

UBC REPORTS

Volume 42, Number 5

March 7, 1996



D. Thomson photo

Western Winners

Dave Buchanan, third-year Human Kinetics, helped the UBC men's basketball team win the Canada West championship on Saturday, defeating the University of Alberta 84-66 to sweep the series in two straight games. The team now moves on to the CIAU final-eight national tournament in Halifax March 15-17. UBC is seeded first in the tournament.

Crompton steps down from Board of Governors

Barbara Crompton, chair of UBC's Board of Governors, has stepped down from the board, due to business and family commitments.

Crompton, founder and president of The Fitness Group, which specializes in exercise, personal training, physiotherapy and active rehabilitation programs in the commercial and corporate sectors, was appointed by the provincial government to the board in 1990 and became chair in December 1993.

Crompton's term as chair was set to end next September. Vice-chair Shirley Chan is scheduled to take over the position at that time.

"Barbara Crompton has been an energetic board member and a dynamic board chair," said UBC President David Strangway.

"Through her many contributions she has demonstrated how much she cares for UBC. It is with regret that I see her leave and we wish her all the best in her



Crompton

many other pursuits."

A graduate of UBC (BEd '72), Crompton received the Maxwell A. Cameron Award in her graduating year for academic excellence and most outstanding teaching performance in the Faculty of Education. She also has been honoured with a UBC Alumni 75th Anniversary Award of Merit.

UBC's 15-member Board of Governors comprises the chancellor, the president, eight persons appointed by the lieutenant-governor, two faculty members elected by faculty, two full-time students elected by students and one person elected by and from

the full-time employees of the university who are not faculty members.

By legislation, the board is responsible for the management, administration and control of the property, revenue, business and affairs of the university, including the appointment of senior officials and faculty on the recommendation of the president.

Harcourt to join UBC research institute

Former B.C. Premier Michael Harcourt will join his alma mater, the University of British Columbia, as an adjunct professor on July 1, 1996 or after the calling of a provincial election.

The two-year appointment will be with the Sustainable Development Research Institute (SDRI), one of the interdisciplinary units of the Faculty of Graduate Studies. The institute was established in 1991 to foster multidisciplinary research linkages among ecological, economic and social issues.

"Michael Harcourt's background and experience in sustainable development

will enhance UBC's efforts in these fields," said UBC President David Strangway. "His energy will significantly enhance the development of university initiatives leading to social, biophysical and economic benefits to our region."

John Grace, dean of the Faculty of Graduate Studies, said Harcourt's interests in the areas of sustainability, community and livability in the Asia-Pacific region are closely linked to a number of initiatives within SDRI and other Graduate Studies units such as the Institute of Asian Research.

See **HARCOURT** Page 2

Faculty honored with prestigious prizes

A pioneering economic theorist and a leading evolutionary ecologist are the winners of UBC's top research prizes for 1995.

Economics Prof. Erwin Diewert is the recipient of the Jacob Biely Research Prize and Zoology Assoc. Prof. Dolph Schluter has won the Charles A. McDowell Award for Excellence in Research.

Diewert's work over the last quarter century has been credited with turning micro-economic theory from a textbook exercise into a practical tool for applied economic research.

Internationally, he is among the best known and most highly cited Canadian economists. His first major professional accomplishment was the development of flexible functional forms, an approach which has come to dominate applied work in modeling producer and consumer behaviour. Diewert's second major contribution is to the theoretical and practical use of index numbers, a tool used to measure general trends in the economy. His work with index numbers has influenced the construction of

systems of national accounts in Canada and the U.S.

The \$1,500 Biely prize is awarded annually for outstanding research in any field of study.

Schluter's research mixes evolutionary theory, quantitative genetics and ecology. Most recently, he was able to verify that competition for food and habitat is what propels the evolution of differences between species.

Schluter and colleagues raised thousands of stickle-back fish in ponds at UBC to show that the process of natural selection on body form and behaviour changes when a competing species is introduced into its habitat.

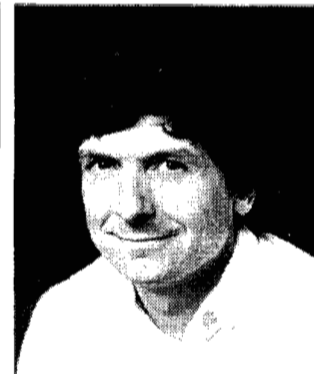
The McDowell award is given each year to a faculty member who has demonstrated excellence in the pure or applied sciences.

The university has also announced the 10 recipients of the UBC Killam Research Prizes and another 13 faculty members who have won Killam fellowships.

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Kroller



Schluter

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Prizes

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The \$10,000 UBC Killam Research Prizes are awarded annually to top researchers on campus. Established by UBC President David Strangway in 1986, the prizes are equally divided between the arts and sciences.

The recipients for 1995 are: Michael Ward, Mathematics, who studies modern physical applications, such as nonlinear diffusion problems, semiconductor device modeling and chemical reactors;

Steven Vincent, Psychiatry, who has played a key role in explaining an entirely new mode of chemical transmission in the central nervous system—that some neurons communicate by means of the gas nitric oxide;

Michael Isaacson, Civil Engineering, who has pioneered and developed new approaches and methodologies for a variety of problems in the sub-discipline of coastal and offshore hydrodynamics;

Paul Harrison, Oceanography, a leading algal physiologist whose research interests include marine plant physiology as it applies to the natural environment;

Caroline Astell, Biochemistry, an authority on how certain small viruses multiply in infected cells. Her work has led directly to the formulation and testing of models to explain this process;

Ilan Vertinsky, Commerce and Business Administration, a multidisciplinary scholar who has successfully applied a variety of modeling techniques to practical areas such as operations research, forest economics, health care and bio-physical systems;

Ken Takashima, Asian Studies, who has been studying the earliest Chinese language written during the third millennium BC and is the pre-eminent authority in the field;

Harjot Oberoi, Asian Studies, who authored a ground-breaking book on the construction of the Sikh religious identity and is a leading participant in the Fundamentalist Project sponsored by the American Academy of Arts and Sciences;

Eva-Marie Kroller, English, who has contributed significant theoretical work on Canadian literature and culture and was one of the first to raise post-colonialist issues in the context of Canadian and American writing. She is editor of *Canadian*

Literature, the major journal of literary criticism in the country;

David Donaldson, Economics, who has made fundamental contributions to the debate on normative population issues and the measurement of inequality and poverty.

Winners of the Isaak Walton Killam Memorial Faculty Research Fellowships, which top up faculty salaries while they are on sabbatical leave by up to \$15,000 and also allow a \$3,000 grant for research and travel expenses, are: Joel Bakan, Law; Martin Barlow, Mathematics; Susanna Egan, English; Isabel Grant, Law; Marlee Kline, Law; Timothy McDaniels, Community and Regional Planning; Harjot Oberoi, Asian Studies; Douglas Puleybank, Linguistics; Leslie Roman, Educational Studies; Septimiu Salcudean, Electrical Engineering; Dolph Schluter, Zoology; William Strange, Commerce and Business Administration; and Scott Taylor, Economics.


Harcourt

Continued from Page 1


"His wide experience and knowledge of government and business leaders in Canada, in Asia and elsewhere, will be a major asset to students and the university at large," Grace said. He noted that Harcourt will perform teaching duties assigned by the directors of the School of Community and Regional Planning and the Resource Management and Environmental Studies graduate program in courses in which he has an interest and expertise.

Harcourt received a BA from UBC in 1965 and an LLB in 1968. He was an alderman with the City of Vancouver from 1972-80 and mayor from 1980-86. Harcourt became MLA for Vancouver Centre in 1986 and leader of the provincial New Democratic Party the following year.

He served as premier of B.C. from 1991 to 1996.



THE UNIVERSITY OF BRITISH COLUMBIA



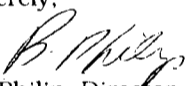
To members of the UBC community,

Every year United Way of the Lower Mainland counts on the employees and students of the University of British Columbia for their support and 1995 was no different.

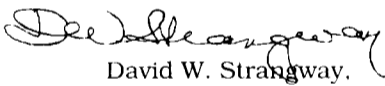
This year the University's Employee and Student Campaign raised over \$270,000 in support of United Way agencies and services. As well, an additional 900 agencies will receive designated dollars through our Donor Choice program.

Employees and students at the University of British Columbia have made a significant difference in the lives of thousands of individuals throughout the Lower Mainland. For that, United Way and its agencies extend a heartfelt thank you.

Sincerely,



Bob Philip, Director
Dept. of Athletics
and Sport Services
Campaign Chair



David W. Strangway,
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The USE OF FREEDOM Essay Contest



\$1000 for the best original essay

Eligibility: Open to 3rd and 4th year undergraduate and graduate UBC students

Deadline for submission: May 31, 1996

Essays are to be approximately 3000 words, typewritten, double-spaced on numbered pages. Please provide 3 copies.

Judges: Father T. James Hanrahan, St. Mark's
Prof. Emeritus Robert M. Clark, Economics
Prof. Kurt Preinsperg, Philosophy
Prof. Emerita Margaret Prang, History
Prof. Paul G. Stanwood, English

Details and application forms: M.C. Harrison, 1509-1450 Chestnut St., Vancouver, B.C. V6J 3K3

The committee reserves the right to withhold the prize if no appropriate essay is received, or to divide it if it proves impossible to judge between excellent essays.

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Orca's diet holds clues to sea lions' decrease

In the summer of 1992, a dead killer whale was discovered on the shores of Montague Island in Prince William Sound. Its stomach contained flipper tags from 14 Steller sea lions.

The discovery underscored the need for a closer look at killer whale predation on Steller sea lions, which remain threatened on the U.S. endangered species list. In 1980, there were 300,000 Stellers stretching from California north through the Gulf of Alaska to northern Japan. Today, there are less than 100,000.

Kathy Heise and Lance Barrett-Lennard, UBC graduate students in the Dept. of Zoology, recently completed a year-long study looking at the effects of killer whales on Steller sea lion populations in British Columbia and Alaska.

Working with colleagues from Fisheries and Oceans Canada in Nanaimo and the North Gulf Oceanic Society in Homer, Alaska, the research team surveyed mariners for accounts of whale attacks on Stellers, analysed stomach contents from dead killer whales and developed mathematical computer models to examine whether killer whale attacks could significantly affect Steller sea lion numbers.

The team's 66-page report suggests that as many as 18 per cent of the sea lions which die each year in Alaska are taken by killer whales.

"Killer whales didn't cause the sea lion decline but they may now be a significant contributing factor," said Heise.

Compiled under the auspices of the North Pacific Universities Marine Mammal Research Consortium, Heise and Barrett-Lennard's report provides an intriguing look into the diet and behaviour of killer whales on the west coast.

A total of 22 killer whale carcasses with stomach contents have washed ashore in the eastern north Pacific since 1973. This data—combined with what scientists already know about diet, social structure, fin shape and acoustic behaviour—point to the existence of two distinct populations of killer whales in B.C., southeast Alaska and Prince William Sound: fish-eating residents and mam-

mal-eating transients.

Transients, typically seen alone or in small groups of two to 10, often travel and hunt silently near shore. Residents, on the other hand, are found in large groups, spend more time in open water, use echolocation frequently and stick with the same group.

The diet of an additional group of whales, called offshores, remains a mystery. Offshores are generally found in large, vocal pods of 30-60 individuals and have not been seen associating with either resident or transient killer whales.

Using identification photographs of killer whales, the research team identified 170 transient whales between northern Washington and southeast Alaska. A further 88 were identified in western Alaska, for a total of 258. This compares to an estimated 200 offshore and 364 resident killer whales identified in B.C. and southeast Alaska.

To find out if the transient orca with 14 sea lion flipper tags in its stomach was the norm or an exception, the research team distributed questionnaires to mariners along the coast asking for witnesses to interactions between sea lions and orcas. Those returned by 126 mariners reported 492 sightings, of which 32 (6.5 per cent) resulted in definite kills. Attacks on sea lion pups were rarely witnessed, although killer whales were often reported near sea lion rookeries.

Results from the questionnaire, stomach analysis and whale census were used to develop a model of the effects of killer whale predation on sea lion populations. The model indicates that when sea lion populations exceed 100,000, the effects of killer whale predation appear minimal. However, at levels of 50,000 sea lions or fewer, the effects are more significant and may even be sufficient to drive a population decline.

The North Pacific Universities Marine Mammal Research Consortium, centred at UBC's Fisheries Centre, was formed in 1993 with four participating institutions: The universities of Alaska, British Columbia, Washington and Oregon State



Lance Barrett-Lennard photo

Kathy Heise cuts into a killer whale carcass in Prince William Sound. Stranded killer whale carcasses have provided valuable information about their diet. Studies in the eastern North Pacific have led to the discovery of fish-eating resident and mammal-eating transient whales.

University. The consortium's mission is to undertake a long-term program of research on the relation between fisheries and marine mammals in the north Pacific Ocean and eastern Bering Sea.

The biology of the Steller sea lion continues to be a primary research focus for the consortium.

Andrew Trites, the consortium's research director, said the decline of the Steller is an indicator of the health of an ecosystem as a whole.

"We depend on fish from marine ecosystems," said Trites, director of UBC's Marine Mammal Research Unit. "The Steller sea lion is a top predator and the current plight of the species is a red flag to us all."

In 1993, three male and two female sea lion pups were taken from a Canadian rookery and transferred to the Vancouver Aquarium. In 1994, an orphaned female pup joined the research group. Studies on the six captive animals look at metabolic rates, nutritional requirements, digestive efficiency of different diets and the relation of diet to growth, blubber thick-

ness and reproductive maturation.

Funding from BC Packers enabled the consortium to install a sophisticated swim mill in the aquarium last month. The machine enables researchers to estimate how much energy sea lions use to swim at different speeds in water of different temperatures.

The consortium is also awaiting the arrival of a "critter-cam" which is being donated to the project by the National Geographic Society. The small remote-controlled camera, harnessed to a sea lion's back for two hours at a time, will film how the animals capture, handle and swallow fish. The filming of this process will be a research first. The critter-cam, together with the swim mill, will help consortium members make predictions about the total energy and food needs of Stellers in the wild.

Correction

Mario Bernardi is principal conductor of the CBC Vancouver Orchestra. Incorrect information was reported in the Feb. 22 issue of *UBC Reports*.

Offbeat

by staff writers

Was it a trademark infringement, or an early example of corporate sponsorship?
"Relaxing's as simple as U.B.C.," says the ad that shows a grinning man holding a bottle of beer.

"When the occasion's right for relaxing then that's the time for a cool, refreshing U.B.C. beer. Next time the question comes up, 'How about a beer', say 'Make mine U.B.C.'"

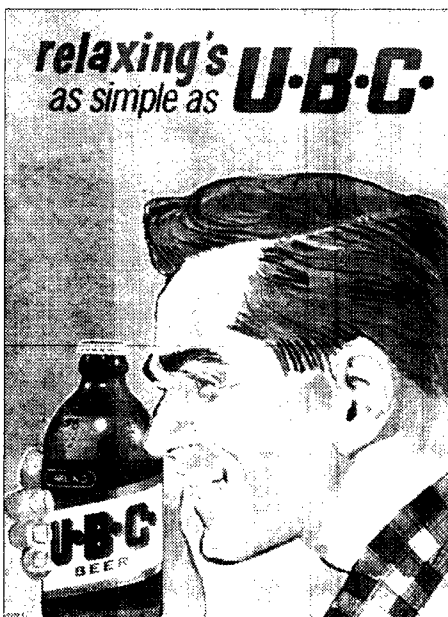
The ad appeared in the Nov. 1963 issue of *British Columbia Digest* magazine, and by a bizarre coincidence, two *UBC Reports* staffers saw it in the same week and brought it into the office.

The ad, which appeared alongside articles like "Kamloops: Hub of Southcentral B.C." and "Adventure in Rocks," didn't explain what the connection, if any, was to the university.

We asked Chris Hives, UBC archivist and occasional beer drinker, to help solve the mystery.

This had come up before, he said, and produced an ad from the *Ladysmith Chronicle* dated Jan. 12, 1915 — before the university had admitted its first students.

"The Purest, Cleanest, Most Wholesome Thing that goes into your house is 'U.B.C.' brewed by



Union Brewing Company, Nanaimo, B.C.

Now we know that U.B.C. beer didn't stand for University of British Columbia, but we're still left with a mystery.

How did that brand stay on the market so long with such lame ad campaigns?

Risky drug use among teens sees dramatic rise

Marijuana use appears to be on the rise among B.C. high school students, particularly Grade 12 males, according to a survey released by UBC's Institute of Health Promotion Research (IHPR).

The survey of 8,179 students, drawn from 20 select schools across the province, reports on rates of use for alcohol, cannabis, tobacco and LSD.

Rates of lifetime cannabis use show a larger increase between grades 8 and 12 than for either alcohol or cigarette smoking. The rate for Grade 12 males is a whopping 71 per cent.

"What we're talking about here is marijuana use as essentially normative behaviour in adolescence," said Marjorie MacDonald, who supervised the survey along with IHPR Director Lawrence Green.

The survey results show that a substantial portion of secondary school students have tried each of the four substances at some time in their lives. Alcohol has been tried by the most students, followed by smoking, cannabis and LSD.

In 1993, the average rate for having tried marijuana was 38 per cent, a figure which jumped to 51 per cent in the latest survey. Of those choosing to use cannabis, most begin using it at high-risk levels (more than six times a year) in Grade 9.

In terms of academic achievement, 20 per cent of students not having difficulty in any courses used cannabis six or more times in the last year. Of those having trouble in four or more courses, 48 per cent reported high-risk use. Green said these findings highlight the need for prevention programs directed specifically at home influences.

The survey also indicates that a growing number of B.C. high school students are at high risk of becoming chronic drug users.

Students were classified as high-risk if they met any one of the following criteria: used heroin, crack, LSD or other hallucinogens one or more times in the previous year; used glue, solvents, non-prescribed barbiturates, speed, cocaine or other stimulants, non-prescribed tranquilizers, or steroids three or more times in the previous year; used cannabis six or more times in the previous year; consumed alcohol two or more times per week; or smoked cigarettes six or more times per day.

According to these criteria, 38.6 per cent of the students surveyed are at high risk for substance abuse. This compares with 31 per cent in a similar study conducted in 1993 and 24 per cent in a 1990 student survey. A breakdown shows the number of students in the high-risk category increases from 23 per cent among Grade 8 students to 47 per cent among those in Grade 12.

The report also states that males are more likely to fall into the high-risk category than females. This difference is particularly pronounced in Grade 12 where 56 per cent of males are at high-risk of substance misuse compared with 38 per cent of females.

Green points out that despite attempts to ensure the latest survey results would be as representative as possible, participating schools were self-selected into the project and no Lower Mainland schools were included. Still, Green says IHPR findings are consistent with results from the 1992 McCreary Survey.

Industry-initiated wood processing centre to open

by Stephen Forgacs

Staff writer

Wood processing specialists from Germany and Switzerland will join UBC faculty members, and industry and government representatives to celebrate the opening of UBC's Centre for Advanced Wood Processing March 11 at the Waterfront Centre Hotel.

"The centre is an entity that will undertake continuing education and applied research and development in secondary wood manufacturing," said centre Director Thomas Maness. "Creation of the centre is an important step toward expanding knowledge in a highly specialized area with strong economic significance for Canada and Canadian industry."

As part of the celebration, a day-long conference will focus on the design of educational programs that will equip graduates with the knowledge and skills required to help meet the needs of the North American value-added wood products industry.

UBC plans to sign a formal agreement of co-operation with FachHochschule Rosenheim (FH Rosenheim), one of Germany's premier wood products processing programs, and enter discussions on collaboration with the Swiss Engineering and Technical School for the Wood Industry (SISH - Biel). The agreements will include opportunities for student and faculty exchanges, international job placements for students, and collaborative research and development projects.

David Barrett, head of UBC's Wood Science Dept., said the Wood Products Processing Program, a joint initiative of the faculties of Forestry and Applied Science, is unique at the univer-

sity-level in North America in terms of focus and the level of industry involvement.

"The industry will be continually involved with us in designing, delivering and funding of the new programs in education, extension and research through the centre's industry advisory board," Barrett said.

The centre will focus on multi-disciplinary projects with associates from the faculties of Forestry, Applied Science and possibly Commerce and Business Administration and the Computer Science Dept., Maness said. Graduate students from several faculties will also do work through the centre and it will have a continuing education and extension staff.

Areas of research undertaken by the centre's associates will include advanced tooling and cutting technology for the secondary wood products industry, process and quality control, computer-integrated manufacturing technologies, product design and development and market research.

The centre will manage the industry co-operative education portion of the Wood Products Program and the Advanced Wood Processing Laboratory where students will gain practical skills

and knowledge from industry experts associated with the centre, Maness said.

In 1994, UBC was selected by an industry-led National Education Initiative board because of the university's willingness to work closely with industry on program design, continuing education and applied research and development.

Art DeFehr, chair of the industry advisory group, said the centre is unique in that it came about as a result of what was primarily an industry initiative.

"What (the industry needs) is the technical management capabilities that will allow us to be at the leading edge in the way we manage our businesses and in our ability to use technology," he said. "The program will allow us to benefit fully from the kind of technology that is available around the world."

The Centre for Advanced Wood Processing, to be housed in a 3,730-square-metre facility at the corner of Main Mall and Agronomy Rd., is one of the components of the new Forest Sciences Centre which is scheduled for completion in the spring of 1998. The centre will open in its temporary space at 6629 N.W. Marine Dr. in the spring of 1996.

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For more information, please contact:

Gan He (253-7681) or Dr. Cecil Hershler (732-7060)
c/o Suite 104 - 2786 West 16th Avenue
Vancouver, BC, V6K 3C4



THE UNIVERSITY OF BRITISH COLUMBIA

Landscape Architecture Director

Applications or nominations are invited from within the University of British Columbia for the position of **Director of the Landscape Architecture Program**. The successful candidate will possess a reputation for excellence in scholarly work or creative professional practice, a commitment to high standards of teaching quality, and administrative abilities appropriate to managing a small dynamic group, interactive with several other academic and professional groups both on and off campus.

More information is available from J.F. Richards, Dean, Faculty of Agricultural Sciences, Suite 248, MacMillan Building, 2357 Main Mall, Zone 4, to whom also applications or nominations should be sent no later than **March 15, 1996**.

The University of British Columbia welcomes all qualified applicants, especially women, aboriginal people, visible minorities and persons with disabilities.



Writing Centre
Continuing Studies

Part-time Sessional Lecturer and Coordinator of AGSC 323

The Faculty of Agricultural Sciences at the University of British Columbia in cooperation with the UBC Writing Centre invites applications for a part-time Sessional Lecturer position effective September 1, 1996. The successful candidate will be responsible for teaching up to four sections of *Agricultural Sciences 323 - Professional Communication*, two sections in each of the Winter I and II terms. In addition to teaching, the successful candidate will be responsible for a limited amount of administrative work such as supervising course registration and answering inquiries from prospective students, for which a small stipend will be added to his or her regular salary as a Sessional Lecturer. This teaching load may be supplemented by one additional section each term of either WRIT 098 or APSC 201 to make a full-time eight month appointment.

The objective of AGSC 323, which will follow a prerequisite one-term course in first-year English, is to introduce students to effective written and oral communication and to the skills necessary to make scientific and technical information accessible to a multiple audience, from professionals in the field to laypersons and members of the media. The course will follow a seminar format that will require active participation by all students and include both written assignments and oral presentations.

The successful applicant will have at least an M.A. degree in English (or equivalent) and successful experience teaching technical writing and oral communication. Experience in the field of agricultural sciences or a related discipline will also be an asset.

The University of British Columbia welcomes all qualified applicants, especially women, aboriginal people, visible minorities, and persons with disabilities. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. Applications, together with the names of three referees, should be sent to Ms Andrea Drysdale, Program Assistant, UBC Writing Centre, Continuing Studies, 2329 West Mall, Vancouver, B.C., V6T 1Z4. **Application deadline: April 30, 1996.**



THE UNIVERSITY OF BRITISH COLUMBIA

Agricultural Economics Head

Applications or nominations are invited from within the University of British Columbia for the position of **Head of the Department of Agricultural Economics**. The successful candidate will have a reputation for excellence in research and in teaching, and administrative abilities appropriate to providing leadership for a small but very active group with links to several other units with applied economics interests both on and off campus.

More information is available from J.F. Richards, Dean, Faculty of Agricultural Sciences, Suite 248, MacMillan Building, 2357 Main Mall, Zone 4, to whom also applications or nominations should be sent no later than **March 15, 1996**.

The University of British Columbia welcomes all qualified applicants, especially women, aboriginal people, visible minorities and persons with disabilities.



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Set captures brutality of war, sense of hope

by Cheryl McNamara
*Communications Director
 Frederic Wood Theatre*

When Marti Wright began designing the set and costumes for the Frederic Wood Theatre production of Sophocles' *Antigone*, she envisioned the remnants of a savage war including structural debris and human remains.

"I decided to eliminate the use of masking, preferring to expose the guts of the stage," Wright said. "This immediately gave a new context—a theatre somewhere in Bosnia.

"Design elements emerged from this context. A collage of salvaged and found objects in set and costume guided my choices in materials."

Using combat photographs for inspiration, Wright began designing a set that depicted the horror of war.

"My first design sketch was an enormous pile of rubble containing some human skulls," she said. "The situation in the Balkans horrifies me. The set had to reflect how disturbing the war, which represents the basest part of humanity, truly is."

A graduate of the National Theatre School and the Emily Carr Institute of Art and Design, Wright enrolled in UBC's MFA design program two years ago. Designing *Antigone* is her thesis project.

Wright added a crashed helicopter in her second sketch, which John Wright,

the play's director and the designer's brother, transformed into a Sea King, the helicopter used by United Nations peacekeepers.

"It became a symbol for both war and the white dove of peace," she said.

In addition to its symbolic role, the burnt-out hull of the helicopter provides a stage for the chorus—a dramatic technique used in Greek tragedies. In this production, seven homeless Bosnian widows convert the crashed Sea King into shelter.

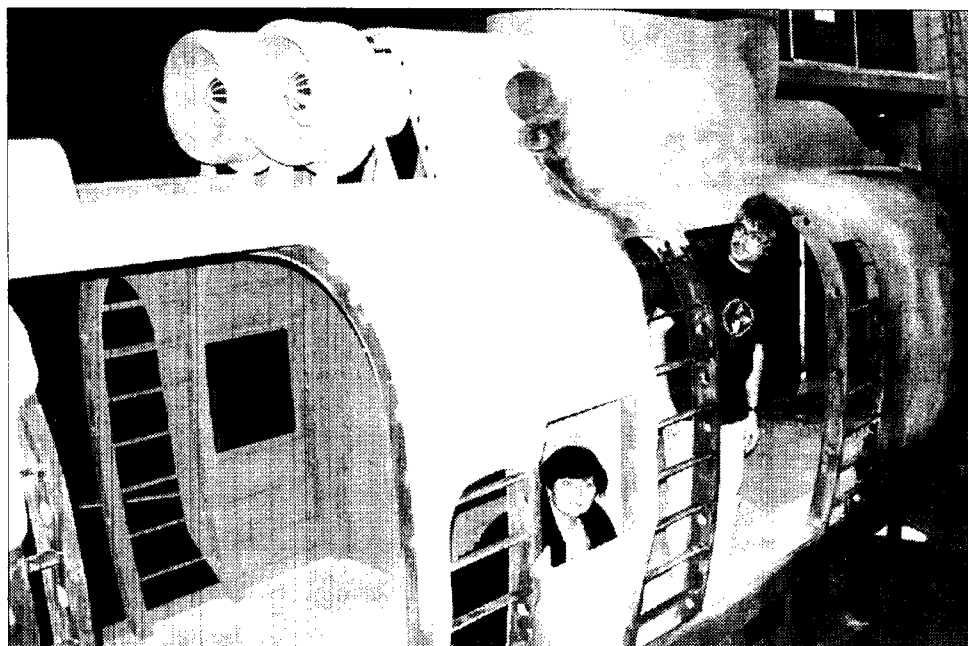
"It is a disturbing, yet hopeful, reminder of human failure and the capacity for human beings to survive," Wright said.

Attempting to evoke this sense of hope, and concerned that her original design was too cold and inhuman, she began introducing colour and light to the set.

"Into this brutal mix of decay, rusted iron and rubble, it became necessary to find elements of compassion and beauty to support the lyricism of the text, and to keep alive the compassion for mankind that inspires tragedy," Wright said.

"Rusted tin evolves through a world of beautiful colours and textures. The lit set would echo the beauty of a garden, rich in the colours of decay and transformation."

Antigone, starring Camille Sullivan in the title role and Chris Hawkey as Creon, runs at the Frederic Wood Theatre from March 13 to 23. Curtain time is 8 p.m. For ticket information, call 822-2678.



Stephen Forgacs photo

The wrecked hull of a Sea King helicopter, designed by set designer Marti Wright (left) and built by stage technician Rob Mosher (right), sets the stage for Frederic Wood Theatre's production of *Antigone*. Wright chose mainly scrap materials for the 180-kilogram plywood model to symbolize the destruction of war.

Community achievers sought for recognition

The Alumni Association is seeking nominations for a series of awards presented annually in recognition of outstanding achievement by members of the UBC community, including honorary alumni and the public.

The **Lifetime Achievement Award** honours an extraordinary individual who has set a high standard for volunteerism or philanthropy. The recipient must have a UBC degree or be an honorary alumnus; the **Honorary Alumnus Award** is for a non-UBC graduate who has made significant contributions to the Alumni Association and or to the university; the **Outstanding Young Alumnus Award** is presented to a graduate under age 40 whose endeavours in business, the arts, athletics or community service are worthy of recognition and have brought honour to UBC; the **Alumni Award of Distinction** recognizes a UBC alumnus who has distinguished themselves at an international level. This category is also open to honor-

ary alumni; the **Blythe Eagles Volunteer Service Award** is awarded to a UBC grad or honorary alumnus who has contributed extraordinary time and energy to the Alumni Association. Nominations must be made by a member of the Alumni Association; the **Faculty Citation Award** is open to any faculty member who is recognized for giving outstanding service to the community in capacities other than teaching and research.

Two awards have been added this year: the **Outstanding Student Award** will be presented to a UBC student possessing leadership qualities who has a distinguished record in academics, community service, university involvement and athletics; and the **Branch Representative Award** will go to a candidate who has shown outstanding dedication, initiative and leadership as a UBC alumni branch representative.

Deadline for nominations is March 15, 1996. For more information, call (604) 822-0616.

Animal welfare chair to serve as resource

by Connie Bagshaw

Staff writer

UBC's Faculty of Agricultural Sciences has launched a \$2-million fund-raising campaign to help create a unique chair promoting education and original research in animal welfare.

Based in the Dept. of Animal Science, the Chair in Animal Welfare will focus on the health and care of domestic animals and wildlife species in captive and natural settings. It will be the only one of its kind in western Canada.

"Major activities of the chair will include assessing the degree of stress experienced by all animals, and working on means to minimize the amounts of that stress," said Jim Thompson, head of Animal Science.

"This will involve looking at ways of improving the handling, housing, transportation and nutrition of animals."

The incumbent, assisted by a team of graduate students and associates working on different aspects of the field, will also collaborate with UBC's Centre for Applied Ethics, exploring ethical issues ranging from the use of animals for food production to the role of animals as companions, Thompson said.

In addition, the chair will work with UBC's Animal Care Centre to promote alternative uses to experimental testing and research.

Providing public education and a cen-

tral information service to individuals and groups concerned about animal welfare are other major responsibilities of the chair, Thompson said.

"Very often people and organizations simply need information to resolve their concerns about areas related to animal production or care which they are not sufficiently knowledgeable about," he explained.

"The chair will serve as a community resource for knowledge and expertise, and be actively involved in technology transfer at provincial, national and international levels."

Once installed, the incumbent will collaborate with an animal welfare advisory committee, including representatives from government, industry, the Society for the Prevention of Cruelty to Animals (SPCA) and the British Columbia Veterinary Medicine Association (BCVMA), identifying and developing areas of research and education.

To date, the chair has received financial support from the B.C., Vancouver and Victoria branches of the SPCA, the BCVMA and several agriculture/animal and related industries including the Dairy Farmers of Canada, the B.C. Egg Producers' Association and the Beef Cattle Industry Development Council, among others.

Thompson expects the chair to be filled this fall. For more information, or to make a pledge, call 822-2794 or fax 822-4400.



Campus works

Chemistry

Students save resources honing lab skills on computer

by Stephen Forgacs

Staff writer

"We are chugging along on 19th-century chemistry and techniques when amazing, inexpensive means of acquiring data, teaching crucial practical lessons, and exciting theories are available."

— *A Lexicon for Reform: Theories about the Problem and the Fix of General Chemistry - National Science Foundation.*

Two faculty members in the Dept. of Chemistry, Prof. Geoff Herring and Instructor Sophia Nussbaum, are using computer simulations and a data acquisition interface to improve the quality of education, save time and reduce costs.

Nussbaum, the sole Canadian involved in the Computers in Chemistry Laboratory Instruction Initiative in the U.S., is using sensors connected to computers to achieve fast and accurate results during first-year chemistry experiments such as acid-based titration. Titration, a general technique used to quantify the amount of material in a solution, can involve a temperature change and change in acidity that is detected by the computer, but would be hard or more time-consuming to measure without computer assistance.

The LabWorks interface system used by Nussbaum consists of sensors that probe the chemical system of interest and an interface board that receives and relays sensor signals to a computer for storage, data treatment and display of results. By changing sensors students are able to perform a range of experiments using the same computer.

"The system does not detract from the laboratory learning experience, it enhances it. Using computers in the lab makes experiments easier, faster, cleaner, more accurate or even possible as opposed to non-computer-interfaced experiments," Nussbaum said.

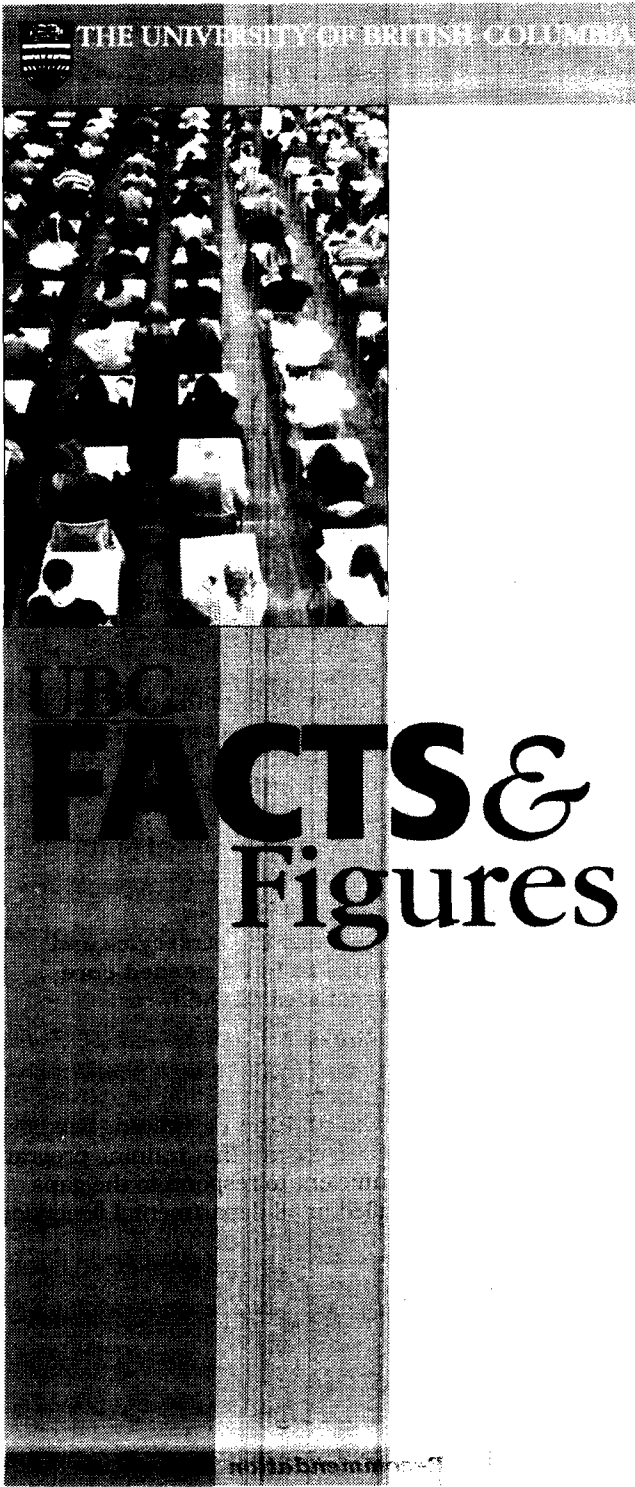
In another first-year course, Herring is using computerized, multimedia training modules to familiarize first-year students with the experiments they will be doing in the lab.

"If the students sit down and go through what they're going to do the next week, they'll get more out of what they're doing in the lab and they can concentrate more on their skills development and techniques," Herring said.

Computer training prior to entering the lab allows students to be more efficient in the lab, freeing lab space for other students, while available online help through the training modules will take some pressure off teaching staff. Also, while some students are using the training modules, others can be performing experiments in the lab.

This will allow faculty to increase enrolment without straining their resources, or reduce costs without reducing the quality of education or instruction students receive, Herring said.

Through the use of computer training modules and computer data acquisition, students are still able to gain experience in performing experiments while using laboratory time more efficiently. The advantages lie in the capacity to enhance learning while better using existing resources in terms of space and instructors' time.



The University of British Columbia is one of the largest universities in Canada and oldest in the province. Incorporated by the provincial government in 1908, UBC admitted its first students in 1915 and moved to its present Point Grey location in Vancouver, B.C. in 1925. UBC is a global centre of research and learning with state-of-the-art facilities, offering a wide range of professional programs.

Mission

"To be a world renowned institution of higher education and research."

The University of British Columbia shares the responsibility of all universities to preserve and advance knowledge and dedicates itself to serving the people of British Columbia.

UBC provides instruction, research and public service that contribute to the economic, social and cultural progress of the people of British Columbia and Canada, is broadly representative of the fields of knowledge and professional specialties, is known and respected internationally and is sensitive to the issues of our common global society.

Teaching and Research

- teaching and research are conducted in 12 faculties and all disciplines at UBC
- faculty members receive more than \$120 million in research grants and contracts annually, mainly in open competition from outside BC
- approximately 80 per cent of all university research in BC is done at UBC
- sources of grants and contracts: government agencies, industry, foundations and individuals
- Credit classes are held year-round, days and evenings

Centres of Excellence

UBC researchers are members of all 10 networks funded to date in Phase II of the federal government's \$197-million, four-year Networks of Centres of Excellence (NCE) program. Two of the 10 networks are headquartered at UBC and one UBC department, Electrical Engineering, is directly involved in four of the five networks that deal with engineering. NCE programs at UBC include research on protein engineering, bacterial diseases, the genetic basis of human disease, robotics and advanced techniques for application in the BC paper-making industry.

Areas of Study

- Agricultural Sciences, Applied Science, Arts, Commerce and Business Administration, Dentistry, Education, Forestry, Graduate Studies, Law, Medicine, Pharmaceutical Sciences, Science
- More than 100 academic departments, schools, research institutes and centres are administered by the faculties
- Non-credit, non-degree study is offered by Continuing Studies and UBC's professional faculties

Full-time Faculty 1,954
Total Non-faculty Employees .. 5,500
Alumni 150,000

Enrolments

Number of students registered in degree programs (Winter Session 1995-96 Day & Evening):
 Undergraduate 25,000
 Graduate 6,500
 Summer Session 15,000
 Guided Independent Study (correspondence registrations) 2,900

International Liaison Office

- plans and guides the development of international exchange agreements; UBC has linkage agreements with 115 universities in 40 countries around the world
- facilitates arrangements for international visitors
- consults with faculty on international training projects

International students at UBC, 1995-96

Undergraduate 1,028
 Graduate 1,330
 Total 2,358 students from 102 countries

Satellite Research Organizations

UBC has attracted a number of satellite research organizations to the campus that operate independently of the university.

- BC Research Inc.
- Biomedical Research Centre
- Forintek Canada Corp. (forest products research)
- Pulp and Paper Centre—UBC PAPRICAN
- Pulp and Paper Research Institute of Canada (PAPRICAN Vancouver laboratory)

Joint Research Facilities

Bamfield Research Centre, Vancouver Island

- major centre for teaching and research in marine biology operated by UBC and four other universities

TRIUMF

- the largest cyclotron in the world, used in subatomic physics research. TRIUMF is owned and operated by UBC and three other universities

University-Industry Liaison Office

- commercializes discoveries and inventions stemming from the university's research budget
- assists faculty in developing research projects with industry
- provides BC industries with access to the university's extensive faculty expertise
- protects intellectual property created through basic and applied research at the university

Research 1994-95:

Total UBC research funding	\$125.3 million
Value of industry grants	\$ 11.7 million
Number of grants	472
Value of industry contracts	\$ 10.8 million
Number of contracts	139
Invention disclosures received	108
New patents filed	70
Patents issued	29
Licensing agreements	21
Cumulative UBC licensing agreements	105
Technologies licensed	28
Cumulative UBC technologies licensed	169
Spin-off companies formed	7
Cumulative number of UBC spin-offs	65
Gross royalties	\$1.2 million

Budget 1995-96

Budgeted General Purpose	
Operating Income	\$338.4 million
Source of General Purpose Operating Income:	
Provincial Government	80.6%
Student Tuition Fees	15.9%
Investment Income	1.3%
Infrastructure Charges	1.8%
Miscellaneous	0.4%

Tuition

Tuition fees are charged on a per-credit basis for most programs.

Philanthropy

Donations to UBC from alumni, individuals, organizations and government through annual giving, awards and financial aid, planned giving (deferred gifts) and other fund-raising activities total more than \$30 million per year.

UBC's A World of Opportunity fund-raising campaign (1989-93), the most successful university campaign in Canadian history, raised over \$262 million for scholarships, endowed chairs, state-of-the-art facilities and other university priorities.

Land

Campus	402 hectares
Campus land maintained	172 hectares
UBC/Malcolm Knapp Research Forest, Maple Ridge ..	5,000 hectares
Oyster River Research Farm, Campbell River	608 hectares
UBC-Alex Fraser Research Farm, Williams Lake	6,400 hectares

Between the university and the City of Vancouver is the 800-hectare Pacific Spirit Regional Park which is under the jurisdiction of the Greater Vancouver Regional District.

Campus Space

Buildings	1,182,148 square metres
Residences	260,505 square metres
Hospital	68,469 square metres

Buildings

UBC-Owned		Leased/Shared	
Concrete	164	Concrete	31
Wood Frame	163	Wood Frame	7
Temporary	85	Temporary	49
Total	412	Total	87

Replacement value of UBC-owned buildings (including contents and collections) \$2.39 billion

Residences

Single Student Winter Session (September-April) Housing
 ▪ 4,477 beds in Place Vanier, Totem Park, Fairview Crescent, Ritsumeikan-UBC House and Walter H. Gage Residences; prices range from \$2,440 to \$2,949 for room-only accommodation, and \$3,959 to \$4,587 for room and board

Single Students and Couples Year-round Housing (Thunderbird Residence)

- 531 unfurnished one-, two-, three- and four-bedroom rental units
- 100 high-rise one-bedroom apartments: \$495 per month
- 196 row-houses: \$625 to \$705 per month
- 235 townhouses: \$590 to \$900 per month

Faculty and Staff Year-round Housing

- 268 one-, two- and three-bedroom apartments renting from \$665 to \$1,105 per month

University Administration

President, Dr. David W. Strangway

UBC's chief executive officer responsible for day-to-day operations

Chancellor, Robert H. Lee (term ends June 25)

Chancellor-Elect, Dr. William L. Sauder (term begins June 25)

- elected by UBC Senate members, faculty and graduates
- confers all degrees and represents the university on official occasions

Board of Governors

Vice-chair, Ms. Shirley Chan

- responsible for the management, administration and control of UBC's property and revenue
- appoints, on the recommendation of the president, senior officials and faculty
- 15 members, eight appointed by the provincial government and five elected from the university community (two faculty, two student and one non-faculty). The president and chancellor are ex-officio members

Senate

Chair, Dr. David W. Strangway

- responsible for academic governance
- determines admission standards
- must approve all changes to academic programs
- 87 members appointed or elected by faculty, students, graduates, the provincial government and others

UBC Library

- second largest research library in Canada with extensive print and electronic collections
- operates 20 branches and service divisions including three serving off-campus teaching and research hospitals
- Library web site at <http://unixg.ubc.ca:7001>

Public Facilities

Many facilities are available for public enjoyment including the Museum of Anthropology, Morris and Helen Belkin Art Gallery, Frederic Wood Theatre, Botanical Garden, UBC Bookstore, Aquatic Centre and the new Student Recreation Centre.

Conferences

Number of conference groups hosted in 1995 126
 Number of visitors who stayed in residences 35,000

Sports and Recreation

UBC's Dept. of Athletics and Sport Services offers a wide range of recreational sport and fitness opportunities to over 15,000 students annually and also administers one of Canada's most successful inter-university athletic programs. UBC Thunderbird teams and athletes have won a total of 37 Canadian Inter-university Athletic Union (CIAU) championships.

Prominent Graduates

Among many eminent alumni of UBC are retired BC chief justice Nathan Nemetz; author and historian Pierre Berton; humourist Eric Nicol; opera singer Judith Forst; educator Rick Hansen; athlete Tricia Smith; senator Pat Carney; and former Canadian prime ministers Kim Campbell and John Turner.

Frequently Called Telephone Numbers

(Area code 604)	
Alma Mater Society	822-2901
Alumni Association	822-3313
Campus Directory Assistance & Information	822-2211
Ceremonies & Events	822-2484
Campus Tours	822-3131
Speakers Bureau	822-6167
Development Office	822-8900
Government Relations	822-9370
University-Industry Liaison Office	822-8580
International Liaison Office	822-3114
Parking & Security Services	822-2222
Public Affairs Office	822-3131
Registrar's Office	822-5544
Records & Registration	822-2844
Admissions - Undergraduate	822-3014
TELEREG Helpline	
Student Enquiries	822-6866
Faculty & Staff Enquiries	822-2871

Visit UBC on the World Wide Web at <http://www.ubc.ca>



THE UNIVERSITY OF BRITISH COLUMBIA

REVIEW OF THE PURCHASING DEPARTMENT REVIEW COMMITTEE REPORT — January 1996

I. INTRODUCTION

In the fall of 1995, the Vice-President Administration and Finance appointed a Committee to review the Purchasing Department, Campus Mailing Services, the Surplus Equipment Recycling Facility Program, and the Travel Management Program. Committee members were

- Mr. Gary Barnes, Comptroller, Dept. of Financial Services, UBC
- Mr. Victor Barwin, Chief Financial Officer, Faculty of Medicine, UBC
- Dr. Michael Goldberg, Dean, Faculty of Commerce Business Admin. UBC
- Mr. Ronald MacDonald, Chief Executive Officer, Inter-University Services Inc., Halifax, NS
- Dr. Barry McBride, Dean, Faculty of Science, UBC (Chair)
- Dr. John McNeill, Dean, Faculty of Pharmaceutical Sciences, UBC
- Mr. Ronald Santi, Director of Business Affairs, Iowa State University

The Review Committee was to:

1. Review the mandate, structure, operations, staffing and budget, including cost recovery programs of Purchasing Services.
2. Evaluate the overall level of effectiveness and accountability of the Department, and in particular, assess the value added benefits in terms of dollars saved, vendor knowledge, and post-purchase processes such as warranties and liabilities.
3. Identify opportunities for improved service, cost-effectiveness and relationships with vendors, Plant Operations, Financial Services and other units.
4. Determine if there are services which should be discontinued or which may be better performed by other units.

The Committee had available a self study document prepared by the Purchasing Department and its associated units, budget information, previous internal and external reviews and a variety of related information. Prior to the review, all Deans, Heads, and Directors were asked to submit their views on the operations of the units under review. An advertisement was placed in UBC Reports seeking input from the campus community.

Local members of the Committee met to draw up a list of user groups who could provide input, and interviewed John Chase and Derek Atkins, members of the Procurement Re-engineering Committee. The Review Committee as a whole met over the period December 4 to 7. The list of people interviewed can be found in Appendix I and the Review Schedule in Appendix II. The Committee was given a tour of Purchasing's facilities and met with staff at a reception after the first day's deliberations. We wish to acknowledge the efforts of Keith Bowler and his staff in providing us with useful documentation and Carroll Parras for a superb job of arranging our meetings.

II. PURCHASING DEPARTMENT

a. Overview

The Purchasing Department is organized into five major functions reporting to the Director of Purchasing. They are:

Administrative Services and Systems; Campus Mailing Services; Purchasing, Transportation and Tax Services; Travel Programs; and the Surplus Equipment Recycling Facility (S.E.R.F.).

Since receiving the Ritchie Report (1985), and the Internal Audit Report (1986) the Purchasing Department has made great strides in dealing with both the deficiencies noted in these reports and with the ever increasing volumes of goods and services purchased by U.B.C. Faculties and Departments. In 1994 UBC participated in a joint US-Canada Benchmark Data Survey of procurement activity.

The Department has responded creatively to the calls for change contained in these reports. Successful innovations include the Campus Travel Program, the Customs Brokerage activity, SERF and Campus Mailing Services, especially the University Courier Agreement. In all these cases, there appear to be cost savings and increased levels of service.

In addition to these past achievements, there is a clear commitment to continue to innovate and improve in the future. Morale appears high and enthusiasm for continuous change is widespread at all levels of the Department. Growing dedication to enhancing the value added by the Purchasing Department and to becoming more client focused are also broadly in evidence.

During our review, two members of the team spent time in Purchasing sampling requisitions, bids, and the resulting purchase orders. These transactions were randomly selected by the team members, and their findings support that both professionally and technically, the staff in Purchasing are proficient in their duties. This provides assurance that the University is acquiring goods and services in a competitive manner, and that potential litigation and other costly errors are being minimized.

b. Recommendations: Overview

A general theme manifest in all of the recommendations below is the need to develop a more strategic approach to moving ahead in all of the Department's present and future functions. The Committee felt that there was a strong need to develop sound business cases and plans for all of the activities in which the Department is engaged. The benefits, the costs, and the strategies developed to realize the benefits (and minimize the costs) must be enunciated, at the outset, as the basis for providing the service (e.g., for engaging in the current or proposed line of "business").

Below, we outline specific recommendations for the Department in four broad areas. These begin with a set of recommendations to create the requisite management environment for dealing with future changes in the University and the purchasing milieu. We then proceed to suggest a number of vitally needed improvements in the information and management systems used in the purchasing process across the University. Next we consider a number of strategies to improve both internal and external communication within the Department, within the University and within the supplier community. The final set of recommendations deals with the Department's relationships with other purchasing functions on the UBC Campus.

Recommendations: By Functional Area

1. Managerial Environment

Recommendation #1: Develop a Strategic Vision and Plan for the Purchasing Department

At present Purchasing does not have a 3 or 5 year written plan. Accordingly, we recommend the development of at least a 3 year plan with following benefits:

1. The Plan will help to identify where Purchasing is headed, i.e., where the resources will be focused or re-focused, and who will accomplish the focusing/re focusing.
2. All staff in Purchasing will be able to understand the priorities of their Department and to understand how they can help realize them.
3. The strategic plan and planning process will demonstrate commitment to customers and show that Purchasing is making efforts to meet their needs and expectations.
4. Potential Roadblock: For Purchasing to have a meaningful strategic plan, they need to know the University's plan for the same time period. Purchasing will need to support the University's goals and objectives, and in turn be supported by it.

Recommendation #2: Develop Business Plans for Specific Business Units/Activities that Have Been or Will Be Undertaken

1. Campus Mailing Services
 - a. Mail and parcel postage processing
 - b. Envelope stuffing and postage processing
 - c. Mail and parcel distribution
 - i. Mail sorters
 - ii. Truck delivery
 - iii. Bicycle couriers
2. Customs Brokerage
3. SERF and Tent Rental
4. Travel Program

Whenever the Purchasing Department provides a service (e.g., engages in an on-campus business), it is essential that a sound and defensible business plan be in place that demonstrates that the business is needed, that it is the most cost effective supplier, and that it meets campus needs in the most effective manner. Such an approach can ensure that each service currently provided by the Department is fully supported by a business plan, which will help build broad based support on campus for the Department's activities. There is also a need to ensure that services currently provided by the supplier community have been analyzed and compared to in-house capabilities (make or buy) and that the lowest cost and highest quality option has been chosen.

Similarly, there is a need to ensure that services currently provided internally are supported by a solid and widely accepted business plan which supports the need to provide the function internally instead of using the external suppliers (out-sourcing). The plan should take into account, but not be limited to, such things as cost of office space and utilities, ability to downsize quickly in the event of budgetary constraints, and labour relations.

Recommendation #3: Assess core competencies and changing competency needs over the next 5 years

The challenges facing the Department

in the future will become more paramount as University funding decreases and demands for efficiency and added value increase. Consequently the general management and technical purchasing skills required by the staff may be quite different from those needed in the past and at present, i.e., negotiations skills, computer literacy, just-in-time concepts (reduces inventory, carrying costs/obsolescence), problem solving/process improvement tools, etc.

Accordingly, we see the need for a review of the core competencies currently in place and then a further review to identify the skills required in the future, as evidenced by the most successful and advanced North American purchasing staffs.

Recommendation #4: Develop training strategies and programs to build needed core competencies of the future

To realize this recommendation, it will be necessary to develop a detailed 3-5 year training and staffing plan. An achievable budget for training will be needed to ensure that training programs are sufficient to respond to the gaps identified in all departmental functional areas. Interfacing with the University, institutional, and private sector communities on state of the art training methods and skills is imperative.

2. Systems Development and Design

Recommendation #5: Design systems that are distributed and client server based

Any new systems that are developed to improve the efficiency and quality of service of the Purchasing Department need to be based on a distributed client server design. These systems should be developed in close consultation with both campus (including units at Point Grey and other sites) and off-campus stakeholders and must be sufficiently flexible to handle the enormous diversity of demands created by the huge variety of campus units and off-campus suppliers.

Two examples reinforce the need for this kind of distributed and client based approach to systems design and development.

- a. As delegation of purchasing authority has occurred, duties have been added to the departments, i.e. calling vendors for 3 quotes, keeping files on preferred vendors, key stroking of information within the department, which is then re-keystroked in Purchasing. A new automated purchasing system and a change in policy should have a positive impact on this; and still maintain checks and balances for UBC.
- b. The adoption, by Accounts Payable, of a negative approval policy where cheques are issued within 7-8 working days unless the user advises otherwise will save significant follow-up contact time. The Purchasing Department should use this approach for all invoices under a certain amount (e.g. \$5,000).

Recommendation #6: Systems designs must span four stakeholder groups: internal client departments; external vendors; Purchasing Department; financial information system and Financial Services

To carry out this recommendation we



THE UNIVERSITY OF BRITISH COLUMBIA

REVIEW OF THE PURCHASING DEPARTMENT: REVIEW COMMITTEE REPORT

see that a number of specific actions will be needed. Foremost among these in our view are the following:

- a. Develop an on-line requisition form for purchase requisitions and purchase orders, and issue purchase orders electronically.
Use an electronic form, structured E-MAIL or world wide web form to capture user purchasing requirements at source. Create a database of requisitions and a means to electronically transfer relevant data to the purchase order. The system should validate all codes, accounts and dollar limits to ensure compliance with departmental and university policies.
Use EDI, E-MAIL, Internet tools or propriety systems to communicate purchase orders to vendors in machine readable form (i.e. not graphical form such as fax) to simplify vendor processing. A major vendor indicated that an this could lead to an additional 2-3% discount.
- b. Integrate or interface purchase order data with accounts payable and other financial systems.
Purchase order data should be available to accounts payable to prevent rekeying of data, thereby reducing delays, effort and errors. Users should be able to track a requisition through the system and determine P.O., receiving, accounting and payment data. Real time interaction with accounting would also assure the fund/account number(s) being used are valid, and that funds are sufficient to cover the commitment being made.
- c. Develop a common system or interface to allow purchasing information from all departments to be analyzed.
Many departments have their own purchasing systems (Food Services, Bookstore, Library, Chemistry Stores, Campus Planning, etc.). It may be possible to purchase or develop a common system for all at a reduced cost. At a minimum, these systems should feed a central repository of university purchases to allow analysis and assist in negotiating with vendors.
- d. Include the Purchasing Department as a member of the consortium investigating the replacement of the University's central systems.
The Financial Records System may be replaced as part of a greater effort to remove central systems from the MVS mainframe. This is a rare opportunity to integrate the purchasing system(s) with other financial systems. Purchasing should be represented on the consortium of users to determine the viability and cost of adding a purchasing module to the central financial system.
- e. Develop a Purchasing Department systems strategy and development plan.
There should be a stated computing/systems strategy for the Purchasing Department's systems efforts. It should include recommendations for programming languages, a common user interface, a preferred database management system, a telecommunications strategy, a common data dictionary and a preferred or recommended computing configuration.
A rolling 3-5 year plan of new systems and major enhancements should be developed, maintained and circulated to users.
Plans must be developed in conjunc-

tion with users and representatives of other administrative units.

- f. Investigate systems partnerships to reduce costs and improve backup.
There may be opportunities to partner with other departments to use common network support staff, programming resources and hardware. Expertise in data management, data servers, network support, WWW, EDI and electronic forms all exist within GSAB, the building that houses Purchasing.
As an aside, we note that there is need for increased oversight on how data processing requirements should be addressed within the support service units. Developing stand alone systems, with data processing staff dedicated to single departments rather than a model of pooling data processing resources and developing interactive systems between business units, is wasteful.
 - g. Develop a Purchasing Department World Wide Web site.
Purchasing policies, preferred vendor lists, commodity lists, requisition tracking data, equipment inventory data and SERF inventory can all be made available to campus via the WWW. Hotlinks to vendor sites and WWW based order entry systems can be included as commerce through the WWW increases.
- ### 3. Communications and Client Satisfaction Survey Strategies
- Recommendation #7:**
Develop effective on-going communications strategies and surveys for:
- a. External Vendor Community
 - b. Internal Stakeholders
 1. Purchasing Department Staff
 2. UBC Client Departments/Units
 3. Financial Services
- From listening to comments made by Purchasing customers, reviewing comments contained in the Rahim report (1993) and a small sampling of vendor comments, a common theme of needing more information emerges. To implement this recommendation we foresee the Purchasing Department doing the following:
- i. Develop an outreach program in Purchasing where each person with buying duties visits at least two campus customers each month. Meetings could be as short as 15 minutes or as long as an hour depending on user issues. There is a need to design a common list of questions, to probe users for useful feedback.
 - ii. Survey campus customers every 2-3 years to determine customer satisfaction with Purchasing.
 - iii. Seek input from vendors.
 - iv. Use contacts with customers as an opportunity to share successes. This will help reinforce that Purchasing does add value to the process, i.e., savings from customs brokerage activities, travel program, savings from annual contracts, better response time to inquiries, etc. The Purchasing Department would then be able to demonstrate there are measurements in place to track efficiencies and savings so it can document the value added by its activities.
 - v. The Purchasing Department is to be commended for developing a Newsletter, the Travel Management brochure and the recently released Purchasing Manual. The Committee feels that these are useful tools that

benefit the University users. These documents and others are part of a Communications Plan. In Recommendation # 6 it was recommended that a Purchasing Web site should be developed. Consideration should be given to using this Web site as a major platform for the Communications strategy. The ability to maintain this site on-line and in real time is seen as an opportunity to communicate with users effectively and efficiently.

- vi. The Communications and Client Satisfaction Survey Strategies should continue to focus on the mandate of the Purchasing Department to meet the needs of its customers and to continue to work with vendors to provide value added services to the University community.

4. Relationships and Responsibilities Among Purchasing and Other Campus Units Performing Significant Purchasing Functions

Recommendation #8:
Review relationships and opportunities for coordination and cooperation with other campus units involved in major purchasing activities

- a. Chemistry Stores
- b. Plant Operations Stores
- c. Ancillaries
 1. Bookstore
 2. Food Services
 3. Housing
 4. Continuing Studies
 - i. Centre for Continuing Studies
 - ii. Faculty based Continuing Education Activities

There is a broad array of units listed above which either conduct their own purchasing activities now (e.g., Plant Operations and Chemistry Stores) or which will increasingly need to be able to contract and purchase needed services and supplies to carry out efficiently, profitably and quickly their ancillary business functions (Continuing Education and Housing and Food Services). Accordingly, there will be a growing requirement to coordinate these activities and to develop a strong spirit of cooperation among them.

Specifically, our review indicates there are multiple stores operations on campus, most notably Plant Operations and Chemistry. In addition, the Committee finds evidence of duplication of tasks, which can add costs to UBC. To promote better cooperation and coordination among the stores activities and to implement this recommendation we pose the following questions:

- i. How many stores operations are really needed?
- ii. What are their missions?
- iii. Are they cost effective?
- iv. Could the private sector provide the services with equal quality and at lower cost?
- v. Is consolidation of stores feasible and is it desirable?

Whatever the final configuration of shared and distributed purchasing responsibilities there will be a strong need to develop solid business plans for each activity. The unit with the most effective and efficient plan should be in a position to provide these services for itself and potentially for other campus units that seek to use its services and/or to discontinue their own operation because superior service, prices, and cost savings are available.

Recommendation #9:
Raise the maximum dollar limits on Blanket Purchase Orders and Requisitions to \$2,500.

At this time we suggest that the maximum should be raised from \$500 to \$2,500. This figure should be reviewed periodically to ensure that it is consistent with purchasing policy and that it reflects the value-added services that Purchasing provides. This needs to be done in concert with bringing ordering departments and Purchasing into an interactive mode, through data processing, which would also include accounting/accounts payable. Currently, there is no mechanism to allow for encumbering funds, which means each user department has to maintain their own separate accounting system to track these commitments. The Department should give consideration to using procurement cards for purchases at this dollar level.

Recommendation #10:
Users should only supply one quote when requesting a P.O. Buyers in Purchasing should get additional quotes if they think a better combination of price and quality can be achieved.

The effect would be to improve efficiency by limiting the requirement for input to those cases where the Purchasing Department can provide added value.

III. SURPLUS EQUIPMENT RECYCLING FACILITY

a. Overview

The Surplus Equipment Recycling Facility (SERF) was established in 1987, it has responsibility for the recycling and disposal of all surplus equipment and materials on a fully cost recoverable basis. In 1990 SERF established a special events tent rental service and, in 1991, undertook an equipment inventory pilot project which is to be the basis of an equipment inventory system.

Those interviewed felt that forming SERF was an innovative plan that met a campus need. There is customer satisfaction with both buying and selling goods through SERF. Establishing the tent rental business was innovative and has proven to meet a need in a cost effective way.

While SERF was viewed positively by many of its customers, a number of concerns were identified.

1. The cost of pick-up and delivery is exorbitant; in some cases it represents more than the value of the material sent to SERF; the result is that Departments find less expensive alternatives to dispose of unwanted material.
2. Finding out what is available at SERF is inefficient.
3. Customers are not informed in a timely way about the status of the material they have sent to SERF.

SERF staff expressed concern about the amount of storage space and the need for more computing power.

b. Recommendations

Recommendation #11:
SERF should develop plans to solve the problem created by the cost of pick up and delivery.

For example should pickup be restricted to one day per week, and have Plant Operations dedicate staff and trucks for this purpose thus reducing costs of an individual pickup? Should the costs be absorbed by SERF and passed back in the return to Departments?



THE UNIVERSITY OF BRITISH COLUMBIA

REVIEW OF THE PURCHASING DEPARTMENT: REVIEW COMMITTEE REPORT

Recommendation #12:

Develop an on-line electronic catalogue available to both the internal and external communities.

This would provide a useful service to potential customers and to those who have material at SERF on consignment.

Recommendation #13: Reduce the residency time of unsold items to 4-6 weeks.

This should help the storage problem.

Recommendation #14:

Provide Departments with an annual or semi-annual print-out showing the dollars transferred to them from the sale of items they consigned to SERF.

This would be good for public relations and would help those who have trouble finding the transfers in their monthly ledgers.

Recommendation #15:

Develop a business plan that takes into consideration the cost of pick-up and delivery, the need for more computing power, tent replacement, and better utilization of space.

Recommendation #16:

Raise the minimum cost returnable from \$25.00 to \$75.00.

Recommendation #17:

Review the equipment inventory pilot project.

Since 1991 when the Purchasing Department undertook an equipment inventory pilot project, there has been no major review of the project. The Committee felt that a detailed review was beyond the scope of its mandate. A detailed review should now be undertaken to ensure that the implementation and on-going operation of the system is meeting its original objectives and is providing on-going useful information.

IV. TRAVEL

a. Overview

A travel management program was established in 1990 to contract travel agency services, airlines, car rental, and hotel agreements on a two-thirds cost recovery basis with the objective that it become a fully cost recovered service.

The innovative changes in purchasing travel are excellent and have saved the University considerable money. The operation is well conceived, well run and is appreciated and respected by both the vendors and by the campus customers. The proposed use of TOPAZ to monitor the system and the proposed improvements in the payment system in order to obtain rebates are supported by the Committee. There was some concern expressed that the tendering process was unnecessarily complicated and that the amount of information required was too extensive. It is also important to continually monitor the vendors and terminate arrangements when service is not satisfactory.

The Purchasing Department needs assistance from University management in supporting and "selling" the need to use university-wide contracts. For example, additional savings opportunities were lost last year, because not enough airline tickets were purchased from the preferred vendor.

b. Recommendations

Recommendation #17:

Review the tendering process with a view to simplifying procedures.

We noted that the documentation required was voluminous and question

the need for so much information.

Recommendation #18:

Continue to work on improving communications with the campus community with the objective of increasing the number of people using the preferred vendors.

Restate the benefits and savings that result from using preferred vendors. A special effort should be made to bring in university employees at the hospitals so that they can enjoy the benefits of the Travel Management Program.

V. CAMPUS MAILING SERVICES

a. Overview

Campus Mailing Services includes the daily delivery and pick-up of all Canada Post and University mail. Services such as optional addressing, inserting, mailing, and bicycle courier services are offered on a cost recoverable basis.

We note that the customers are generally satisfied with the level of service. A number of people commented favorably on the mail processing service noting that it saved them money and was efficient and timely. There was some concern about the timeliness of mail delivery but recognition that the situation has improved over the past three years. Mailing Service reported data showing that the percentage of mail meeting the target of a 24 hour turnaround time has increased from 59% in 1989 to 92% in 1995.

The unit has been progressive in developing and implementing effective electronic technologies for tracking incoming mail, billing and mail processing functions. The University Courier Agreement has resulted in considerable savings to the university. A number of people indicated satisfaction with the arrangements that are now in place. The local bicycle courier system was also seen as a useful service. The unit has enjoyed effective and innovative leadership.

A 20% decline in mail volume during the past year suggests that e-mail, fax, and Internet are reducing the demand for traditional mail service. This trend is likely to continue as more people gain access to electronic communications systems.

Staff pointed out a number of problems that affect their efficiency.

1. Delivery vehicles are old, and not adaptable to innovations that would create efficiencies, such as loading mail sorting racks directly onto mail trucks.
2. Much of the sorting equipment is old and needs replacing.
3. A significant amount of mail arrives without proper addresses
4. The number of units requiring separate mail delivery continues to grow but there is no offsetting increase in budget.

We note that even though turnaround efficiency has increased, there are still, on average, 1700 pieces of mail per day that do not meet the 24-hour goal.

b. Recommendations

Recommendation #19:

The University should develop a strategic plan which takes into account the changes in methods of communication and the future role and activity level of Campus Mail Services.

E-mail, fax, and internet are rapidly becoming the preferred mode of communication for much of the corre-

spondence that traditionally occurred via mailing. This is bound to have a significant impact on the amount of mail that the unit will handle in the future. Indeed we were told that mail volume was down by 20% this year. This trend will continue as more faculty and staff are connected to the Internet.

Recommendation #20:

The University should review all pick-up and distribution activities to determine if the present system is the best way to meet our needs.

In the course of our investigations we learned that there are a number of related pick-up and delivery activities that occur in other units. For example, parcels weighing more than 50 lbs are designated freight and handled by Plant Operations. Mail is delivered to the hospitals by Plant Operations; they also pick up material for delivery to SERF. Implicit in this analysis is the question of where is the best place to situate the mail function. A proper business plan should be developed to replace the trucks and the aging sorting equipment.

Recommendation #21:

Mail processing should develop a business plan which sets out clearly stated objectives and cost benefits, including: space rental, staffing, and the ability to equip the facility with the most efficient processing equipment.

The mail processing activity appears to meet a need and is appreciated. However we have no data to give us confidence that the present system is the most cost-effective way to meet the University's needs. A business plan would enable the University to determine if there are more cost-effective alternatives.

Recommendation #22:

Addresses in the Faculty and Administrative phone directory should include postal zones and faculty and staff should be encouraged to use them in addressing on-campus mail.

Mail sorters waste a considerable amount of time sorting mail that is not properly addressed.

SUMMARY OF RECOMMENDATIONS

PURCHASING

1. Managerial Environment

Recommendation #1: Develop a strategic vision and plan for the Purchasing Department

Recommendation #2: Develop business plans for specific business units/activities that have been or will be undertaken

Recommendation #3: Assess core competencies and changing competency needs over the next 5 to 10 years

Recommendation #4: Develop training strategies and programs to build needed core competencies of the future

2. Systems Development and Design

Recommendation #5: Design systems that are distributed and client server based

Recommendation #6: Systems designs must span four stakeholder groups: internal client departments; external vendors; Purchasing Department; financial information system and Financial Services

3. Communications and Client Satisfaction Survey Strategies

Recommendation #7: Develop effective

on-going communications strategies and surveys for:

- a. External Vendor Community
- b. Internal Stakeholders
 1. Purchasing Department Staff
 2. UBC Client Departments/Units
 3. Financial Services

4. Relationships and Responsibilities Among Purchasing and Other Campus Units Performing Significant Purchasing Functions

Recommendation #8: Review relationships and opportunities for coordination and cooperation with other campus units involved in major purchasing activities.

Recommendation #9: Raise the maximum dollar limits on Blanket Purchase Orders and Requisitions to \$2,500.

Recommendation #10: Users should only supply one quote when requesting a P.O. Buyers in Purchasing should get additional quotes if they think a better combination of price and quality can be achieved.

SURPLUS EQUIPMENT RECYCLING FACILITY

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TRAVEL

Recommendation #17: Review the tendering process with a view to simplifying procedures.

Recommendation #18: Continue to work on improving communications with the campus community with the objective of increasing the number of people using the preferred vendors.

CAMPUS MAILING SERVICES

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Recommendation #22: Addresses in the Faculty and Administrative phone directory should include postal zones and faculty and staff should be encouraged to use them in addressing on-campus mail.



THE UNIVERSITY OF BRITISH COLUMBIA

REVIEW OF THE POLICY ON DISCRIMINATION AND HARASSMENT



THE UNIVERSITY OF BRITISH COLUMBIA

March 7, 1996

To: Members of the UBC Community

Re: **Review of the Policy on Discrimination and Harassment**

In January 1995, the Board of Governors and Senate approved the new Policy on Discrimination and Harassment, and requested a review of the policy in one year. Accordingly, Sharon E. Kahn, Associate Vice-president, Equity, has prepared the accompanying report in which she provides a brief overview of case processing and resolution during the inaugural year of the Policy on Discrimination and Harassment, and makes several recommendations for revisions based on one-year's experience implementing the Policy.

Dr. Kahn and Vice Provost Libby Nason are using this report as the basis for reviewing the Policy with administrative heads of unit, employee group representatives, student societies, the Senate, the Board of Governors, and various committees whose functions relate to equity issues. They would appreciate any comments you may have on these recommendations or on other suggestions for Policy changes. Please send your comments to Libby Nason, Vice Provost, c/o President's Office or nason@unixg.ubc.ca. (The Policy on Discrimination and Harassment is policy #3 in the UBC Policy Handbook; it is available on-line through View UBC.)

David W. Strangway
President

THE UNIVERSITY OF BRITISH COLUMBIA

January 15, 1996

To: David W. Strangway, President

Re: **1. Overview of Complaints****2. Revisions to the Policy on Discrimination and Harassment**

In January 1995, when the Board of Governors and Senate approved the new Policy on Discrimination and Harassment, I was asked to report at six months, and again at one year, on activities under this Policy. Accordingly, in this report, I provide a brief overview of case processing and resolution during the inaugural year of the Policy on Discrimination and Harassment. In addition, I make recommendations for revisions based on one-year's experience implementing the Policy on Discrimination and Harassment.

I look forward to discussing these recommendations with you.

Sharon E. Kahn
Associate Vice-President, Equity**1. Overview of Complaints**

Who complained about whom? During 1995, the Equity Office received 205 new cases alleging discrimination or harassment. Women brought forward 68% of all complaints, and men were respondents in 70% of all complaints. In 21% of all complaints, women complained about women, and men complained about men.

Students brought forward half of the complaints, and they complained about other students nearly as frequently as they complained about faculty. Staff and faculty also complained about their peers as often or more often than they complained about others.

Faculty were respondents in 39% of all new cases, but complainants in only 12% of cases, and this difference between respondents and complainants was seen as well in Management and Professional staff. Administrators, seeking advice on equity concerns, made 15% of all initial contacts with the Equity Office during the year.

What did people complain about? Half of all complaints were about sexual harassment or gender discrimination, and the majority of the complaints related to conduct that created a hostile work or study environment. Sixteen percent of the complaints concerned discrimination or harassment related to race, colour, ancestry, or place of origin; that is, treatment that compromised the access, opportunity or evaluation of an individual or group on the basis of ethnicity. Another 15% of complaints related to discrimination on the grounds of disability, age, sexual orientation, or political or religious beliefs. Finally, one-quarter of the complaints brought to the Equity Office involved allegations of discrimination on grounds not protected by the B. C. Human Rights Act.

How did cases get resolved? Only three of the cases covered by the Policy resulted in formal investigations: a student complaint about the conduct of a faculty member was transferred to a disciplinary investigation; an Administrative Head's request for an investigation into a graduate student's behaviour ended when the student decided not to continue studies at UBC; a group of graduate students' request for an investigation into the behaviour of another graduate student continues into 1996.

2. Revision to the Policy

- 1. Personal Harassment** (Policy Paragraph #1). A number of complaints brought to the Equity Office concern personal harassment, an area the Policy does not cover. The Policy states that the University "is committed to providing its employees and students with the best possible environment for working and learning," but the Policy limits the definition of discrimination and harassment to acts that adversely affect specific individuals or groups as defined by the B. C. Human Rights Act. This definition covers protected grounds, such as sex, sexual orientation, colour, and disability, but does not cover "personal harassment." Thus, I propose that the Policy be amended to legitimate the Equity Office's referring of allegations of inappropriate managerial, supervisory, and instructional practices not covered by the Policy to appropriate Administrative Heads of Unit for resolution.
- 2. Definition of Sexual Harassment** (Paragraph #6). Some individuals have requested that UBC's Policy definition of sexual harassment be made clearer and more concise. Thus, I recommend that the Policy use the Supreme Court of Canada definition of sexual harassment and adapt it to the learning environment. Accordingly, the definition of sexual harassment would be "unwelcome conduct of a sexual nature that detrimentally affects the work or study environment or leads to adverse job- or study-related consequences for the victims of the harassment."
- 3. Systemic Discrimination** (Paragraphs #19 & 83). Two paragraphs in the Policy refer to systemic discrimination, but the Policy does not define the term. Thus, I recommend the following definition of systemic discrimination be added to the Policy: "Systemic discrimination refers to policies and practices that may appear fair and impartial, but contain barriers that detrimentally affect the work or study environment or lead to adverse job- or study-related consequences for members of groups protected by the B. C. Human Rights Act."
- 4. Decision-Making** (Paragraphs #32-41). Several individuals raised concerns about the decision-making process, particularly in cases where the facts of the case are in dispute. Thus, I recommend that the Policy be revised to include a two-track process for decision-making depending upon the circumstance of the case: (a) an expedited decision from the Panel for cases where facts are not in dispute and (b) a hearing that allows for cross-examination for cases where complainants and respondents do not agree on the facts of the case.

We also need to consider ways to ensure that complainants and respondents participate in the process and do so in a timely manner. Thus, I recommend that the following statement be added to the Policy: "Where the evidence requires refutation and there is no refutation, the Panel may draw an adverse inference in the absence of compelling evidence to the contrary."

- 5. Confidentiality** (Paragraphs #73-78). Under the Policy, those faculty and administrative staff who supervise others bear major responsibility for ensuring that their instructional and managerial practices comply with human rights legislation. Discussions among the Equity Office, faculty, and administrative staff are essential to assist those charged with maintaining a study and work environment free from discrimination. Thus, because of a recent arbitration decision concerning confidentiality in a collective agreement, I recommend that the Policy be revised to clarify that the Equity Office may disclose confidential information to Administrative Heads of Unit on a need-to-know basis.
- 6. Stay of Internal Complaint Proceedings** (Paragraphs #81-82). Complainants who request a formal investigation under the Policy and at the same time pursue extra-University avenues for complaint resolution may place the University in the awkward position of having to represent both complainant and respondent in multiple proceedings prior to completion of UBC's internal decision-making process. Thus, I recommend that the Policy be amended to allow UBC to stay its internal complaint proceedings.
- 7. Termination of Formal Proceedings**. There may be occasions when information received after the initiation of a complaint suggests that the Equity Office should cease its proceedings. For example, an investigator may find evidence that a complaint has been made in bad faith, an investigator may determine that the Policy does not apply to the complaint, or a respondent may cease to be a member of the UBC community. Thus, I recommend that the Policy be amended to allow UBC to terminate its formal proceedings.



Stephen Forgacs photo

Hot Wheels

With an eye to building an even faster machine, third-year engineering student Trevor Robinson and engineering alumnus Greg Joughin (in car) take careful measurements of the Formula SAE race car that last year took a UBC driver to an eighth-place North American finish. UBC was the top Canadian finisher. The competition required students to build a new car from scratch for this year's race at an estimated cost of about \$20,000. The Formula SAE team welcomes donations and sponsors and can be reached at 822-2970.



Gavin Wilson photo

Bike lockers at War Memorial Gym provide secure, dry storage on a rental basis for some of the campus's many bike commuters, including Corey Kirkham, fourth-year genetics. More lockers will be added if demand warrants.

Bike commuters get safer parking place

There's good news for the five per cent of the university community who cycle to campus—secure, weather-proof lockers are now available for storing their bicycles.

A joint project of Campus Planning and Development, the Alma Mater Society and Plant Operations, 50 lockers are now available for rent on the north side of War Memorial Gym.

"With the increasing number of people who cycle to campus, and problems with theft and vandalism, there was a real need for proper bike storage facilities," said War Memorial Gym manager Kim McElroy.

"If the program proves to be successful, more lockers could be added here at War Memorial and possibly at other sites in the future."

Each of the storage units is divided diagonally in half, with enough room for a bike, helmet, cycling shoes and wet clothes. There is a cable to secure bikes to, and a key to lock the storage locker door.

"An added security feature is the fact that no one can tell from the outside what kind of bike is in a given locker, or even if the locker has a bike in it," McElroy said.

The facilities at War Memorial Gym, such as showers and changing rooms, are open seven days a week year-round and can be used at no extra cost, she said.

Rental rates are \$20 per month for students and \$30 for faculty and staff. Discounted rates are available for rentals of four, eight or 12 months.

For more information, call 822-3515.



Gavin Wilson photo

Imaging techniques developed by Asst. Prof. Tim Murphy and his team allow them to study the behaviour of individual nerve synapses. Misfiring synapses are believed to lie at the root of neural disorders from Alzheimer's to schizophrenia.

Pioneering researcher unravels nerve mysteries

by Gavin Wilson

Staff writer

Diseases from Alzheimer's to epilepsy are believed to start with malfunctions of the synapses—the switches that allow transmission of messages in the central nervous system.

A team of UBC researchers led by Asst. Prof. Tim Murphy is conducting groundbreaking studies into the inner workings of synapses with imaging technology similar to that used in the Gulf War. Their research recently received a big boost with a \$300,000 grant from a private foundation.

Murphy is one of only three Canadian researchers to receive the Scholar Research Programme grant from the Montreal-based EJLB Foundation. The program, in its first year, funds neuroscience studies by researchers just beginning their careers.

Murphy arrived at UBC less than two years ago after holding a post doctoral position at Johns Hopkins in Baltimore, where he also did his graduate work.

His research focuses on the functions and structure of individual synapses. Each nerve cell has tens of thousands of synapses, which form the junctions between nerve cells and operate like switches, allowing signals to be transmitted.

Aberrant synapse behaviour is linked to most psychiatric and neurological diseases, such as Alzheimer's, Huntington's, Parkinson's, epilepsy and schizophrenia.

"Changes in synaptic transmissions have been implicated in all these diseases," Murphy said. "We hope to gain a

better understanding of how normal synapses function and then take that knowledge and apply it to pathological situations."

Murphy and his team have pioneered imaging techniques that allow them to optically observe and evaluate the behaviour of individual synapses.

He said the key to their success was to focus on the role of calcium, which is used by both the sending and receiving cells in the process of transmission. The calcium action is slower than other synapse processes and is also localized, so its movement through a synapse can be more easily followed.

The researchers inject fluorescent calcium-sensitive dyes into a single nerve cell, or neuron, to mark the sites of calcium influx into synapses.

Then it is viewed with a CCD camera, a highly sensitive instrument that videotapes synapse activity in real time. The technology is similar to the night-vision viewers used by troops in Operation Desert Storm.

The next step in Murphy's research is to relate synapse activity to structure. Some synapses are much more active than others and they differ in size and other ways.

Even though a synapse is just one micron (one-millionth of a metre) across, researchers can slice it into 50 small sections using a diamond knife for observation under an electron microscope.

Murphy said the grant from the EJLB Foundation will be used to purchase equipment and supplies and hire post doctoral fellows.



UBC United Way campaign Chair Bob Philip presents draw winner Assoc. Prof. David Cohen from the Faculty of Forestry with two Air Canada tickets to any North American destination. The UBC campaign raised \$274,000.

UBC U-Way campaign total tops previous year

The UBC United Way campaign surpassed last year's total by \$14,000 but still fell short of the campaign goal of \$300,000.

The campaign, which wrapped up in December, brought in \$274,000 for the United Way of the Lower Mainland.

Campaign Chair Bob Philip, director of Athletics and Sport Services, said that although the campaign succeeded in bringing in more than the previous year, events such as Open House in October may have slowed the campaign from the outset.

"Given that Open House required a lot of time and energy from many people in the campus community, the fact that we managed to beat the previous year's total was quite an accomplishment," he said. Claudia Steeves, United Way's educa-

tional division campaign co-ordinator, said the United Way campaign for the Lower Mainland region achieved an eight-per cent increase over last year, surpassing its goal with a campaign total of \$20.8 million.

UBC ranks among the top five Lower Mainland contributors to the United Way's campaign.

United Way of the Lower Mainland is a volunteer-led, registered charitable organization that focuses on needs in the Lower Mainland. Last year, 500,000 people received assistance from community services.

Forestry Assoc. Prof. David Cohen won the United Way draw for two Air Canada tickets to any North American destination. The tickets were provided by UBC Athletics and Sport Services.

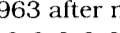
News Digest

The annual William G. Black Memorial Prize has been awarded to second-year law student Peter Laframboise.

The \$1,600 prize is given to the student who writes the best essay in a two-hour competition. About 50 students took part this year.

The topic relates to some aspect of Canadian citizenship. This year it was "In Canada, is social welfare a moral obligation, a civil right or a requirement of social order?"

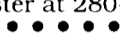
William Black (BA '22), after whom the prize is named, retired as a UBC faculty member in 1963 after many years of service.



The School of Music presents the seventh annual UBC at the Orpheum concert Mar. 17 featuring Fauré's *Requiem*, Stravinsky's *Symphony of Psalms* and Sparke's *Year of the Dragon*.

The University Singers, the UBC Choral Union, UBC Symphony Orchestra and the UBC Wind Ensemble will perform. Guest soloists are soprano Nancy Hermiston and baritone Gary Relyea.

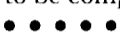
Diane Loomer and Martin Berinbaum will conduct. The concert begins at 7:30 p.m. Tickets are \$12 for adults and \$5 for students and seniors. Call Ticketmaster at 280-3311.



Construction has begun on the Forest Sciences Centre, a \$47-million facility that will provide classrooms, laboratories and office space for the Faculty of Forestry.

The centre is located at the southeast corner of Main Mall and Agronomy Road, between the CICS/Computer Science building and Thunderbird Residence. General contractor for the project is Swagger Construction Ltd. of Abbotsford.

Construction is expected to be completed in the spring of 1997.



A development application has been received for the second phase of the Journalism/Creative Arts complex on West Mall.

This phase consists of a 5,000-square-metre building constructed immediately south of and connected to the previously approved first phase, a 1,200-square-metre School of Journalism at the corner of West Mall and Crescent Road.

The new building will front on West Mall and will house studios and teaching space. It will be three storeys high along West Mall, rising to four storeys along the service lane to the east.

For more information, call Campus Planning and Development at 822-8228.

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 March 21, 1996 issue of UBC Reports is noon, March 12.

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Campus Planning and Development is pleased to announce the appointment of **Kathleen Beaumont** to the position of Associate Director, Capital Programs.

Ms. Beaumont joined the University in 1986 as an analyst in Budget and Planning and has been extensively involved in facilities planning with Campus Planning and Development since 1989. Her responsibilities will include strategic planning of the major and minor capital programs for the university along with long range facilities master planning (faculty master plans).

T-bird notes

by Don Wells
Thunderbird Athletics



Swimmers go for gold

UBC assistant swim coach **Randy Bennett** rests his elbows on the railing overlooking the competition pool at the University of Guelph and stares intently at the eight swimmers on the start platforms at the opposite end. It is the very last event of the CIAU Championship meet, the men's 400 metre medley relay, and for the first time over the course of the three-day competition, Bennett's normal affable expression is replaced by signs of genuine tension.

The UBC women's team has already breezed to its third consecutive national championship, but the men need a win in this event, coupled by a result of no better than fifth place by the Calgary team, in order to claim their title.

It sounds like a long shot to most observers, but Bennett and head coach **Tom Johnson** both know that Calgary's team is tired. Their four relay swimmers have all competed in several individual races and will have to dig deep to hang on to first place against a UBC team that is ever so close to snatching the CIAU Championship which has eluded it for 31 years. Calgary, the team which has produced an abundance of Olympians, including gold medalist **Mark Tewksbury**, is the defending CIAU champion and has captured that same

title in 10 of the last 14 years. UBC has never had a better chance. Not only does it have the opportunity to finally claim national supremacy, but a good result in this final event means that it will have accomplished something that has only been done twice in the history of Canadian university sport—national championship wins for both men and women in the same sport, in the same year.

The competition started friendly enough. Swimmers have a certain camaraderie with not only their teammates, but with members of other teams. Nobody complained when the UBC kids, all 24 of them, took up positions in the start area before the meet began and entertained the crowd with a series of choreographed T-Bird style cheers and chants. Their competitors laughed when they were told that the water which fifth year member **John McArthur** sprayed from a squeeze bottle into the pool had been brought from English Bay and was intended to aid UBC in their effort to claim dual championships.

But as the men's 400 metre medley relay was set to begin, nobody was laughing. Instead, they shouted, banged paddle boards on the pool deck, clanged drum sticks on cow bells and generally filled the air with ear-splitting cacophony. To be sure, this was one of those rare, wonderful and dramatic moments in sport.

The crowd fell silent in deference to the start referee's signal. "On your marks..." came the signal for the last time, then the start buzzer and

the deafening peals of encouragement began again as the pool instantly turned to froth by the pounding of eight sets of highly tuned limbs.

Just under four minutes later, the race, and the CIAU Championships were over. As required, the exhausted Calgary team finished fifth. UBC? A heart-breaking fourth, a scant second behind the winner McMaster. 1.02 seconds to be exact. 1.03 shy of a national championship.

Calgary rejoiced for the eleventh time. Johnson and Bennett appeared only slightly disappointed. In seconds, they are laughing and shaking hands with fellow coaches. After all, it had been a classic meet and they came knowing that Calgary is always the team to beat. They are proud their athletes came that close. They also know that soon, maybe even next year, they will win.

Even the announcement minutes later that Tom Johnson had been awarded Women's Coach of the Year does not bring any more joy to his visage. It's the performance of his athletes, men and women, which bring him fulfilment, and with it, the energy to continue the feverish pace leading up to the Olympic trials in just four weeks.

And when the Olympic Pool in Atlanta is filled with the same exuberance that is traditional in the world of elite swim competition, Johnson and two or three of his top T-Bird swimmers will be there too—gunning for gold for Canada. And for UBC.

People

by staff writers

Two graduate students in UBC's Dept. of Curriculum Studies have been awarded the Prime Minister's Award for Teaching Excellence in Science, Technology and Mathematics.

Aubry Farenholtz and **Gordon Spann** each received a Bachelor of Science degree and completed the teacher education program at UBC.

They are currently teaching physics at Langley's D.W. Poppy and H.D. Stafford secondary schools respectively, and are enrolled in part-time studies in the Faculty of Education.

Farenholtz is working toward a Master of Arts degree and Spann is enrolled in the Master of Education program.

The \$7,000 cash award recognizes their unique and progressive work in the use of computers and multimedia in physics instruction.

Since 1992, Farenholtz and Spann have been collaborating with UBC's Technology Enhanced Secondary Science Institution (TESSI) Project, led by Prof. Janice Woodrow.

They have been applying the materials and approach developed in TESSI, transforming their physics classrooms into what many educational scholars are considering the most innovative and comprehensive technology-enhanced science instruction program ever applied in a Canadian classroom.

Farenholtz and Spann were presented with the award in Ottawa last month.



Stephen Forgacs photo

Forestry students and marathon runners **John Davies** and **Ellen Simmons** will run the Boston Marathon in between writing their exams in April.

Students set sights on Boston marathon

by Stephen Forgacs

Staff writer

As the final exam period approaches, two UBC forestry students are taking the idea of pacing themselves to an extreme.

John Davies, who is completing second year, and Ellen Simmons, who'll graduate in May, will take a brief break between exams to compete in the Boston Marathon, April 15.

They recently met each other through a mutual acquaintance in the faculty and have since teamed up to seek support for their efforts from the campus community.

UBC Athletics and Sport Services is contributing funds to cover two-thirds of the cost of their flights to Boston, and the pair—who will run in outfits identifying UBC—are still hoping to return from Boston debt free.

Davies started running competitively recently after being fitted with orthotics (corrective insoles) to prevent a recurring knee problem. He qualified for Boston by completing the Victoria Marathon, Oct. 18, in 3:03.

Simmons, a long-time runner, has run six marathons and also qualified for Boston in Victoria with a time of 3:34.

Although both students are excited at the prospect of racing in such a prestigious event, neither is after anything more than simply the experience of participating.

"From what I've read about the race, the best idea seems to be to just go and have fun, because there are too many people to try to have a personal best," Davies said.

This year marks the 100th anniversary of the Boston Marathon and organizers expect about 20,000 entrants.

"It'll probably take about half an hour to get to the start line," said Simmons.

Simmons and Davies are not surprised that, as forestry students they are competing in Boston. Forestry students, they said, tend to be involved in outdoor activities and often have summer jobs that require physical exertion.

"There's a certain level of fitness you need to pursue a career in forestry," said Simmons, a veteran of four seasons planting trees.

Davies, who spends his summers fighting B.C. forest fires with the elite Rapattack fire-fighting crews—they rappel from helicopters into fire zones—said the summer of fitness training and hard work prepared him for last fall's Victoria Marathon.

"I'm probably training less now because I know it's going to be such a harsh race due to the number of runners. I'd be surprised if I do it in under four hours," he said.

Anyone interested in supporting the runners' efforts can contact Davies at 222-9084.



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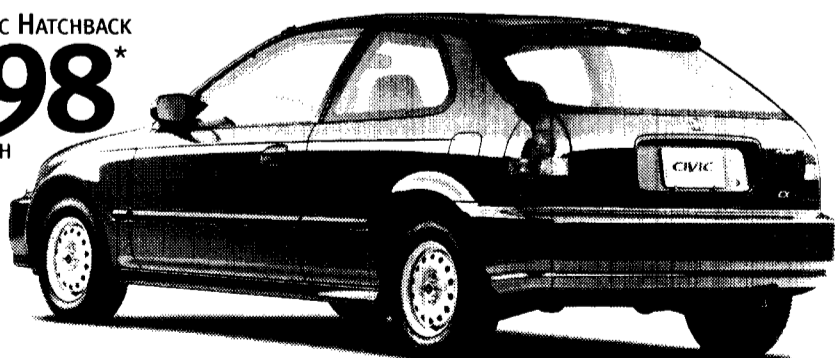
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Profile

Doctor to the down and out

Reducing the harm counts as success, says Dr. Jim Thorsteinson



Gravin Wilson photo

Making house calls in the city's downtown eastside, Dr. Jim Thorsteinson focuses on helping hotel and rooming house residents live the best they can in their circumstances. Thorsteinson also helped create the Downtown South Community Health Centre which serves the health needs of residents of Granville Street.

by Gavin Wilson

Staff writer

"I gotta go to court. Is now a good time?"

The ragged figure stands in the doorway of the makeshift health clinic on Vancouver's downtown eastside. He looks dazed. Dilated pupils stare out from a face framed by a wet tangle of hair.

"Is he ever wired," one of the nurses says to no one in particular.

The patient, Wes, is typical of those that Dr. Jim Thorsteinson will see today.

Thorsteinson, an assistant professor of Family Practice based at St. Paul's Hospital, has made a career out of providing medical care for society's marginalized and forgotten people.

Here in one of Canada's poorest and most notorious neighbourhoods, he makes house calls, treating people whose only other contact with the health care system would likely be in the back of an ambulance.

When his administrative duties as chair of Family and Community Medicine allow, Thorsteinson acts as a roving doctor for the Downtown Community Health Centre on Cordova Street.

Alerted by home care nurses or others to someone in need of medical attention, Thorsteinson knocks on doors of rooming houses and rundown hotels asking to see patients.

Not all of his house calls go smoothly. Sometimes patients don't want to see him and even when they do, they most often suffer from chronic ailments such

as lung cancer, heart disease, chest infections and mental illness.

"It's tough, sometimes," Thorsteinson admits, "but you have to see where you can take the reward out of these situations.

"If your task is to rescue people or do something that is impossible and you won't be satisfied with anything less, then, yeah, you'll burn out.

"But if your task is to get them living the best you can in this context, and if you can do that, then you've achieved some level of success."

Thorsteinson also treats patients at the Portland and Jubilee hotels, both social housing facilities.

Most of the residents of the Portland, where he is today, are what he calls the "hard-to-house"—transient injection drug users and alcoholics who often run afoul of the law. Many have mental health problems and HIV or AIDS-related illnesses.

Run by the Downtown Eastside Residents Association, the hotel provides a stable home, nutritious meals and twice-weekly visits from community health nurses. Thorsteinson and the nurses will see half a dozen Portland residents this morning.

Wes rolls up his sleeves, revealing thin, emaciated arms covered in scars and scabs.

He's been shooting pyribenzamine, an over-the-counter antihistamine that is a cheap high, but results in nasty skin infections. That's especially true for those with immune systems compromised by HIV or AIDS.

The nurses pull swabs, dressings and antibiotic creams out of their portable dispensary—a shopping bag

and cardboard box—and start cleaning him up.

When they finish, they give him two tetra packs of a high-nutrition drink and send him off to court.

He'll be back. Many of Thorsteinson's patients forget to take their medication, have substance abuse problems and generally neglect their health. Wes, for example, was in the hospital with pneumonia just a few days ago.

"The majority of the people we see are not thinking too clearly. How can you blame them for that?" Thorsteinson asks.

"After all, we don't know what their background is or what they've gone through in their lives. Most of them have lost touch with their families in a very significant way."

Thorsteinson believes in taking an approach of harm reduction—providing clean needles, even advising patients where to inject drugs without creating further complications.

"We can't stop them from injecting, but we can help minimize the consequences," he says.

A Manitoba native, Thorsteinson went to McGill for his undergraduate degree and then did his MD at the University of Manitoba. After graduating from the Family Practice Residency program, he joined the U of M faculty and became residency director for the Dept. of Family Medicine.

There he helped set up a program that provided medical service to First Nations people living in remote, poverty-stricken villages on the east shore of Lake Winnipeg.

The villages had poor medical service partly because doctors would not stay long in such isolated villages.

Thorsteinson saw an opportunity to improve villagers' health care while providing hospital residents with good experience.

Every three weeks he accompanied the residents as they visited the villages by whatever means they could: float plane, boat, even skis.

"We treated all kinds of pathologies, a lot of obstetrics, heart disease, rheumatic fever, grand mal seizures. We got the kind of clinical experience we never would in a city practice.

"And there's a more immediate reward to your work if the problems are more acute—they need your help."

As Thorsteinson wheels his van through traffic on East Hastings, he points out the site of the new Portland Hotel, which, as a member of the board of directors, he helped instigate.

The \$5.4-million building will be a huge improvement on the current hotel, where the heating and plumbing are constantly breaking down, there is no kitchen and only two showers for 75 people.

Thorsteinson was also involved in the creation of the Downtown South Community Health Centre on Seymour Street, which opened last autumn.

It offers a full range of medical and mental health services to the Granville Street population of transient youth, street people and elderly single men living in low-cost hotels.

He estimates that a full third of the area's 8,500 people could potentially benefit from its services.

Thorsteinson would be the first to admit that initiatives like this are not going to change the world, but it will make a difference. And that, he will tell you, counts as a success.