Rim partnership," Cohen said. "It's a relationship with common goals. Combining the science of western society with the wisdom of Japanese tradition should provide many insights into a more harmonious future with the environment in the 21st century."

He said the agreement extends well beyond the financial aspect and involves an important exchange of wisdom and science.

KST-Hokkaido builds strong wooden houses exclusively on the island of Hokkaido using Japanese wood, post-and-beam construction and joinery based on ancient temple techniques. These houses are usually subject to extreme winter conditions and exist in earthquake-prone areas.

An interdisciplinary research team from UBC (including experts in architectural design, wood engineering and marketing) will examine KST-Hokkaido's housing system, and other systems, in the northern regions of Japan, Canada and Europe.

Cohen said an important aspect of the agreement is an emphasis on bio-regionalism, the practice of making use of resources available in a specific region as opposed to relying on imported goods, whether foods or building supplies.

Yamaguchi, who signed the agreement with Forestry Dean Clark Binkley, UBC Vice-President, Academic, Dan Birch and IEI Director Yahiro Ohkoda, said the UBC agreement is part of his company's commitment to research. IEI is also funding research at Harvard University and the University of Montana-Missoula.

Ohkoda said the Harvard research "is people-centered and at UBC it is forestry- and wood-centered.

"UBC is a very powerful and influential university in the fields of forestry and architecture. We're interested in using trees to their fullest and that is what UBC is very good at," he said. "UBC is interested in sharing KST-Hokkaido's knowledge of winter life and housing needs. We hope to help people of the northern regions."

Calendar

April 7 through April 20

Tuesday, Apr. 9

Pharmaceutical Sciences Seminar
Analysis Of The Conjugates Of Reactive Metabolites Of Valporic Acid. Sashi Gopaul, grad. student. IRC#3, 12:30-4:30pm. Call 822-4645.

Oceanography Seminar
Upwelling Over Canyons: Juan de Fuca Is A Special Case. Susan Allen, Oceanography. BioSciences 1465, 3:30pm. Call 822-2821.

Wednesday, Apr. 10

Pharmaceutical Sciences Seminar
Does Nifedipine Really Increase Cardiac Mortality? Jane DeLemos. Vancouver Hospital/HSC, Koerner Pavilion, G-279, 4:30-5:30pm. Call 822-4645.

Respiratory Research Seminar Series
Diagnosis Of Cystic Fibrosis In Adults. Dr. B. Nakielna, Medicine. Vancouver Hospital/HSC, 2775 Heather St., 3rd floor conference room, 5-6pm. Call 875-5653.

UBC Zen Society
Day Retreat. Asian Centre, tea gallery, 9am-4pm. Call 228-8955.

Orthopaedics Grand Rounds
ACL As Day Care - Pain Management Program. Dr. J.P. McConkey, Athletic Injuries and Arthroscopic Surgery. Vancouver Hospital/HSC, Eye Care Centre auditorium, 7am. Call 875-4111 local 66276.

Public Forum
Living Wills. Peter Singer, U of Toronto Centre for Bioethics. Representation Agreements. Gerrit Clements, BC Ministry of Health and Ministry Responsible for Seniors. Judge White Theatre, Robson Square conference centre, 7-9pm. Call 822-5677.

Thursday, Apr. 11

Economics Seminar
Does European Unemployment Prop-up U.S. Wages? Donald Davis, Harvard. Buchanan D-225, 4pm. Call 822-2876.

Centre for Applied Ethics Colloquium
Strategy And Ethics. Daniel Gilbert, Bucknell U. Angus 415, 2:30-4:30pm. Call 822-5139.

Friday, Apr. 12

Economics Seminar
Constitutional Limitations On Public Deficits: Evidence From The United States. Henning Bohn, Santa Barbara. Buchanan D-225, 4pm. Call 822-2876.

Paediatrics Grand Rounds
Genetic Predisposition To Malignancy - Breast And Ovarian Cancer. Dr. Barbara McGillivray, Medical Genetics. GF Strong auditorium, 9am. Call 875-2307.

Health Care & Epidemiology Rounds
Moving Into The Information Age: Impact On Patient Care And Worklife Of Health Care Professionals. Marilynne Hebert, Mather 253, 9-10am. Call 822-2772.

Saturday, Apr. 13

Web Workshop
Creating A Web Home Page. Brenda Peterson, MLS and Larry Campbell, MLS. Main Library, 8th floor, 9am-4pm. $130. Call 822-2404.

New Plant Centre
Celebrations Over The Weekend. Free garden tours 1pm and 3pm. Draws for prizes every 1/2 hour. UBC Botanical Garden, 10am-6pm. Call 822-4529.

Sunday, Apr. 14

Lecture
Beadwork and Tanning. Gertie Tom, Tutchone artist. MOA theatre gallery, 2:30pm. Free with museum admission. Call 822-4604.

Monday, Apr. 15

Economics Seminar
Two Views Of The British Industrial Revolution. P. Temin, MIT. Buchanan D-225, 4pm. Call 822-2876.

Biochemistry and Molecular Biology Seminar
The Insulin Receptor Family: From Flies To Neurons. Richard Roth, Stanford U. IRC#3, 3:45pm. Refreshments at 3:30pm. Call 822-9871.

Centre for Applied Ethics Colloquium
On Trust. Daryl Koehn, candidate, Chair in Business Ethics - Depaul U. Angus 415, 2:30-4:30pm. Call 822-5139.

Tuesday, Apr. 16

Oceanography Seminar
Interannual Fluctuations Of The Zooplankton Community Off Vancouver Island. Dave Mackas, Institute of Ocean Sciences, Sidney. BioSciences 1465, 3:30pm. Call 822-2821.

Pharmaceutical Sciences Seminar
Developmental Metabolism Of Diphenhydramine In Pregnant Sheep. Harvey Wong, grad. student. IRC#3, 12:30-4:30pm. Call 822-4645.

Botany Seminar
Testing A Nearshore Subtidal Classification System. Mary Morris, grad. student. BioSciences 2000, 12:30-1:30pm. Call 822-2133.

Green College Speaker Series
The Judges' Legal Revolution In Italy: A Triumph For The Rule Of Law? Prof. David Nelken, U of Macerata and U of Wales at Cardiff. Green College, 5:30-6:30pm. Reception in Graham House, 4:45-5:30pm. Call 822-6067.

Wednesday, Apr. 17

Pharmaceutical Sciences Seminar
Varicella Vaccine: Should There Be Universal Immunization? Jane Kirkpatrick, Pharm.D student. IRC G-41, 4:30-5:30pm. Call 822-4645.

Respiratory Research Seminar Series
Laser Treatment For Snoring. Dr. A. Blokmanis and Dr. J. Woodham. Vancouver Hospital/HSC, 2775 Heather St., 3rd floor conference room, 5-6pm. Call 875-5653.

Orthopaedics Grand Rounds
Leukemic Arthropathy. Dr. G.M. Hawk. Dietary Rickets In The '90s. Dr. M.J. Penner. Vancouver Hospital/HSC Eye Care Centre auditorium, 7am. Call 875-4111 local 66276.

Senate
The Eighth Regular Meeting Of The Senate, UBC's Academic Parliament. Curtis 102, 1822 East Mall, 8pm. Call 822-2951.

Thursday, Apr. 18

Economics Seminar
Crowding Out In A Model Of Endogenous Growth. Eric Fisher, Ohio State. Buchanan D-225, 4pm. Call 822-2876.

19th Century Distinguished Speaker
Excessively Peculiar: The Cult Of Aesthetic Languor In Victorian Art And Culture. Susan Casteras, Yale Centre for British Art. Green College, 8pm. Call 822-6067.

Friday, Apr. 19

Paediatrics Grand Rounds
Imaging In Urinary Tract Infections. Dr. Thomas L. Slovis, Children's Hospital of Michigan and Wayne State U; Dr. Betty J. Wood, BC's Children's Hospital. GF Strong auditorium 9am. Call 875-2307.

Health Care & Epidemiology Rounds
Lead And Your Sex Life. Dr. Nelson Ames. Mather 253, 9-10am. Call 822-2772.

Next calendar deadline:
Noon, April 9

Saturday, Apr. 20

Web Workshop
Creating A Web Home Page. Brenda Peterson, MLS and Larry Campbell, MLS. Main Library, 8th floor, 9am-4pm. $130. Call 822-2404.

Notices

Badminton Drop-In
Faculty/Staff/Grad Students are welcome at the Student Recreation Centre, Mondays, 6:30-8pm. and Wednesdays, 6:45-8:15pm. Bring your library card. Check for cancellations: ratkay@unix.infoserve.net or call 822-6000.

Volleyball
Faculty, Staff and Grad Student Volleyball Group. Every Monday and Wednesday, Osborne Centre, Gym A, 12:30-1:30pm. No fees. Drop-ins and regular attendees welcome for friendly competitive games. Call 822-4479 or e-mail: kdcs@unixg.ubc.ca.

Morris and Helen Belkin Art Gallery
The Innocence Of Trees: Agnes Martin and Emily Carr. Guest curated by David Bellman. March 14 - May 25. Tuesday - Friday, 10am-5pm; Saturday, 12-5pm. 1825 Main Mall. Call 822-2759.

Faculty Development
Would you like to talk with an experienced faculty member, one on one, about your teaching concerns? Call the Centre for Faculty Development and Instructional Services at 822-0828 and ask for the Teaching Support Group.

Fitness Appraisal
The John M. Buchanan Exercise Science Laboratory is administering a comprehensive physiological assessment program available to students, staff, and the general public. A complete fitness assessment with an interpretation of the results takes approximately one hour and encompasses detailed training prescription. A fee of $50 for students and $60 for all others is charged. For additional information or an appointment, please call 822-4356.

Parents in Long-Term Care Study
Daughters with a parent in a care facility are invited to participate. Study focuses on the challenges of visiting/providing care and its effect on well-being. Involves interviews/responses to questionnaires. Call Allison, Counselling Psychology at 946-7803.

Parents with Babies
Have you ever wondered how babies learn to talk? Help us find out! We are looking for parents with babies between 1 and 14 months of age to participate in language development studies. If you are interested in bringing your baby for a one hour visit, please call Dr. Janet Werker's Infant Studies Centre, Department of Psychology, UBC, 822-6408 (ask for Nancy).

Clinical Trial in Dermatology
A study comparing two oral medications, Famciclovir and Valacyclovir in the treatment of first episode of Herpes Zoster (shingles). Age 50 and over. Division of Dermatology. 835 West 10th Avenue, 3rd floor. Reimbursement for expenses. Call 875-5296.

Surplus Equipment Recycling Facility
Weekly sales of furniture, computers, scientific etc. held every Wednesday, noon-5pm. SERF, Task Force Building, 2352 Health Sciences Mall. Call 822-2582 for information.

Garden Hours
Nitobe Memorial Garden, Botanical Garden and the Shop-in-the-Garden are open 10am-6pm daily (including weekends) until Oct. 13. Call 822-9666 (gardens), 822-4529 (shop).

Guided Tours of Botanical Garden
By Friends of the Garden. Every Wednesday and Saturday, 1pm, until Oct. 13. Free with admission. Call 822-9666.

English Language Institute
Homestay. English-speaking families are needed to host international students participating in ELI programs for periods of two to six weeks. Remuneration is $22/night. Call 822-1537.

Language Programs
Registration is underway for Continuing Studies French, Spanish, Japanese, Mandarin, Cantonese, Italian, German, Arabic, Hindi and Punjabi conversation classes starting April 20 and 23. $245 for 10-week session. For course times and registration information call 822-0800.

GIVE SOMEONE A SECOND CHANCE.
Discuss organ donation with your family.
THE KIDNEY FOUNDATION OF CANADA

Linda Reid (right) MLA for Richmond East and opposition critic for the Attorney General and Science and Technology recently met with Lynn Smith, Dean of Law and Associate Dean Philip Bryden. She also met with students involved in the Law students legal advice program as well as with Science Dean Barry McBride.

UBC REPORTS

CALENDAR POLICY AND DEADLINES

The *UBC Reports* Calendar lists university-related or university-sponsored events on campus and off campus within the Lower Mainland.

Calendar items must be submitted on forms available from the UBC Public Affairs Office, 310-6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1. Phone: 822-3131. Fax: 822-2684. Please limit to 35 words. Submissions for the Calendar's Notices section may be limited due to space.

Deadline for the April 18 issue of UBC Reports — which covers the period April 21 to May 4— is noon, April 9.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW THE DEPT. OF PLANT OPERATIONS—February 1996

THE UNIVERSITY OF BRITISH COLUMBIA

April 4, 1996

To: Members of the UBC Community
From: Committee to Review the Dept. of Plant Operations

The committee[1] charged to review the Department of Plant Operations, seeks your help. The Association of Higher Education Facilities Officers (for historical reasons, abbreviated APPA)—the relevant professional organization—has conducted an external review of the Department. The Executive Summary of their report along with a summary of recommendations are reproduced below.

The APPA review covered a wide range of topics touching on every aspect of the Department. Their report contains 39 recommendations. We want your views on the merits of these recommendations, and suggestions for other ways to improve the Department's delivery of services to the University. Based on the APPA report, your comments and comments from other parts of the University community, the committee will prepare a report for the VP Administration and Finance. He and others responsible for management of the Department will be responsible for any decisions about implementing these or other recommendations.

Please forward your comments to Clark S. Binkley, by fax: 822-8645; e-mail: binkley@unixg.ubc.ca; or by mail to: Faculty of Forestry, UBC, #270 - 2357 Main Mall, Vancouver, B.C., V6T 1Z4.

[1] The committee is chaired by Clark Binkley, Dean, Faculty of Forestry, and includes Derek Atkins, Associate Dean, Faculty of Commerce and Business Administration; Michael Davies, Associate Dean, Faculty of Applied Sciences, Robert Kubicek, Associate Dean, faculty of Arts; Ruth Patrick, University Librarian, and James Sherrill, Associate Dean, Faculty of Education. Terry Sumner served on the committee until he became VP Administration and Finance, the official to whom the committee reports.

Executive Summary

The five-day facilities management evaluation process identified four broad areas needing additional attention by the Plant Operations Department at UBC. This Executive Summary is organized around these areas for purposes of clarity and emphasis.

Customer Focus

Though a number of customers indicated Department of Plant Operations' performance has improved in the past three to five years, customer focus still needs more attention. As with many downsized university plant operations, Department of Plant Operations has been "assaulted" by a huge and growing list of facilities deficiencies. Unfortunately this situation often pushes face-to-face, customer contact into the background. Despite this tendency, the Department of Plant Operations needs to reorganize and deploy managerial and supervisory staff in a manner that dramatically increases customer contact. We recommend moving to a "modified" area or zone concept, including the assignment of trades persons and generalists to an increased number of specific zones.

We also recommend a rigorous schedule of meetings and discussion between key managers in the Department of Plant Operations and all deans and their department heads. In those discussions, the Department of Plant Operations needs to ask: 1) how they can best assist the academic endeavour, and 2) where they need to improve services the most.

Adopting a clear customer focus, with concomitant staff training, may be the best "common ground" around which both management and unionized workforce can partner. For the union, satisfying the customer is the only long-term route to job security.

Team Building

The quality of the Department of Plant Operations staff is impressive. Articulate, personable, professional, dedicated people are everywhere in the organization. They provide the solid foundation every world-class entity must have. After several years of budget cuts and occasional labour strife, however, it appears time to undertake a major team building program. Major elements of this program should be: development of the vision statement; further development and publicizing of the mission, goals, and objectives; task forces or continuous improvement groups addressing work process and customer issues; and drastically improved dialogue with trades team members. Regardless of on-going contract bargaining or historically difficult relations, the Department of Plant Operations cannot effectively serve the campus until the two distinct culture within the department, union and nonunion, begin to work closely together to serve the customer. The resultant improvement in internal communications and inter-unit accountability are key to the unifying of the Department of Plant Operations diverse workforce.

Maintenance Workforce Productivity

Customers were clear in conveying their perception of poor productivity in the trades maintenance group. Though some of the productivity issue appears unavoidable given the narrow jurisdictions and limitations of existing union contracts, much of it also resides in traditional practices, both perceived and real, surrounding work breaks, transportation, and job contact time. We recommend the following:

A. Increase the use of generalists (e.g., utility workers) to do a large part of the simple, day-to-day maintenance tasks. Decrease the use of specialists.

B. Utilize a zone approach to maintenance service to:
   1. Minimize travel time
   2. Improve service personnel knowledge of specific building system problems and customer concerns
   3. Give the customer a few familiar faces to deal with when there are facilities needs.

C. Initiate specific partnering activities with the unions to improve customer service through:
   1. Decentralized service delivery
   2. Increased use of generalists
   3. More flexible job assignments
   4. Reduced downtime due to travel and parts procurement
   5. Identifying ways to improve customer perception and overall relations.

Process Improvement

The Department of Plant Operations has made tremendous progress in the upgrading of a number of management systems and processes. The TSW management information system is state-of-the-art and will be a key building block for plant operations in years to come. Implementation of such systems is complex and time-consuming, with an implementation failure rate of about 60 percent. The Department of Plant Operations can take great pride in their notable success.

Other areas could also benefit from attention. For example, the department could shift organization and processes to increase the contact between managerial staff and customers. Too many supervisors and coordinators see their job as paper work and systems centered, rather than customer centered. It appears that span-of-control could be increased for a number of supervisors, thereby increasing their involvement in a broader range of work and flattening the organizational structure. It is likely that the initiatives discussed earlier under Customer Focus, Team Building, and Maintenance Productivity will result in much robust discussion of process and organization issues.

Recommendations from APPA Review of Plant Operations

Recommendation 1

Publish the Department's Mission Statement and distribute to both customers and all Plant Operations employees.

Recommendation 2

Encourage discussion of the Mission Statement at the shop and division level, and how it relates to both plant operations and shop responsibility.

Recommendation 3

Involve all Plant Operations divisions and shops in the completion of goals and objectives congruent with the Department of Plant Operations' mission and goals.

Recommendation 4

Communicate large-scale Plant Operations goals and objectives to campus customers.

Recommendation 5

Establish a separate Utilities Division, reporting to the Director, to better combine and align utilities management responsibilities. This unit would entail:

- Boiler plant management, including fuel purchasing
- Utility distribution system management
- Energy management, including utility metering.

Recommendation 6

Review in detail the functions, roles, and individual performance of the three job area supervisors, project coordinators and Maintenance Coordinators. Assure clarity in responsibility and accountability for any work done in campus zones, to assure customer understanding.

Plant operations management might also consider a separate reporting line for Grounds. They share little common ground with the traditional trades groups, their existing organizational home, and might benefit from more interface with the director. Grounds maintenance is very important in conveying the care and concern of the university for the overall campus environment.

Recommendation 7

Via a reduction in the number of trades workers, through attrition, increase the use of general worker positions (e.g. utility worker) to handle a wide range of minor maintenance tasks. UBC will always need a cadre of centralized and highly specialized trade personnel, but the Department of Plant Operations would benefit from more generalists.

Recommendation 8

Plant Operations should consider increasing the number of "areas" or zones assigned.

Coupled with increased clarity in Area Maintenance Coordinator duties discussed in Section 2.2, this enhanced system would increase direct plant operations contact with the customer, and begin to "put a face" on maintenance response. It will benefit both staff and the customer. It would better facilitate evolution toward a model characterized by a customer driven focus, decentralized service delivery, and provision of service by generalists instead of specialists.

Recommendation 9

Increase the recurring resources for plant and facilities needs, through either Department of Plant Operations staffing or the use of outside contractors, to a median level for comparable institutions in Canada.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW THE DEPT. OF PLANT OPERATIONS—FEB. 1996

Recommendation 10

As a minimum, continue the Cyclical Maintenance funding at the present level, until the deferred maintenance backlog is at an acceptable level.

Recommendation 11

We recommend that all major University building and infrastructure systems/ components be carefully inspected at least every other year.

Recommendation 12

We recommend that the Department of Plant Operations establish 40% as their goal for the portion of trades maintenance work devoted to scheduled/preventive maintenance activity.

Recommendation 13

We recommend two changes: First, implement a priority system for maintenance work that gives higher priority to customer-initiated routine maintenance requests.

Recommendation 14

Second, increase the time management personnel devote to the "hands-on" orchestration of the departments' maintenance work flow.

Recommendation 15

We recommend that the department develop work performance standards for frequently recurring building and grounds maintenance tasks.

Recommendation 16

The Department of Plant Operations and Campus Planning and Development should prepare and issue a joint services guide to clarify UBC facilities services.

Recommendation 17

Teams should be established with the goal of resolving disputes surrounding disputed position descriptions.

Recommendation 18

A central location should be designated for official position descriptions, one that is readily accessible to both Human Resources and Plant Operations.

Recommendation 19

A copy of the appropriate position description should be provided to new employees at the time of their orientation.

Recommendation 20

Plant Operations should consider establishing a division-wide Training Coordinator.

Recommendation 21

Although it may be difficult, and may take extended negotiations, it is recommended that union contracts be altered to include performance appraisals.

Recommendation 22

It is recommended that annual performance planning and evaluations become mandatory throughout the administration in the Department of Plant Operations.

Recommendation 23

It is recommended that Plant Operations establish a cross-functional, cross-unit team to implement a recognition program.

Recommendation 24

Efforts need to continue in improving the documentation/ justification for the capital renewal model, to ensure continued funding support for Cyclical Maintenance.

Recommendation 25

Continue efforts to benchmark Plant Operations performance against peer institutions.

Recommendation 26

Provide follow-up to determine specific peer methods or practices that may be applicable at UBC.

Recommendation 27

Because of the strong union environment and restrictive trade practices existing at UBC, greater effort should be made to compare the costs of specific tasks done in-house versus utilizing the private sector.

Recommendation 28

Serious consideration should be given running the Utilities as an ancillary business unit.

Recommendation 29

A complete metering system should be installed to better facilitate energy/utility management.

Recommendation 30

It is recommended that the boiler plant and these distribution systems be given a much higher priority and that system replacements/upgrades be made as soon as possible.

Recommendation 31

Develop specific programs or initiatives to improve working relationships among Plant Operations, Campus Planning and Development, and Telecommunications.

Recommendation 32

The Department of Plant Operations needs to conduct team building workshops throughout the organization to improve employee understandings, cross-functional communications, and emphasize the customer focus.

Recommendation 33

A comprehensive communications plan needs to be developed and implemented to obtain customer feedback, advice and priorities.

Recommendation 34

Communication channels among the Union, the Department of Plant Operations, and the University must be improved to effect greater productivity and better customer service.

Recommendation 35

A careful review of the work scheduling and customer feedback process is needed, to assure that significant aspects of facilities needs are addressed proactively by Plant Operations, i.e. before the customer complains.

Recommendation 36

Customer feedback mechanisms, such as surveys, need to be implemented as a performance measurement system to facilitate continuous improvement.

Recommendation 37

The Department of Plant Operations should have a formal role in the campus master planning process especially regarding utility infrastructure planning and extensions.

Recommendation 38

The Departments of Plant Operations and Campus Planning and Development should work together to develop and implement a comprehensive facility commissioning procedure managed by Plant Operations.

Recommendation 39

The Departments of Plant Operations and CP&D should work together with building user representatives to develop a Design Criteria and Construction Standards document for the University.

ACIT, the Advisory Committee on Information Technology, Wants Your Input!

Information technology is changing the way UBC works, and ACIT's goal is to achieve the maximum benefit from IT in a cost effective manner. Chaired by the Vice President - Student and Academic Services, ACIT is representative of both users and providers of IT. Its mandate includes computing and data processing, as well as voice, video, and data communications in support of teaching, research, and administrative activities.

Among the issues to be considered by ACIT are: ✸ Access to information technology for all students, faculty and staff; ✸ Implications of the growing use of IT for the dissemination of scholarly materials; ✸ Creative approaches to funding IT usage; ✸ Effective and efficient management of IT; ✸ Policies for establishing rate structures for all aspects of information technology, including voice and data communications. ACIT and the Committee on Educational Technology, which is concerned with instructional use of IT, will work together where appropriate.

To learn more about ACIT, visit our World Wide Web site at **<http://mis.commerce.ubc.ca/ACIT/ACIT.html>**. Please direct comments or questions to any of the following:

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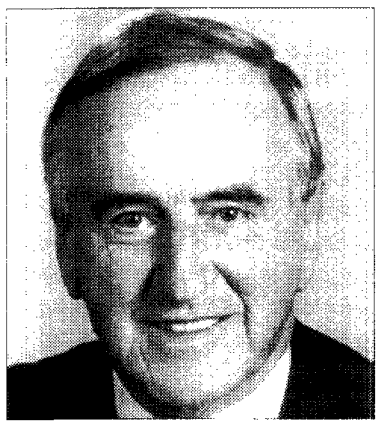
Forum

Making neighbours: peace in Ireland

These remarks are excerpted from an unscripted speech given by Albert Reynolds, former prime minister of the Republic of Ireland, at a special Vancouver Institute lecture March 31, 1996.



It is true that we have had centuries of conflict in Ireland. Conflict between two traditions, between two communities that see things differently. A nationalist community looking towards Dublin for an identity and the unionist community looking towards London for their identity. A very complex situation that's really about the power and privilege that was dispensed, that was not dispensed equitably to either community because if you were down at the lower end of the ladder you didn't fare out too well no matter which side of the divide you came from.

Now every prime minister and every government that went before has tried everything—tried to lecture the men of violence to stop and hand in their arms, tried to cajole them, tried to show the way forward—without any result so when I was elected leader of my own party and the prime minister of Ireland, I decided that I would go the unorthodox way about trying to bring peace to Ireland. On my first day in office I set out my two main political objectives: to bring peace to Ireland and to grow the Irish economy at a rate that would provide much more employment for young well-educated people at home.

I didn't see those two issues as separate; I saw each of them as inter-related. I saw them as inter-related for the very reason that the image of Ireland around the world was one of a nation at conflict. Continuing conflict, death and destruction, funeral after funeral, walls of wilted flowers, an eternity of tears. We had seen this and become so accustomed to it for 25 years that people just began to accept it as part of the way of life.

Rather than go the way that had been tried and failed before, I decided to open up links of communications indirectly to those who controlled the violence because those that were part of the problem, in my view, were going to have to be made part of the solution.

Yes, it was a risky political strategy. Yes, it was a strategy that took a lot of faith and I was well and truly conscious of it. It's easier to do nothing I suppose but as somebody who is involved in business and not a career politician I calculated the risks and I took the risks, but taking the risks alone wasn't good enough.

A leader of one of the nationalist parties in Northern Ireland came to see me in the early days of my premiership. He brought me up-to-date with discussions he had with Gerry Adams, the leader of the Sinn Fein, the political wing of the Republican movement. I felt that there was a window of opportunity opening up.

I was fortunate indeed that in London at the same time was British Prime Minister John Major. The traditional hostility that normally existed between Irish Prime Ministers and British Prime Ministers was not between us and we could indeed, and did develop, a very good trusting relationship. And just after being elected in the United States was President Clinton, who during his election campaign had given a commitment that, if elected, he would support anything that would bring peace to Ireland.

For the next 18 months John Major and I began to understand the mind-set in both camps as to where they were coming from, what they were fighting for and what their fears were for the future. And it's only when you understand and listen to the people explain it to you that you get to know the reasons they would put their own lives at risk and do the horrendous things that have been done during the last 25 years in Northern Ireland. Private, secret and confidential negotiations eventually led up to the signing and publication of the Downing Street declaration on the 15th December 1993, between John Major and myself, that was the Charter for Peace in Ireland.

This Downing Street Declaration for the very first time made statements acknowledging the fact that history had failed to deal with the situation. That majority rule that had existed for over 70 years, that dispensed the power and the privilege, had not done so in an equitable manner, and that consequently the nationalist community and indeed many of the unionist communities too, felt deeply in their hearts that there was injustice, there was inequality, there was lack of opportunity, there was lack of investment and a lot of discrimination that bred injustice. We also made declarations, both of us, that it was a matter for the Irish people alone to agree by peaceful means as to what their future was going to be. And that whatever arrangements the Irish people would agree on, both governments would underwrite it. And so it was that the Charter for Peace and the principles on which future peace and future agreements were to be settled were set out in the Downing Street declaration.

As in every organization, as in the Republican leadership, as in the Loyalist leadership, there are hawks and doves. And the hawks had been winning the battle for 25 years. And the whole approach was let's find and put together an alternative strategy to replace the violence.

On the 31st of August we had a Republican-IRA cease-fire to cease all military operations as and from that date. Six weeks later the Loyalist command called their cessation of violence. For the following 17 months we had total cessation of violence, where the bombings stopped and the killings stopped.

And then a word cropped up and this to me was the most poisonous word of all—decommissioning.

Decommissioning of arms was then laid down. It wasn't part of the Downing Street Declaration and if it was I never would have signed it for the following reasons: that there is no historical precedent in Ireland for handing over guns. The party that I led and am a member of, we were born out of armed rebellion ourselves. The founders of my party, never handed in their arms when they entered politics. In fact it is symbolic surrender. It wasn't a surrender we had; it was a cease-fire.

The same rules that apply to decommissioning as part of conflict resolution around the world were not applied in Ireland. There was no such pre-condition laid down in relation to Bosnia, to the Middle East, in South Africa, nor in El Salvador so why should there be a different international ruling laid down in relation to conflict resolution in Ireland?

The suspicions arose as to what was the good faith of the British government. Were they again looking for surrender and defeat of the IRA. And from the Loyalist point of view, they too, were just as adamant, that they would not decommission their arms as a pre-condition of getting into talks.

You have to understand why. There is a deep-rooted fear and suspicion in both communities. I have been in the small streets of Belfast, and I have seen first-hand the bullet holes in the walls above children's cots where they were left defenceless. People don't want to see arms given up before talks and negotiations start. They want confidence built in the process on either side.

What happened over that 17-month period of cease-fires is that trust and confidence was gradually eroded. In the end, decommissioning became the poison word. It couldn't be resolved, and constantly was another big issue that raised suspicions and disbelief.

An international commission was called in to adjudicate and bring out what they believed was an objective analysis of the situation and produce a report that to all sides could well have been the blueprint of the end of the war for all time. But for whatever reason the British Prime Minister, John Major, discarded the report before the ink was dry. That to me was the straw that broke the camel's back in relation to trust and confidence in the peace process, that drove people to go back to violence feeling that there was nothing going to happen. That wasn't strictly true as some things had happened. But the things that could have underpinned the peace process were not done.

If there's one thing about politics, it is that political leaders have to listen to the people who put them there, the voters. And what are the voters saying? They've enjoyed 17 months of a quality of life that they haven't known for 25 years. For 17 months young kids have been able to go out and play in the streets again. Teenagers have gone to their discos and enjoyed themselves without any fears of not returning home at night and their parents can now sit happily at home for 17 months knowing that their kids were safe, and that they wouldn't be caught up in an unannounced bomb or sniper's bullet.

We all take those freedoms for granted because we live in free societies where normal societies allows these things to happen but normal society did not exist in Northern Ireland for 25 years. And that's why the people who have tasted that, the young people especially, are saying loud and clear in opinion polls and demonstrations in the streets and everywhere they can, there is no going back and we're not going back. We don't care what ideologies our fathers and mothers professed. We are saying to everybody this is what we had for 17 months and that's what we are going to have back and nobody, but nobody is going to bring us in a different direction.

And at the end of the day political leaders will have to speak and have to listen to those that speak to them in that regard. And in society itself we have had 17 months of a peace dividend that people couldn't even contemplate was possible. Just to give you an idea there were 25 visits of possible or potential industrial investors in Northern Ireland in the year before the peace broke out. In that 12 month of peace period that multiplied to 200. Tourism in Northern Ireland increased immediately by 56 per cent. The potential for trade between north and south was studied very closely and there's potential and capacity for an increase of 100 per cent coming from north to south, and 50 per cent going from south to north. As the first prime minister of Stormont in Belfast, Lord Tregavin, said this island is too small to be kept apart for all time.

I believe that historic opportunity exists but I believe that the precursor for that historic opportunity has to be to establish peace first. Peace is paramount because if we get peace I believe we can get people eventually to the table. We can get the barriers of suspicion broken down. We can banish that fear and start to build hope and confidence for the future again. We have to leave that black history behind us and start to write a new chapter.

Diversity doesn't have to be a weakening factor in the development of Ireland. It can be the strength. We have great cultures. We have great heritage. We have produced some fine writers. William Butler Yeats said peace comes dropping slow.

We all know there are difficulties along the way. We all know there are going to be road blocks but we cannot just throw up our hands in despair and say look it's all over again just because we had a breakdown. That's not the way ahead for Ireland. And it's not the way of the people of Ireland because they have demonstrated north and south in thousands out in the streets in recent weeks that they want to return to the peace they had. They've expressed it through opinion polls.

We had 25 years of futile violence. We had over 3000 people dead, about 40,000 people injured. We didn't get one bit closer to where we want to be so we are now trying the new way forward. The way of peace.

Politicians are going to have to take risks for peace again. They are going to have to take courage in their hands and despite what may appear to be unpopular they have to do the things that are going to lead everybody back to the conference table.

Peace will bring that political stability that will indeed attract more and more international investment into Ireland, that will produce more and more jobs, and peace will give the right image around the world that here now is an island at peace with itself, an island that has no borders in relation to cultural development, to our heritage.

The British people don't want to see any repeats of the Warringtons of this world or the Guildford bombings or the Birmingham six or indeed the Canary Wharf or anywhere else. They too want to live in peace. They want to enjoy safety of their homes and free of threats of violence they've had to endure for the last 25 years too.

There is no excuse for not going forward back to the table. If confidence can be rebuilt in the short term, I believe there will be the restoration of the cease-fire and that we will move on to the talks and the talks will probably take quite some time.

And my message always is to the Unionist people whom I get on with just as well as I do with Nationalists, "Think, think, think that a good neighbour is better than a far-away friend."

News Digest

Bradshaw Pack and Jocelyn Morlock, graduate students in UBC's School of Music, are among three finalists announced in the 6th Biennial BC Young Composers Competition.

Sponsored by Vancouver New Music (VNM), the competition is intended to help emerging talents develop their careers and provides high profile performances of their work.

Pack's *Elegy and Eidolons* for string quartet and Morlock's *Limbo*, for B-flat clarinet and piano, will be performed in VNM's "Flash! This just in: BC's latest music" concert on April 14 at the Vancouver East Cultural Centre. For more information, call 606-6440.

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The first high level delegation of Chinese legal professionals to visit Canada since 1949 was on campus last month to gain first-hand knowledge about Canada's criminal law and criminal justice system.

The nine-member team of prosecutors and law professors represented the Supreme People's Procuratorate and the China University of Political Science and Law. They met with members of the International Centre for Criminal Law Reform and Criminal Justice Policy (ICCLR), March 25 to April 1 for discussions and workshops on issues that included organized crime and the protection of women's rights.

"We wanted to share with the delegation the kind of Canadian ideas and experience that would be helpful in assisting the on-going reforms of the Chinese system," said Daniel Prefontaine, director of the ICCLR. "We anticipate that this would help maintain a proper balance of due process and crime control in criminal proceedings.

The ICCLR, based at UBC, is a joint initiative with Simon Fraser University and the Society for the Reform of Criminal Law. It is dedicated to making a substantial contribution to national and international efforts to improve criminal justice.

Prefontaine said that the visit by the Chinese delegation will encourage future development of a co-operative relationship between the relevant Canadian and Chinese institutions.

THE UNIVERSITY OF BRITISH COLUMBIA

Review of Computing and Communications

A committee chaired by Barry McBride, Dean, Faculty of Science has been established to conduct a review of Computing and Communications (C&C). C&C consists of the following units: University Computing Services, Telecommunication Services, Media Services and the UBC Press. The last comprehensive review of University Computing Services (the Computing Centre as it was then known) was conducted in 1988.

The Review Committee's mandate includes, but is not limited to, the following:

- To review the mandates, strategic plans, structures, operations, staffing and budgets of the four units comprising C&C, and their role in support of the University's mission
- To review and comment on the role of C&C and the impact of decentralization with respect to the development of Information Technology standards
- To evaluate the overall levels of responsiveness, effectiveness and accountability of each unit
- To identify opportunities and make recommendations for improved service

The Committee will take into consideration the Senate Budget Committee's recommendations with respect to the cyclical reviews of centralized service units.

The Committee membership is:

- Barry McBride, Dean, Faculty of Science, Chair
- Richard Spencer, Registrar and Director of Student Services
- Robert Kubicek, Department of History
- Jean Tsang, Department of Financial Services
- Sharon Hartung, Graduate Student
- Ron Johnson, Vice President, Computing and Communications, University of Washington
- Gerry Miller, Executive Director, Information Service and Technology, University of Manitoba

Byron Hender, Executive Coordinator, Student and Academic Services will act as Secretary to the Committee.The external members of the Committee will be at UBC for three days in April.

The Committee will welcome written submissions from individuals or groups. Submissions should be received no later than April 12, 1996 and should be addressed to:

Byron Hender
Secretary, C&C Review Committee
Office of the Vice President, Student and Academic Services
124-6328 Memorial Road
Vancouver, B.C. V6T 1Z2
FAX 822 8194
e mail hender@unixg.ubc.ca

Classified

The classified advertising rate is $15.75 for 35 words or less. Each additional word is 50 cents. Rate includes GST. Ads must be submitted in writing 10 days before publication date to the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1, accompanied by payment in cash, cheque (made out to UBC Reports) or internal requisition. Advertising enquiries: 822-3131.

The deadline for the April 18, 1996 issue of UBC Reports is noon, April 9.

Events

A GROUP OF SINGLE MEN AND WOMEN ages mid-40's to early 60's looking for more members. We do nature hature hikes mainly in the Kitsilano - Point Grey areas followed by refreshments and intellectual discussions. 224-8621.

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House Sitters

PROFESSIONAL, NON-SMOKING COUPLE seeks short/longterm house sitting opportunity to begin September 1/96 (flexible). Excellent references. Call 732-5743. Leave message.

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PROFESSIONAL COUPLE (n/s, excellent references), available for long term (min. 1 year) housesitting/rental arrangement. Will provide all necessary care of home/property. Flexible start date. Please call 255-5265.

House Exchange

FOR EXCHANGE OR RENT: 5-bedroom house with garden and swimming pool. 10 minutes drive from the Weizman Institute, Rehovot, Israel. Tel. and fax No. 972-8-8591128. E-mail: tamiv@mofet.macam98.ac.il

SABBATICAL IN USA. Desire house swap for 96/97 Academic Year with persons living near UBC. USA location is in Vermont near Middlebury College and University of Vermont. If interested contact Charlie Kireker, RD. 1 Box 63 AD, Middlebury, Vt. 05753, USA. e-mail: TBirches@aol.com or phone: 802-545-2277.

Accommodation

POINT GREY GUEST HOUSE A perfect spot to reserve accommodation for guest lecturers or other university members who visit throughout the year. Close to UBC and other Vancouver attractions, a tasteful representation of our city and of UBC. 4103 W. 10th Ave., Vancouver. BC. V6R 2H2. Phone or fax (604)222-4104.

TINA'S GUEST HOUSE Elegant accom. in Pt. Grey area. Minutes to UBC. On main bus routes. Close to shops and restaurants. Inc. TV, tea and coffee making, private phone/fridge. Weekly rates available. Tel: 222-3461. Fax:222-9279.

GREEN COLLEGE GUEST HOUSE Five suites available for academic visitors to UBC only. Guests dine with residents and enjoy college life. Daily rate $50, plus $13/day for meals Sun.-Thurs. Call 822-8660 for more information and availability.

ENGLISH COUNTRY GARDEN bed and breakfast. Warm hospitality and full breakfast welcome you to this central view home. Close to UBC, downtown and bus service. Large ensuite rooms with TV and phone. 3466 West 15th Avenue. 737-2526.

COMFORTABLY FURNISHED 2 bedroom main floor suite on quiet street, Oxford/Slocan. Half way between SFU and UBC. Near buses. Private home, sunny yard. No Pets. Adults. Available May-September/96. Possibly longer. $1000 including utilities. Phone 251-1425.

FURNISHED. TWO BEDROOMS, shower, up. Living, dining, den, kitchen, bath on main. Exterior decks. Close to UBC, bus lines, view. N/P, N/S. $1450./mo. includes local telephone and hydro utilities, gardening. July 1 to September 1, 1996. Call 731-2062.

Accommodation

HOUSE FOR RENT - TOFINO, west coast, Vancouver Island, by Chesterman Beach; 2 1/2 bedrooms, nice view, hot tub, good for writing and hiking. Mid-May to mid-Sept. June 28-Sept. 1: $130/day. Reservation deadline for May 16-June 27 period: April 15 (rates negotiable). Phone Scott Fraser, 1-604-725-2489, or e-mail: wwray@unixg.ubc.ca.

WEST POINT GREY. To sublet May 1 to October 1, one bedroom de-luxe apt. West 10th Ave., close to UBC, fully furnished including microwave. Building has secured underground parking, swimming pool (indoor), laundry. Rent $865.00 per month. Phone 224-0305, after Easter.

AVAILABLE FOR JULY AND AUGUST. Large 3 bedroom + den furnished home. Dunbar and 41st area, close to UBC. No smokers or pets. $1800 including utilities. 264-1922.

Housing Wanted

ACCOMMODATION SOUGHT. Furnished. Parking. Shared or not. 1 May - 31 August. In Kitsilano. Dr. David Heinimann, North West College (604) 624-6054 ext. 5729.

RESPONSIBLE, MATURE M.D., spouse, (non-smokers), and cats, require home near UBC for 1-3 years from July onward. Unfurnished o.k. References, c.v., etc., available. Phone collect (604) 633-2644 or fax (604) 633-2638.

PROFESSOR OF ART HISTORY and wife (no children, no pets, no smoking) need accommodation near UBC during summer school, July to mid-August. Please call 224-5288 or send e-mail to chitty@zoology.ubc.ca.

SUMMER FILM STUDENT requires an apartment share from July 1 to Oct. 1, 1996. Contact Max at 718-965-1982 or (fax) 718-965-0640.

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T-bird notes

by Don Wells
Thunderbird Athletics

Olympic hopefuls Schiebler, Evanetz UBC's best for 95-96

The UBC Athletic Department announced that **Jeff Schiebler** and **Sarah Evanetz** had been named UBC's top athletes for the 1995-96 season at the always splashy Big Block Awards Dinner March 21 at the Hyatt Regency Ballroom. A total of 550 athletes, coaches and guests from university administration and alumni gathered for the annual salute to success for the UBC Thunderbirds.

As predicted, it had been a vintage year, and when the championship harvest was over, almost half of the Canada West yield went to UBC cellars. The T-Birds won a total of seven of the 15 Canada West Championships. When later pitted against the best in Canada at CIAU Championships in those same sports, UBC teams finished no worse than third.

Perhaps the Grand Cru of 1995-96 was the third straight CIAU Championship for women's swimming, or maybe it was the Canada West men's basketball championship stolen from the defending national champions Alberta Golden Bears in front of a huge War Memorial Gym crowd. Perhaps it was the decisive 29-7 win over SFU in the Shrum Bowl. In any case, the T-Birds were flocking together in the swanky Regency Ballroom, far from the stale locker rooms of Point Grey.

Over 50 of them were Canada West All-stars or medalists, only slightly fewer were All Canadians or CIAU medalists. In a short time, about 60 will be named Academic All Canadians for maintaining a grade point average in excess of 80 per cent while taking full-time classes and competing in CIAU sports. Many will attempt to make the Olympics, and some will.

Evanetz is one of them. The 20 year-old swimmer is currently ranked 13th in the world in 100-metre butterfly. Presented with the **Marilyn Pomfret Trophy** as the Most Outstanding Female Athlete for 1995-96, the third-year Arts student won five gold medals for the third consecutive year at the CIAU Swim Championships.

Other nominees included field hockey captain **Laura Prellwitz**, soccer mid-fielder **Heidi Slaymaker** and volleyball all-Canadian **Joanne Ross**.

The **Bobby Gaul Award**, presented annually to the Most Outstanding Graduating Male Athlete, went to Olympic track hopeful Jeff Schiebler. The 21 year-old fourth year Human Kinetics student won both the CIAU Cross Country Championships and a gold medal in 3000 metres at the CIAU Track and Field Championships held earlier this month at the University of Windsor. Schiebler's time of 7:59 was also a new CIAU record. At present he is the only Canadian athlete to have met Olympic qualifying standard in 10,000 metres.

Head Track and Field Coach **Carmyn James** accepted the Gaul award for Schiebler who was competing at the World Cross Country Championships in South Africa.

Other nominees were football's **Brad Yamaoka**, swimmer **John McArthur** and Canada West basketball all-star **Mark Tinholt**.

Other award winners were **Heather Andrews**, who received the **Kay Brearley Award** for Outstanding Service to Women's Athletics; basketball's **Brady Ibbetson** and soccer goalkeeper **Lisa Archer** who received the inaugural $500 Thunderbird Athletes' Council Leadership Awards; the **Tailgators Booster Club** which received the **Arthur Delamont Award** for "Perennial Freshman Spirit" and the **Women's Swim Team** which received the **Du Vivier Award** as Team of the Year.

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People

by staff writers

School of Music graduate **Tamara Hummel** is one of nine winners of this year's Metropolitan Opera National Council Auditions.

Currently in her final year of the Artist Diploma Program at the Vancouver Academy of Music, Hummel received a Bachelor of Music degree from UBC in 1994.

She was selected from more than 2,000 singers who enter the competition each year from Canada, the United States, Puerto Rico and Australia.

Hummel has performed as a soprano soloist with the Vancouver Bach Choir and as a member of the Vancouver Opera chorus. She has also appeared with the Vancouver Cantata Singers, the North West Opera and the Vancouver Women's Musical Club.

In 1994 Hummel was a member of the UBC University Singers, winners of the CBC Choral Competition that year. One year later she took first place in the Western Concert Opera Scholarship Recital.

As a national council winner, Hummel performed in the annual winners concert held on the stage of the Metropolitan Opera House in New York on March 31 and received a $10,000 award. She will continue her studies in Salzburg, Austria this summer on a full scholarship from the Johann Strauss Foundation.

• • • • •

Social Work Asst. Prof. **Roopchand Seebaran** has been named B.C.'s social worker of the year by the Canadian Association of Social Workers.

He won the distinguished service award, given to a member of each of the association's provincial organizations, on the occasion of National Social Work Week, held in March.

Seebaran, who joined UBC in 1974, specializes in issues of social planning and community development.

Seebaran frequently serves as a speaker, trainer, consultant and facilitator for a variety of government departments and social agencies. He has also presented guest lectures and conducted training sessions in the U.K, U.S., Thailand and Fiji.

In 1984, he was named social worker of the year by the B.C. Association of Social Workers, an organization of which he is the former president. He also recently chaired the B.C. Advisory Council on Multiculturalism.

• • • • •

Dr. **Christine Ann Loock** is one of five recipients of Southern Methodist University's 1996 Distinguished Alumni Awards.

A clinical associate professor in the Dept. of Pediatrics, Loock was recognized for her work on the prevention of prenatal alcohol and drug-related developmental disabilities, most notably Fetal Alcohol Syndrome. She has also won a number of awards for her teaching.

Loock also serves with the B.C. Children's Hospital Spina Bifida clinic and the Sunny Hill Health Centre for Children, as director of the Rotary Kid's Place outreach clinic and as a developmental pediatrician for the Vancouver Regional Health Board.

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Profile

Clear signals

Making sense out of noise is just one of Rabab Ward's achievements

From cancer imaging to improving cable TV images, Rabab Ward's research focuses on distinguishing pure information from the noise that surrounds it.

by Stephen Forgacs
Staff writer

Rabab Ward doesn't exactly come across as rebellious. Yet the soft-spoken electrical engineering professor has quietly challenged the status quo since she was a teenager growing up in Beirut, Lebanon.

Ward, whose research in the realm of signal processing has led to advances ranging from an improved capacity for early detection of breast cancer to clearer television images, has remained flexible in her approach to the personal and professional challenges she has faced.

"I'm a person who acclimatizes very quickly to any environment. I just deal with every different problem as it arises," she says. "I don't have just one coping strategy; I have many. It depends on the problem."

Ward revels in the challenge of deciphering electronic information while seeking to minimize the "noise" that confuses or muddies a signal. It's pure information she seeks, and although she uses computers extensively in her research she views them only as the means to an end.

"So many students want to study computers," she says. "Personally, I don't find computers that exciting. What I'm interested in is how to use the computer in order to allow it to distinguish a good signal from a bad one."

The cable television industry is also interested in Ward's research. Canadian Cable Labs, a research fund established by Rogers Cablesystems, has financially supported several of her most recent research initiatives.

At present, cable television operators are forced to interrupt transmission of cable signals in order to monitor and measure image quality at various locations throughout a distribution network. Referred to as intrusive measurement, it is an operation that is labour intensive, time consuming, and costly.

"It is a major headache for cable operators everywhere," Ward says. "They have to shut down transmission at about 2 a.m. while technicians travel all over the city measuring channel by channel."

Ward tackled the problem and devised a method that will allow computers to monitor image quality without interrupting transmission. A U.S. leader in cable technology and scientific equipment is now incorporating her ideas in instruments that will soon be available to North American cable operators.

Other work involves the compression of digital cable signals at the point where cable signals are collected from satellite transmissions—in Rogers' case on the roof of the Rogers Cantel tower in Metrotown—and improving image quality through decoding cable transmissions at the television and refining the conversion process from digital to the analog information displayed by televisions.

The latter improvement will occur in a set-top converter that will correct each picture received in real time, at a rate of 30 frames per second, providing the viewer with a crisp image.

The persistence Ward displays in her efforts to tame and control electronic signals is reflected in her personal history.

When she first applied to study engineering in 1961—after graduating from high school with the highest marks in her native country, Lebanon—she was refused admission at the American University of Beirut because she was a woman.

Determined to study engineering, she went to see the dean of engineering at the university, an American, and asked why young men with inferior grades were being admitted to the program while she was refused. Policy, was the answer. Period.

Ward, raised in a traditional Moslem family, also faced opposition from her father who did not believe engineering to be a suitable profession for women. Medicine, on the other hand, was.

So Ward left Beirut to study medicine in Egypt where, coincidentally, women were permitted to study engineering.

"After the first week in medical school I decided it really wasn't for me," she says. "I wrote a letter to my father, a very emotional letter, and he finally said okay.

"I transferred to engineering and I've never regretted it."

Ward graduated near the top of her class with a degree in electrical engineering in 1967 and returned to Lebanon to become the first female member of the Lebanese Professional Engineering Society.

A year later she left Lebanon with a scholarship to attend the University of California at Berkeley where she acquired a master's degree, a PhD and a non-Moslem boyfriend.

"We visited Lebanon while together and I told my parents 'this is the man I want to marry.' It was a little difficult, but they did agree in the end.

"I was rebellious but not disliked," she says. "I didn't push too far, but I was always at the limit and pushing a little bit. My strength was that I was succeeding academically, so people forgave me."

A few years after leaving Berkeley, Ward and her husband Peter, a civil engineer, moved to Rhodesia (now Zimbabwe) to help found the University of Rhodesia's engineering faculty. The fledgling electrical engineering department provided Ward with an opportunity to participate in the development of the department, including the curriculum.

"Professionally it was very rewarding. You didn't have the luxury of specializing because there were so few professors. You really had to keep learning about all the areas because you knew you might have to teach them," she says.

While in Rhodesia, Ward developed a program that forecast the electricity needs of the country. The program was adopted by the electricity supply commission and, with modifications, is still in use today.

But the 1970s were a time of civil war and political turmoil in Rhodesia. And, in 1979, after the head of the engineering department was stabbed on the street outside the Wards' house, the family returned to North America.

Ward joined UBC's Faculty of Applied Science as a sessional instructor and in 1981 became UBC's first female engineering professor.

Ward's research while at Berkeley and, initially, at UBC, was in the area of systems and control, an area now best known for robotics.

In 1984 she started working on signal processing, primarily image restoration of stellar images, pictures collected via telescope. By refining the image Ward was able to determine if what appeared as a blob of light was in fact two or three stars.

With the advent of the Hubble telescope, which produces clearer images, Ward moved into the realm of cancer imaging research.

Mammography, an X-ray technique of diagnosing abnormalities in the breast, is used to find small masses or microcalcifications in the breast crucial to the early detection of breast cancer. Ward's work on restoring X-ray images to determine whether dots visible in the image are, in fact, microcalcifications or the result of noise inherent in the image formation system, has enhanced early detection capabilities.

Ward remains involved with a variety of research projects, including working with Prof. Charles Laszlo to develop a device that can determine distress levels in an infant's cry, and supervises the research of four doctoral and three masters students. She also employs three full-time research engineers.

Despite the range of research Ward has touched on, past and present, she remains focused in her quest to get to the heart of the matter, and to deliver electronic information that is as clear and uncluttered as the force that drives her.