

UBC REPORTS

Volume 40, Number 18

November 3, 1994



Leaving Summer Behind Gavin Wilson photo

Students walk across a blanket of leaves covering the ground in front of Frederic Wood Theatre. Wind and heavy rain may have pulled the leaves from the trees a little faster than usual, but the weather hasn't diminished the beauty of autumn on campus.

Researcher named to new physics chair

by Gavin Wilson

Staff writer

Lorne Whitehead, a successful academic and industrial researcher best known as the inventor of Light Pipe, has been named to the newly created NSERC/3M Structured Surface Physics Chair in the Dept. of Physics at UBC.

The chair will have a budget of \$1.1 million during its initial five years, with funding provided by the Natural Sciences and Engineering Research Council of Canada (NSERC) and 3M Canada Inc. Whitehead will conduct fundamental and applied research into micro-structured surfaces, which have unusual properties such as the ability to reduce wind resistance or conduct light.

Light Pipe is a technology that allows light wave transmission over long distances with little loss of intensity. Applications include sign illumination, high-lighting building features such as the spires of the Wall Centre in downtown

Vancouver and lighting areas that are difficult to reach or where explosives are stored.

Whitehead's research in the Physics Dept. is expected to generate discoveries of mutual interest to 3M and UBC and may result in new 3M products. These could range from high-performance abrasives to novel transducers that could be laminated onto aircraft wings and then energized to produce acoustic vibrations that would improve the efficiency of air flow over the wings.

Both UBC and 3M have previously made advances in micro-replicated surface technology and the two already have an active patent licence agreement in the area of light guiding materials, a technology used in Light Pipe. Whitehead has a solid track record in structured surface physics and has built strong ties with 3M. He is the inventor of several structured surface optics patents licensed to the company.

Whitehead also brings a firsthand

See **PHYSICS**, Page 4



Lorne Whitehead

Wood products engineering

UBC wins bid for unique program

by Abe Heffer

Staff writer

UBC has been selected to implement an innovative undergraduate program in wood products engineering, the first of its kind in North America.

The program, to be housed in the Centre for Advanced Wood Products Processing in the new Pacific Forest Sciences Centre, will help the wood processing industry meet its current need for more than 2,000 wood processing engineers.

"With this new program, UBC will lead the way in university-based education in wood products," said Forestry Dean Clark Binkley.

"It is representative of the revision currently under way in the Dept. of Wood Science undergraduate program and a radical departure from not only our own past programs, but from others currently available in North America," he said.

Wood Science Dept. Head David Barrett hopes to accept the first wood products engineering students in September of 1995.

"The program, which will be developed by the faculties of Forestry and Applied Science, will graduate approximately 50 wood products engineering graduates per year," said Barrett.

In selecting UBC over five other bids from universities across the country, the industry-led National

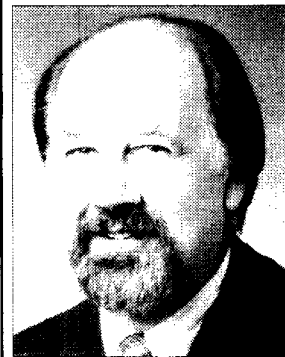
Education Initiative Board cited UBC's close ties with Canada's wood manufacturers and processors as a key factor in the selection process.

"We collaborated with representatives of the wood processing industry to ensure that the program met their knowledge and skills needs," said Barrett. "We were also involved with high schools, colleges and technical institutes to help them link their academic programs in support of this initiative."

Barrett said university engineering graduates often lack wood science and business skills. Those with a background in wood science may come up short in the engineering area.

"This program will combine the best of both academic worlds," he said.

In the past, Canadian wood processing manufacturers travelled the globe to find the people who could bring the right mix of skills to the job. Their number one destination: Germany, and the Rosenheim Institute, home to one of Europe's top wood processing engineering programs.



David Barrett

During the past five years, approximately 150 Rosenheim students have done their internships in Canada. Some have remained here. Barrett would like to see these internships and subsequent jobs filled, at least in part, by UBC students in the near future.

"This combination of academic education and practical experience will enable students to make a smooth and effective transition from university to work place."

- David Barrett

"The UBC program will include 16 months of industry-related work experience. This combination of academic education and practical experience will enable students to make a smooth and effective transition from university to work place."

The students' initial hands-on experience will take place at the centre's Advanced Wood Products

Processing Laboratory, a 2,700-square-metre pilot wood processing plant. The laboratory will also be used for continuing education programs and industry-led training initiatives.

"New funding and facilities are required to start this program," said Barrett.

"UBC is now working with industry, the federal and provincial governments, and other agencies to develop a funding partnership for the education programs and the new Advanced Wood Products Processing Laboratory."

Faculty offers Diploma in Silviculture. See Page 3

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Letters

Traffic change isn't out of blue

Editor:

Professor Anthony Dawson deserves thanks for his input on our efforts to improve the environment for both pedestrians and traffic across campus. However his letter (*UBC Reports*, Oct. 20) judges one issue in isolation of the bigger picture and a number of points require clarification.

The approved 1992 Main Campus Plan establishes principles and strategies for growth, development and management of the main academic campus. Prior to the approval of this plan, a three-year process provided a forum for the university community to comment and provide input. The Main Campus Plan was ratified by the Board of Gover-

nors on Sept. 17, 1992.

Both Strategy 18: Pedestrians, and Strategy 21: Vehicular Movement in the approved Main Campus Plan address the recent traffic improvements. The strategies set out revisions to the road system to enhance vehicle access while also enhancing pedestrian movement and safety. In the past the road system included unpoliced and uncontrolled dead-end roadways, complicated intersections and some pedestrian paths separate from roadways. This created confusion for all pedestrians and vehicles, long circuitous routes around campus, compromised safety, and a pedestrian zone largely abused by unauthorized vehicle traffic.

The improved road system now in effect provides a ring road around the campus that clearly defines the campus centre, and designates the area

between East and West malls as a pedestrian zone. This zone is accessed only by emergency and safety vehicles, providing an efficient and functioning system for both pedestrians and vehicles. Traffic control measures on East and West malls, such as speed button strips, work in conjunction with posted 30 kmh speed signage, stop signs and pedestrian crosswalks. Installation of speed bumps was avoided so as not to reduce emergency vehicle response time, and to eliminate the potential for vehicle damage and loss of control. A study undertaken prior to the installation of speed controlling measures revealed average speeds of 44 kmh; recent results showed speeds considerably lower at 32 kmh.

Kathleen Laird-Burns
Information Officer
Campus Planning
& Development

Policy sets fair standard

Editor:

I would like to offer my compliments on the inclusion of the "reasonable person" standard in the Draft Policy on Discrimination and Harassment (*UBC Reports*, Oct. 6). This policy will go a long way

toward countering frivolous or vindictive charges that might be leveled against a member of the university community.

To see how this might work, suppose that a female student brings charges that statements made in class were sexually harassing or discriminatory in her view. Since the other females in the same class could be defined as reasonable

persons of similar background to the complainant, the appropriate test for harassment would then involve a poll or survey of the remaining female students in the class as to whether they felt similarly.

If, for argument's sake, 80 per cent of the remaining women felt that the comments were not harassing or discriminatory, the charges should then be dropped since the majority of reasonable people exposed to the situation which incited the complaint did not find harassment or discrimination in the cited act.

Obviously, if the results go in the other direction this would be credible evidence that the remarks were offensive and should be dealt with under the regulations. I assume that this was the intent of this part of the policy and I compliment those who devised it since it will allow a more objective measure of harassment and discrimination in the classroom.

Stanley Coren, Professor
Dept. of Psychology

Aquatic Centre houses hazard

Editor:

The Aquatic Centre suffers from two surprising design flaws. One is silly, non-threatening, and impossibly expensive to fix. The other is significant, poses dangers to centre users, and could be set right with minimal cost.

The first design flaw:
1) the fitness facility, in the basement of the Aquatic Centre, is a "dry" area; signs forbid one to use the exercise machines if one is wet
2) to get from the change rooms to the fitness area, one must first pass through the

shower room
3) the showers are usually running
4) the problem is obvious and not easily fixed, but not all that significant either.

The second design flaw:
1) the staircase leading down to the fitness area is often wet and dangerously slippery
2) the staircase leading down to the fitness area is only partially furnished with a hand rail, even though common sense and all the texts on staircase design mandate full hand rails
3) providing the missing hand rail sections would cost very little.

Michael Feld
Dept. of Philosophy

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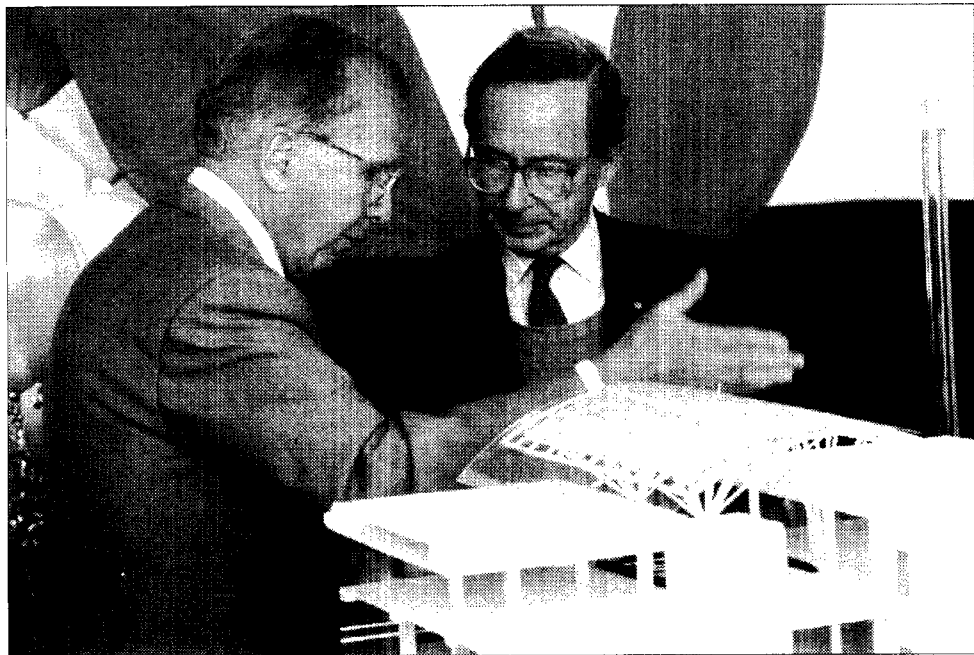
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John Chong photo

A Ground-Breaking Library

Architect Arthur Erickson (left) and Michael Koerner look over the scale model of the Walter C. Koerner Library following a ground-breaking ceremony on Oct. 15. The ceremony was held at the library's proposed site, on the west side of the Main Mall facing the Main Library. Other dignitaries on hand for the event included Mayor Philip Owen; Darlene Marzari, minister of municipal affairs; Ted McWhinney, member of parliament for Vancouver Quadra; University Librarian Ruth Patrick; K.D. Srivastava, vice-president, Student and Academic Services; President David Strangway and Chancellor Bob Lee, who presided over the ceremony.

Diploma program allows foresters to improve skills

by Abe Heffer

Staff writer

Ties between the Faculty of Forestry and registered professional foresters across B.C. have been strengthened with the establishment of a Diploma in Forestry (Advanced Silviculture) at UBC.

Since 1985, the Silviculture Institute of British Columbia (SIBC) has been offering professional foresters an opportunity to upgrade their knowledge and skills following completion of their formal education. By granting the program diploma status, UBC and SIBC formally recognize the program's academic value, the achievement of the students who successfully complete it, and the contributions made by UBC Forestry faculty.

"SIBC has been built on a foundation of volunteer efforts, and UBC Forestry faculty have been instrumental in the success of both the institute and the silviculture diploma program," said SIBC Executive Director Candace Laird.

"Their efforts as instructors, curriculum committee members and on the board of directors have enabled foresters to learn about the latest research results, products, techniques and technology."



Candace Laird

The three-year program is open to registered professional foresters with the Association of B.C. Professional Foresters who have a minimum of five years of work experience in forest management. The course work focuses on developing and refining the students' capabilities in making sound silviculture decisions.

Students take part in two, two-week modules a year, over a three-year period. The 1994-95 program includes modules in basic silviculture principles, regeneration, forest and stand development, silvicultural planning and practices, forest analysis and silviculture prescription. Modules are held in Prince George, Surrey and Mesachie Lake on Vancouver Island.

Kelly Powell, woods manager at Weldwood of Canada Ltd.'s 100 Mile House operations, says the vigorous program has helped him immensely.

"Absolutely. The program has helped me update my skills and has been a great learning experience," said Powell, who has completed four of the six modules.

"The up-to-date information provided by faculty members could be of help to a wide range of forestry professionals. It's an awfully good program."

Speakers recall Holocaust

by Abe Heffer

Staff writer

Leading Holocaust Historian Yehuda Bauer will be the keynote speaker during Holocaust Awareness Week, Nov. 7-10, at UBC.

Bauer, head of the Division of Holocaust Studies at the Institute of Contemporary Jewry in Jerusalem, will speak on The Holocaust - Reality in the Age of Denial, 12:30 p.m., Nov. 7 at Woodward IRC lecture hall 1.

The rest of the week will feature a series of discussion groups at Hillel House, beginning at 12:30 p.m.

Hot lunch at Hillel House on Nov. 8 will be followed by a discussion by UBC Asian Studies Prof. Rene Goldman, who will relate his experience as a hidden child during the Holocaust.

On Nov. 9, students from the UBC

Jewish Students Association who participated in the March of the Living to Poland will lead a discussion group.

On Nov. 10, Holocaust survivor Bronia Sonnenschein will discuss issues of faith, during and after the Holocaust.

Holocaust Awareness Week will commemorate Kristallnacht, when Nazi groups rampaged through German cities destroying Jewish property.

It will also feature a display at the Student Union Building, focusing on the experiences of the children of the Holocaust.

The display, which will include a historical overview of the Holocaust and specific stories of children, as well as artwork, poetry, and a continuous video, will be exhibited Nov. 9-10.

For further details on Holocaust Awareness Week at UBC, call Hillel House at 224-4748.

Amniocentesis shows no ill effects: study

by Connie Filletti

Staff writer

The children of women who undergo amniocentesis during pregnancy do not experience long-term, adverse effects as a result of the procedure, a team of UBC researchers has found.

"The results of this study should be reassuring to women having amniocentesis and be useful to women making decisions about having this procedure," said Dr. Patricia Baird, a professor of Medical Genetics and principal investigator of the study.

Amniocentesis involves the use of a needle and syringe to remove amniotic fluid from the amniotic sac which surrounds the fetus. The material is then studied for genetic and biochemical disorders.

Immediate trauma to the fetus or loss of the fetus may occur in a very small percentage of cases, Baird said.

In Canada each year, more than 15,000 pregnant women, or one in every 26, have amniocentesis which is usually performed at 14 to 15 weeks gestation.

The focus of the study was to determine if there are more subtle, long-term consequences of performing the test for the child's functioning or health.

Baird and co-investigators Irene Yee, a statistical analysis researcher in the Dept. of Medical Genetics and Dr. Dessa Sadovnick, an assistant professor of Medical Genetics, studied 1,296 children

whose mothers had amniocentesis. They were compared to a matched control group of 3,704 children whose mothers did not have the procedure.

Subjects were identified through B.C.'s Health Surveillance Registry and their medical histories followed for at least seven years and up to 18 years.

The study indicates that the offspring of women who had amniocentesis were no more likely than the control group to have a registrable disability, for example,

learning difficulties, visual problems or limb anomalies during childhood and adolescence.

The disorder which did occur at a significantly higher rate was ABO ISO immunization — an anemia caused by a mother's immune reaction against a baby's blood group — in babies of mothers with incompatible blood groups, Baird said.

She added that it is usually mild and is potentially preventable by giving immunoglobulin at the time of the procedure.

"Since so many thousands of women now have amniocentesis during pregnancy, it is important to know if children born after this procedure experience any disabilities, especially ones that may emerge later during childhood or adolescence," Baird said.

"The information is needed by women assessing the risks and benefits when deciding whether to have the test."

The study was published recently in the British medical journal *Lancet*.



Patricia Baird



Martin Dee photo

Funding Fellowship

Forest Sciences Dept. Head Gene Namkoong (centre) presents a cheque for \$110,000 to UBC President David Strangway to help establish a graduate fellowship in the area of forest conservation biology. Namkoong's contribution came from the \$180,000 he was awarded as the recipient of the Marcus Wallenberg Prize for scientific research in forestry. Funding for the fellowship also included \$95,000 from the provincial Forest Service. Forests Minister Andrew Petter (second from right) was on hand to present the cheque to UBC on behalf of the province. Also on hand for the ceremony were Carol Namkoong and Dean of Forestry Clark Binkley.

Vogtfest celebrates retirement

Vogtfest 1994, a scientific symposium to mark the 65th birthday and retirement of former Triumph Director Erich Vogt, will be held on Sunday, Dec. 4 at Hebb Theatre in the Dept. of Physics.

The symposium includes a free public lecture by Sir Denys Wilkinson, retired head of Physics at Oxford University and a world-renowned nuclear physicist. The lecture takes place at 3 p.m.

Vogt was associated with Triumph from its beginning and was its director for more than 10 years. He was also a faculty member in UBC's Physics Dept. for almost 30 years and served as a vice-president of the university.

The full program, which includes registration and dinner, is \$50. For more information, call Elly Driessen at 222-1047, fax at 222-1074 or e-mail to vogtfest@triumf.ca.

Hall Of Famers

Rower Tricia Smith and wheelchair athlete Rick Hansen were among the 11 athletes, four builders and one team that were inducted into UBC's Athletic Hall of Fame Oct. 14. The Hall of Fame, which had 23 inaugural inductees in 1993, honours the outstanding athletes, builders and teams that have enriched almost 80 years of UBC athletics history.

Steve Chan photo



Proposed social security reform examined at forum

The federal government's contentious proposals to reform the Canadian social security system are the topics of a Nov. 12 forum sponsored by UBC Continuing Studies and the Centre for Research on Economic and Social Policy.

Panels of UBC faculty members and invited experts will discuss Minister for Human Resources Lloyd Axworthy's policy paper, which has implications for every person in Canada.

Among the issues addressed by the policy paper are child poverty, the working poor, welfare, unemployment insurance, job training, the financing of post-secondary education and the possible reform of the Canada Assistance Plan.

The keynote speaker will be

Hedy Fry, MP for Vancouver Centre and a member of the task force that drafted the proposals.

The panel on Income Assistance, Child Benefits, Family Policy will include Alice Nakamura, Faculty of Business, University of Alberta; Jon Kesselman, Centre for Research in Economic and Social Policy, Dept. of Economics, UBC; and Michael Goldberg, Social Planning and Research Council.

The panel on Unemployment Insurance, Labour Market Policy will include David Green, Dept. of Economics, UBC; John Richards, Faculty of Business Administration, SFU; and Craig

Riddell, Dept. of Economics, UBC.

On the panel on Post-Secondary Education, Adult Training will be Kjell Rubenson, UBC Centre for Policy Studies in Education, Nakamura and Kesselman.

Speaking on Federal/Provincial Relations and their Impact on the Process will be Alex Netherton, Political Science Dept., UBC.

The forum, called Social Security Reform: Where is it Going?, will be held on Saturday, Nov. 12, from 9:30 a.m. to 1 p.m. in room 101, Curtis Law Building.

THE UNIVERSITY OF BRITISH COLUMBIA

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Woodward IRC, Hall 6

Symbiogenesis and Species Origins

Tuesday, November 8 at 4:30 PM Seminar
Woodward IRC, Hall 6

Power to the Protoctists, Our Ancestors

Thursday, November 10 at 12:30 PM
Woodward IRC, Hall 2

GAIA: The Living Earth from Space

Saturday, November 12 at 8:15 PM The Vancouver Institute
Woodward IRC, Hall 2

Sir Martin Rees

*Royal Society Research Professor of Astronomy
Cambridge University*

Galactic Nuclei and Supermassive Black Holes

Monday, November 14 at 4:00 PM Seminar
Geophysics and Astronomy Building, Room 260

How Much Cosmology Should You Really Believe?

Wednesday, November 16 at 12:30 PM
Hennings Building, Room 200

Dark Matter: How Much, Where and What?

Thursday, November 17 at 4:00 PM Seminar
Hennings Building, Room 200

Our Universe and Others

Saturday, November 19 at 8:15 PM The Vancouver Institute
Woodward IRC, Hall 2



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Applications and nominations are invited for the position of Director of the newly approved Institute for Hearing Accessibility Research (IHEAR). The Institute has been formed to foster research into hearing accessibility, i.e. to optimize the effectiveness of the hearing functioning of people in every day life. The Institute will serve as a focus for seminars, graduate level activities, workshops and conferences of interest to the University and the wider community.

The successful candidate will be a scholar of high standing with demonstrated commitment to research and teaching in hearing accessibility or a closely related area. He/she must also have administrative ability, a proven record in obtaining research grants and/or other funds and a capacity to work with scholars from a wide variety of disciplines to encourage interdisciplinary research involving such areas as audiology, acoustics, social issues of hearing, and health promotion. The Director must be able to promote linkages to those with hearing loss and those concerned with community-related issues of hearing. It is expected that the Director will devote considerable attention to finding resources to ensure the financial viability of, and broad participation in, the Institute. Only candidates internal to UBC who are tenured faculty members will be considered. The appointment as Director will be for a period of five years. An administrative stipend will be available.

Applicants should send a letter describing their interest in the position. A curriculum vitae and names and addresses of at least three references should be sent to Dr. John Grace, Dean, Faculty of Graduate Studies, GSAB, Zone 1. Nominations should be sent to the same address. The deadline for applications and nominations is Nov. 30, 1994. It is expected that the appointment will begin between January 1, 1995 and July 1, 1995.

Applications are welcomed from all qualified candidates, especially women, aboriginal people, visible minorities and persons with disabilities.

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Edward M. Peters
*Henry Charles Lea Professor of History
University of Pennsylvania*

Friday, November 18, 1994
at 12:30 PM in Buchanan A-202
The University of British Columbia

Physics

Continued from Page 1

knowledge of technology transfer in the local and international business community as the founder of TIR Systems Ltd., a UBC spin-off company specializing in Light Pipe manufacturing.

A PhD graduate of UBC's Dept. of Physics, Whitehead has maintained a productive relationship with his colleagues in the department as an adjunct professor.

Created with the help of UBC's University-Industry Liaison Office, the chair is part of NSERC's Industrial Research Chair program. Under the program, NSERC and an industrial partner, in this case 3M, jointly fund a research chair in a field that presents a unique industrial opportunity and responds to industrial needs.

With more than 2,000 employees and sales of \$648 million, 3M Canada is the sixth largest subsidiary of the 3M corporation, headquartered in St. Paul, Minnesota.

3M operates in 57 countries, has sales of more than \$14 billion and manufactures and markets more than 60,000 products — from Scotch Tape to the friction reducing film used on the hull of racing yacht America I.

NSERC is Canada's largest research granting agency, investing about \$500 million each year in advanced research, the training of new scientists and engineers, and collaboration between the academic and industrial sectors.



THE UNIVERSITY OF BRITISH COLUMBIA

UBC WASTE REDUCTION PROGRAM

1993/94 Annual Report - Department of Plant Operations

1.0 INTRODUCTION

The U.B.C. Waste Reduction Program was created in 1991 within the Department of Plant Operations. The role of the Program is to investigate, coordinate, advocate and promote waste reduction, reuse and recycling activities at the University of British Columbia. The Waste Reduction Program currently runs a campus-wide paper and cardboard recycling operation, coordinates multi-material recycling activities in student residences and most importantly provides education, information and advice on waste reduction to the campus community.

The people behind the Waste Reduction Program are:

- John Metras - Waste Reduction Coordinator
- Mary Jean O'Donnell - Operations Coordinator
- Bernard Dick, Kenneth Durrer, Albert Segar - Recycling Crew

This document is the second annual report on the activities of the U.B.C. Waste Reduction Program. It is intended to provide a summary of waste reduction progress at U.B.C. for the benefit of interested students, faculty, staff and residents, as well as for interested members of the public community which the University of British Columbia serves. Information contained in this report covers the fiscal year from April 1, 1993 to March 31, 1994.

2.0 WASTE REDUCTION PROGRAM MISSION & GOALS

Mission Statement

The U.B.C. Waste Reduction Program is committed to effecting the maximum possible reduction in solid waste at the University of British Columbia and in doing so to contributing to the creation of an ecologically sustainable campus community. To realize this objective the Program will strive to encourage positive attitudes towards waste reduction and resource conservation and to provide the means, through waste reduction, reuse and recycling (3 Rs) programs, by which these attitudes can be turned into action.

Goals

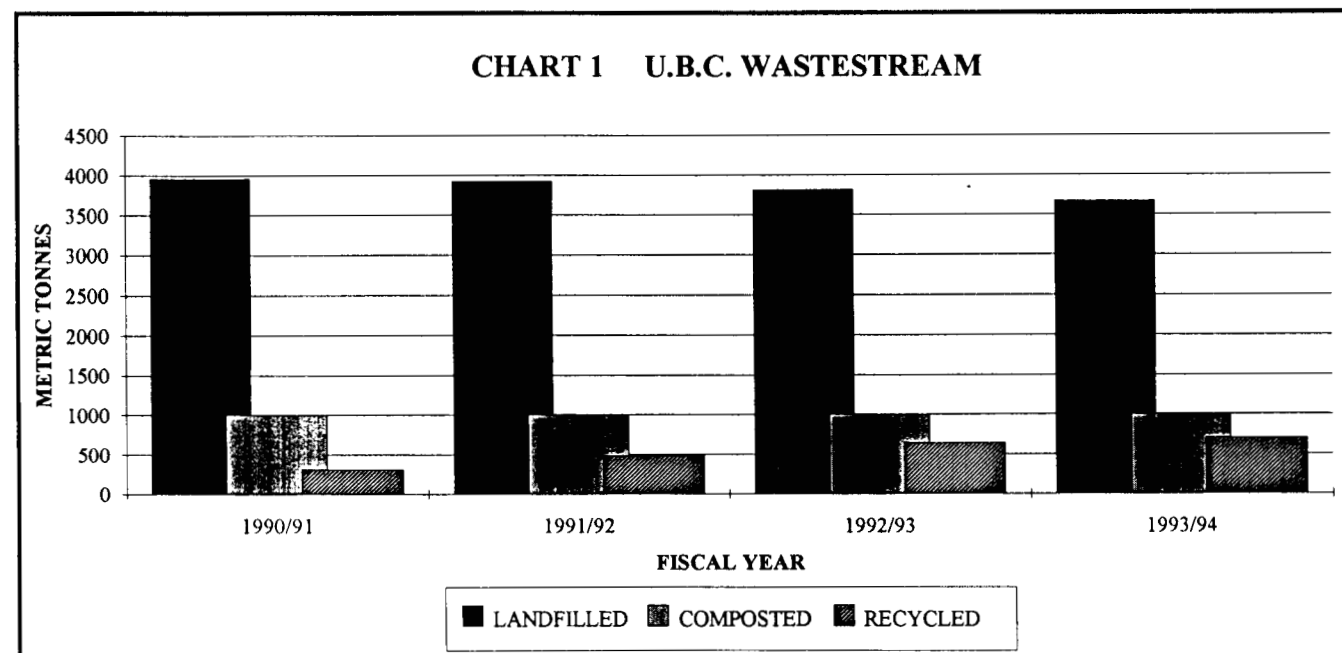
- To initiate, coordinate and expand waste reduction, reuse and recycling programs in the University community.
- To raise awareness in the University community about the principles, practices and benefits of waste reduction and resource conservation.
- To bring together diverse groups and departments on campus in order that waste reduction and conservation principles may become an integral part of campus life.
- To monitor, record and communicate waste reduction progress at U.B.C. so that the campus community can see first hand, and be encouraged by, the results of its waste reduction efforts.
- To act as a stakeholder in the development of University policy regarding conservation and ecological sustainability.
- To maintain associations with business, government, environmental organizations and other educational institutions in order to benefit from an exchange of ideas on waste reduction.

3.0 WASTE REDUCTION RESULTS FOR 1993/94

The U.B.C. community made positive waste reduction progress in 1993/94. The quantity of solid waste sent to landfill continued to decline and diversion of material to recycling and composting increased. Data for 1993/94 shows that:

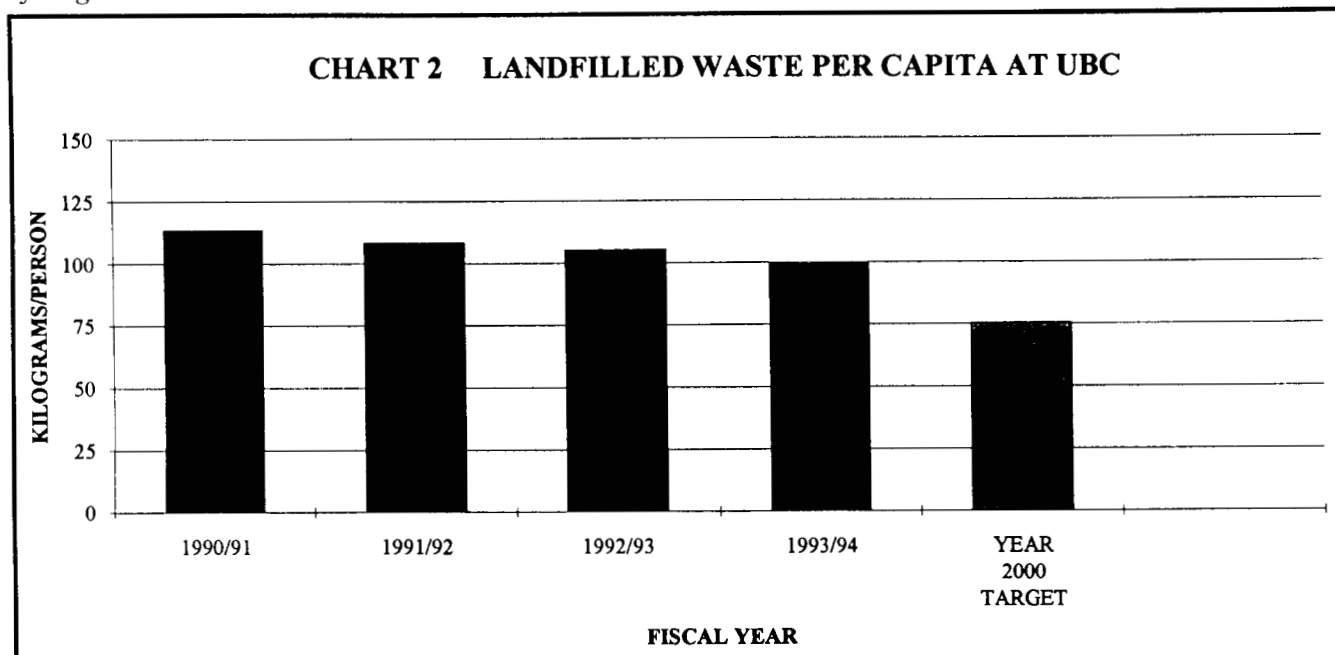
- 3,672 tonnes of waste was sent to landfill,
- 705 tonnes of material was collected for recycling,
- 1000 tonnes (approx.) of grounds waste was composted and
- 6 tonnes of food waste was collected in a pilot composting project.

Landfilled waste decreased 4 per cent from the previous fiscal year, a significant accomplishment given that the campus population grew by approximately 2 per cent over the same time period. This decline in landfilled waste can be directly attributed to increased 3R activity on campus. Chart 1 illustrates the positive waste reduction and recycling trend at U.B.C. since 1990/91.

**50 per cent Waste Reduction by the Year 2000**

The waste reduction goal set out by the Government of British Columbia states that the per capita landfill disposal rate in the year 2000 should be reduced to 50 per cent of the 1990 per capita waste generation rate (landfill, recycled and composted). This target has been adopted by regional and municipal governments across the province and is the minimum standard by which waste reduction progress at U.B.C. will be measured.

The total waste generated at U.B.C. in 1990/91 equaled 151 kg/person. The target level of landfilled waste at U.B.C. for the year 2000/01 is therefore set at 75.5 kg/person. Three years out from the baseline the landfill disposal rate at U.B.C. stands at 99 kg/person, as shown in Chart 2. This means we have so far achieved a 34 per cent reduction.



It should be noted that a number of changes have been made in our waste accounting system over the past year. Estimates are now included for the quantity of grounds waste and food waste diverted to composting as well as for the quantity of demolition, landclearing and construction (DLC) waste sent to the Ecowaste landfill in Richmond. Our interpretation of the 50% waste reduction goal has also been altered to give credit for waste reduction progress made at U.B.C. prior to the 1990 baseline year. These changes were made for the sake of accuracy and consistency with government definitions.

4.0 WASTE REDUCTION EDUCATION AND PROMOTION PROGRAMS

Raising community awareness of waste reduction and resource conservation is the most important function of the Waste Reduction Program. If ecological sustainability is to be achieved at U.B.C., a fundamental change in attitude and behavior will need to be achieved and waste must take place. This change will occur only if people understand the wider ecological importance of waste reduction and how action can be taken to reduce waste on an individual level.

Programs and Initiatives in 1993/94

A variety of new media and programs were used over the past year to convey this challenging waste reduction message to the campus community. Some of the larger initiatives included publication of a Waste Reduction Action Kit, organization of Waste Reduction Forums, development of a Recycling Training Program for Building Service Workers and the introduction of waste reduction and recycling information on the U.B.C. computer network through ViewUBC. Our volunteer network of Recycling Area Monitors and Residence Recycling Representatives continued to act as an invaluable means for delivering these programs to the University community. A complete list of waste reduction education and promotion initiatives is provided in Table 1 (next page).

Community Involvement

In an effort to promote waste reduction objectives within the University community and to stay current with developments in the external community, the Waste Reduction Program is actively involved in a number of working groups, committees and associations. These include:

U.B.C. Community Recycling Group - a collaboration of campus departments and student groups formed to address waste management issues at the university.

U.B.C. Hazardous Waste Management Team - a working group organized by the Department of Health, Safety and Environment to address reduction and recycling of chemical waste at U.B.C..

U.B.C. Sustainable Development Policy Committee - an administrative committee formed to develop University policy on ecological sustainability.

U.B.C. Sustainable Development Research Institute - the Waste Reduction Program worked closely with S.D.R.I. in 1993/94 to develop a proposal for a "Greening the Campus" program.



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TABLE 1 EDUCATION AND PROMOTION INITIATIVES IN 1993/94

Initiative/Program	Description	Target Group
Waste Reduction Action Kit	A comprehensive package which provides information and useful tips for reducing waste in the campus workplace.	Office Staff
Waste Reduction Forums	Regular information sessions for Recycling Area Monitors and interested members of the campus community.	All
Building Service Worker Training	Training and information sessions to familiarize Building Service Workers with recycling procedures at U.B.C.	Building Service Workers
ViewUBC	Information on waste reduction and recycling provided on the U.B.C. computer network through ViewUBC.	All
Information Sessions	Presentations on waste reduction at Human Resources Orientation Sessions, Residence Recycling Meetings.	New employees Student residents
Junk Mail Reduction Campaign	Initiative to reduce junk mail on campus through mail-in campaign to Canadian Direct Marketing Association.	Faculty and staff.
Recycled Paper Promotion	A campaign to promote the use of recycled papers at U.B.C. included an information sheet "Recycled Paper - It Makes Sense".	All

Multi-material recycling programs at U.B.C. are serviced by outside recycling contractors such as Browning Ferris Industries, Canadian Fibre and Urban Impact. The total quantity of recyclable material collected through these programs in 1993/94 was 94 tonnes - up 22% from the previous year. Multi-material recycling program totals at U.B.C. since 1990/91 are shown in Chart 3.

Special recognition must go to U.B.C. Food Services and the Alma Mater Society, who independently recycle metal and glass beverage containers at all of their campus food outlets. The quantity of material captured through these programs is very difficult to estimate and is therefore not included in the recycling totals described above.

Composting

The Department of Plant Operations has been composting grounds waste at U.B.C. for over 15 years. It is estimated that 1000 tonnes of organic material is now being sent to the South Campus compost pile each year. This represents almost 20% of the campus wastestream. Finished compost is used as a soil amendment on the campus grounds.

Late in 1993/94 the Waste Reduction Program began a 6 month food waste composting project. This demonstration project was initiated by Dr. Alan Carter, a visiting NSERC fellow in Bio Resource Engineering, and involved the use of a proprietary bioreactor technology to convert food waste into saleable, nutrient rich compost. Over the first half of the project (January to March 1994) approximately 6 tonnes of food waste was diverted to composting from the Food Services and AMS kitchens at the Student Union Building.

The Waste Reduction Program is now researching different alternatives for food and yard waste composting on campus. As part of a report on the Bioreactor project, Dr. Carter submitted a proposal for an integrated composting facility for the campus. This facility would handle all food and yard waste generated on campus as well as manure from the Animal Science research farm.

Other Recycling Initiatives

There are a wide variety of materials collected for recycling at U.B.C. which have so far escaped classification in this report. These materials include:

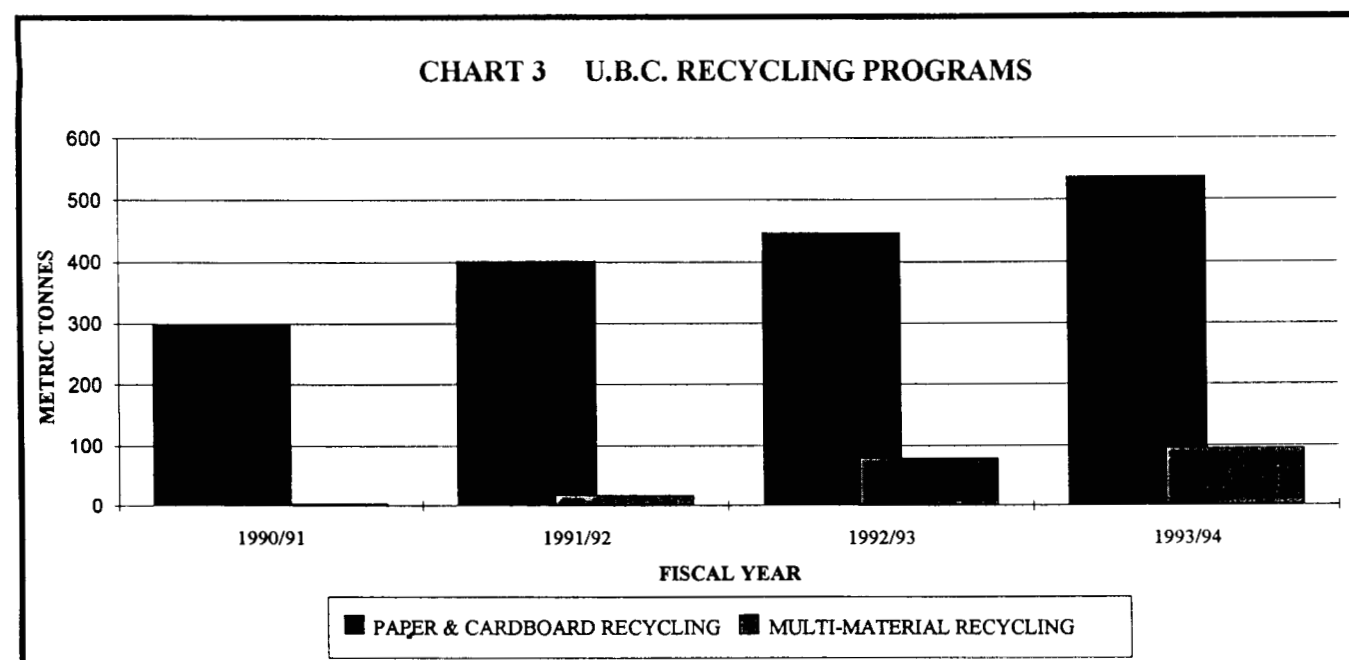
- *gypsum wallboard* collected by Plant Operations during building renovations - 15 tonnes of gypsum was collected for recycling at U.B.C. in 1993/94.
- *scrap metal* collected by SERF and Plant Operations - 58 tonnes of scrap metal, mainly tin, was collected for recycling at U.B.C. in 1993/94. This was down significantly from 1992/93, mainly due to the intermittent nature of scrap metal supply and independent recycling initiatives by different departments which go unaccounted.
- *motor oil, oil filters, antifreeze, vehicle batteries, and tires* collected from the Plant Operations garage.
- *photocopier and laser printer toner cartridges* collected by individual departments across campus in manufacturer sponsored recycling programs.

G.V.R.D. Local Solid Waste Advisory Committee - a committee of local stakeholders created to provide input on the Greater Vancouver Regional District's new solid waste management plan.

Recycling Council of British Columbia - a non-profit society dedicated to the promotion of waste reduction, recycling and ecological sustainability in British Columbia.

5.0 RECYCLING & COMPOSTING PROGRAMS**Paper and Cardboard Recycling**

The Waste Reduction Program operates a campus-wide paper and cardboard recycling program at U.B.C.. This program continued to expand in 1993/94. The Plant Operations recycling crew now stops regularly at 112 separate collection sites across campus covering all academic, administrative and research buildings. The total quantity of paper and cardboard recycled through this system in 1993/94 was 537 tonnes - an increase of 20% over the previous year. The Plant Operations recycling crew was responsible for the collection of 440 tonnes of this total with the balance handled by outside contractors such as BFI and CPL Paperboard. Paper and cardboard recycling totals at U.B.C. since 1990/91 are provided in Chart 3.



Materials collected in the paper recycling program include: fine paper, mixed paper, newsprint, magazines, hard cover books, telephone books, and cardboard. Paper collected for recycling at U.B.C. is sorted into various grades at an on-campus depot and is then sold to a local recycling company (Weyerhaeuser Canada). Revenue from the sale of recycled paper is modest - \$1,885 in all of the fiscal year 1993/94. Paper prices have been improving, however, and it is anticipated that revenue will be much more significant in the coming year. In an effort to generate more income the Waste Reduction Program also offers confidential document pickup and shredding services to campus departments on a fee for service basis.

Given that paper comprises almost 60% of the U.B.C. wastestream by weight it is vital to waste reduction success that paper recycling be maximized. It is estimated however that only about a quarter of the paper waste at U.B.C. is currently being recycled. There is still plenty of room for improvement. Since virtually every building now has some level of paper recycling service this will mean increasing coverage of through education and promotion programs.

Multi-Material Recycling

Multi-material recycling refers to "Blue Box" type programs in which a wide range of different recyclable materials are collected. These materials typically include: newsprint, mixed paper products, plastic containers and glass bottles.

The Waste Reduction Program, in cooperation with the Department of Housing, residence councils and the Alma Mater Society, coordinates a variety of multi-material recycling programs on campus. The following sites currently have some form of multi-material recycling:

- SUB
- Gage Towers
- Place Vanier
- Totem Park
- Acadia/Fairview
- Ritsumeikan
- Green College

A summary of recycling and composting activities at U.B.C. is provided in Table 2.

TABLE 2 RECYCLING & COMPOSTING ACTIVITIES IN 1993/94

Activity/Project	Description	Departments/Groups Involved
Paper & Cardboard Recycling	Major campus-wide program for collection and recycling of paper products and cardboard. Over 200 buildings are serviced by this program.	Waste Reduction Program/Plant Operations
Multi-Material Recycling	Various programs were available in on-campus residences and food outlets for the collection and recycling of metal cans, glass bottles, newsprint, and mixed paper products.	Housing, Food Services, AMS, Waste Reduction Program/Plant Operations
Composting	On-going composting of all U.B.C. landscaping waste. Pilot project for food waste composting using the "Bioreactor".	Plant Operations Dr. Alan Carter, Food Services, AMS, Waste Reduction Program
Other Recycling Initiatives	Collection and resale of used office furniture, lab equipment, computers, scrap metal, etc. Re-rendering of kitchen grease. Recycling of used motor oil, oil filters, antifreeze, vehicle batteries and tires. Recycling of toner cartridges.	Surplus Equipment Recycling Facility (SERF) Food Services, AMS Plant Operations garage Various departments



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End Markets for Recycled Materials from U.B.C.

A question commonly asked about recycling programs is: "Does the stuff really get recycled?" The answer is a resounding "Yes!!!" Waste materials collected at U.B.C. are recycled into a variety of useful products. Examples of these products are provided in Table 3 along with the companies involved in hauling, brokering and processing recycled materials from U.B.C.. The demand for finished products with recycled content continues to grow and as it does so too grows the demand for high quality waste materials from places like U.B.C.. Our waste is a resource!

TABLE 3 PATH OF RECYCLED MATERIALS FROM U.B.C.

Recycled Material	Hauler/Broker	End Market	Finished Products
Fine paper	Weyerhaeuser	B.C. - CPL Paperboard, Island Paper U.S. - James River Paper, Ore. Offshore - paper mills in Korea, Taiwan, China	recycled content writing and photocopy paper, tissue paper
Mixed paper	Weyerhaeuser, International Paper, Urban Impact, Canadian Fibre	B.C. - CPL Paperboard, Island Paper U.S. - James River Paper, Ore. Offshore - paper mills in Korea, Taiwan, China	linerboard, egg cartons, roofing paper, low grade writing paper
Newspaper	Weyerhaeuser, Urban Impact, International Paper, Canadian Fibre	B.C. - Newstech, Island Paper	newsprint, telephone books, insulation
Cardboard	Weyerhaeuser, International Paper, BFI	B.C. - CPL Paperboard	boxboard, linerboard
Glass	International Paper, Urban Impact, Canadian Fibre	B.C. - Consumers Glass, New West Glass	bottles, jars, architectural blocks and tiles, drain rock
Metal	International Paper, Urban Impact, Canadian Fibre, ABC Recycling	B.C. - Alcan U.S. - MRI Corp, Seattle Offshore - China	cans, auto parts, steel beams, industrial products
Plastic	International Paper, Urban Impact, Canadian Fibre	B.C. - Merlin Plastics, Eco Superwood	non-food containers, auto parts, carpets, fleece jackets, plastic wood products
Gypsum	New West Gypsum	B.C. - New West Gypsum	gypsum wallboard
Tires	Action Tire	B.C. - Innovative Waste Technologies, Northwest Rubber Mats	rubber mats, paving bricks, running tracks, mud guards
Used Oil	Used Oil Collection Service	B.C. - Mohawk Oil	re-refined motor oil
Used Oil Filters	Laidlaw Environmental Services	U.S. - Filter Recycling Services, California	re-refined motor oil, metal, rubber
Batteries	Batteries R Us	B.C. - Metalex Products	lead, plastic
Anti-Freeze	Recycle West	Alta. - Canadian Oil Reclaimers	recycled anti-freeze

6.0 WASTE REDUCTION PROGRAM COSTS

The Waste Reduction Program cost a total of \$258,310 to operate in the fiscal year 1993/94. This included the cost of recycling operations, program administration and capital purchases. The cost avoidance created by Waste Reduction Program activities in 1993/94 was conservatively estimated at \$86,000. This is comprised of landfill fees and garbage handling costs which were saved through the diversion of campus waste to recycling.

Even with this significant cost avoidance, recycling is still at an economic disadvantage. The unit cost for paper and cardboard recycling at U.B.C. is currently \$245/tonne. The unit cost for landfill disposal stands at \$122/tonne, which includes the \$69/tonne landfill fee. This disparity results largely from the labour intensive manner in which high-volume recyclables such as paper and cardboard are currently collected. Developing a more cost effective paper collection system is a high priority for the coming year.

The Waste Reduction Program has begun to recover some costs by charging ancillary and independent units on campus for recycling services. The recycling collection charges are kept below those levied for garbage disposal in order to provide a financial incentive for waste reduction. Garbage is the most expensive option; recycling is cheaper than garbage; reducing total waste output is least expensive in that both recycling and garbage collection charges are reduced.

7.0 WASTE REDUCTION LEGISLATION**G.V.R.D. Solid Waste Management Plan**

The Greater Vancouver Regional District is close to implementation of a new solid waste management plan for the Region designed to achieve a 50% per capita reduction in garbage disposal by the year 2000. The plan, which will call for expanded 3R (Reduce, Reuse, Recycle) programs, is the result of an extensive planning process with input from advisory committees, technical consultants and the general public. The planning process will soon be completed with the adaptation of the waste management plan into by-law format. This process is expected to be finished by the end of 1994 or early in 1995.

Implications for U.B.C.

Several components of the new waste management plan will directly effect the way U.B.C. manages its waste. These components include:

- mandatory waste audits and waste reduction plans for large Industrial / Commercial / Institutional (IC&I) waste generators.
- mandatory waste audits and waste reduction plans for all construction projects/developments greater than 2000 square metres.
- mandatory source separation of designated recyclable materials by all IC&I and construction site waste generators (with the option of off-site processing of mixed recyclables).
- landfill disposal bans on designated recyclable and compostable materials (ie. cardboard and yard waste) with surcharges for non-compliance.

8.0 NEW PROGRAMS FOR 1994/95**Waste Free U.B.C.**

Waste Free U.B.C. is an action-oriented education program that makes individuals responsible for the waste they generate and challenges them to reduce that waste. The key component of this program is the elimination of desk-side garbage collection. Garbage and recyclables must now be taken to central waste stations located in lunchrooms or photocopier rooms. Individuals receive special containers for this purpose. This system forces people to become aware of the quantity and type of waste that they personally create and typically results in increased levels of waste reduction and recycling participation. At present, Waste Free pilot programs are under way in the Old Administration building, in the Department of Plant Operations, in the Centre for Human Settlements and in Clinical Dental Science. Plant Operations paper recycling totals have increased by 30-40% since the Waste Free program was introduced. A similar program has been successfully introduced in Government of Ontario office buildings. Campus-wide implementation of the Waste Free U.B.C. program is expected to require eighteen months to two years.

Eco-Depot Recycling Program

The Waste Reduction Program, on behalf of the Department of Housing, recently designed an expanded multi-material recycling program for U.B.C. residences. This program is meant to increase recycling participation through the use of conveniently located Eco-Depots. A total of 27 depots will serve approximately 7,000 campus residents. Each depot will have separate Eco-Bins for mixed paper products, newsprint and commingled containers (plastic, metal, glass). International Paper Industries, a local recycling company, has been contracted to provide collection service for the program. The Waste Reduction Program will administer the contract and provide all education and information support. The Eco-Depot Program is expected to be in full operation by September 1994.

Cardboard Recycling Program

The Waste Reduction Program is constantly looking for innovative ways to make recycling at U.B.C. more efficient. One such innovation planned and approved for the coming year is a new cardboard collection system. This system will employ the Plant Operations compactor truck to collect cardboard from specially marked green bins located across campus. It is expected that this approach will increase the capacity, efficiency and cost effectiveness of cardboard recycling at U.B.C.. A trial of the new system is currently underway with full program operation slated for September 1994.

9.0 OBJECTIVES FOR 1994/95

- Expand recycling activities through implementation of the new cardboard and Eco-Depot recycling programs.
- Begin implementation of the Waste Free U.B.C. program in administrative departments.
- Use the introduction of Waste Free U.B.C. as an opportunity to promote waste reduction issues and increase paper recycling coverage within the departments.
- Increase awareness of the Waste Reduction Program in the campus community through newspaper articles, public forums, presentations for campus departments and participation at community events such as Clubs Week and Environment Week.
- Work closely with the Department of Purchasing to promote recycled content products, waste conscious procurement ("pre-cycling") and vendor responsibility for packaging waste.
- Expand recycling programs for demolition, landclearing and construction (DLC) wastes such as wood, concrete, asphalt, gypsum and scrap metal.
- Expand recycling programs for metal cans, glass bottles and plastic containers.
- Investigate alternatives for increasing the capacity, efficiency and cost effectiveness of the U.B.C. paper recycling system.
- Examine the feasibility of developing an integrated composting facility at U.B.C. to handle both grounds waste and food waste.
- Continue development of the formal waste management plan for the University. This plan will be centred around expanded, cost effective 3R (Reduce, Reuse, Recycle) programs.
- Work with the Recycling Council of B.C. and the G.V.R.D. Local Solid Waste Advisory Committee to promote province-wide programs, such as manufacturers responsibility and an expanded deposit/refund system, which will help U.B.C. reduce its waste.

If you have any questions, comments or suggestions with regard to waste reduction and recycling at U.B.C. please contact John Metras of the U.B.C. Waste Reduction Program at 822-3827 (e-mail: recycle@unix.ubc.ca).



Calendar

November 6 through November 19

Sunday, Nov. 6

Music And Dance

Bhangra Concert With The Punjabi Artists Association Of Richmond. Museum of Anthropology Great Hall at 2:30pm. Free with museum admission. Call 822-4604.

Monday, Nov. 7

B.C. Cancer Research Centre Seminar

Understanding Hormonal Progression In Breast Cancer: The Need For A Tumour Bank In No-Man's Land. Dr. Peter Watson, Pathology, U. of Manitoba. Research Centre lecture theatre at 12pm. Call 877-6010.

Plant Science Seminar

The Big Cover-up — Cover Crops. That Is. Art Bomke, Soil Science, MacMillan 318-D at 12:30pm. Call 822-9646.

Faculty Development Seminar

Compiling A Teaching Dossier For Tenure And Promotion. Judith Johnston; William Webber. Seminar room, bsmt. of David Lam (outside entrance behind Trekkers) from 3-5pm. Call 822-9149.

Mechanical Engineering Seminar

From Model Airplanes To Propellers To Computer Vision. Sheldon Green, Mechanical Engineering, Civil/MechEngineering 1202 from 3:30-4:30pm. Refreshments. Call 822-6671.

Applied Mathematics Colloquium/Management Science Seminar

Optimization Since 1984: The New, The Old, The Unexpected. Dr. Margaret H. Wright, Computing Mathematics, AT&T Bell Laboratories, Murray Hill, NJ. Math 100 at 3:30pm. Call 822-4584.

Biochemistry/Molecular Biology Seminar

Kinetosome DNA And Spirochetes. Dr. Lynn Margulis, Biology, U. of Massachusetts, IRC #4 at 3:45pm. Refreshments at 3:30. Call 822-9871.

Astronomy Seminar

Vega: A Pole-on Rotator. Graham Hill, Dominion Astrophysical Observatory. Geophysics & Astronomy 260 at 4pm. Refreshments at 3:30pm. Call 822-2267/2696.

Zoology Comparative Physiology Seminar

Chemical Interactions Between Predatory Cone Snails And Their Prey. Dr. Baldemero Olivera, Salt Lake City. BioSciences 2449 at 4:30pm. Call 822-5344.

Tuesday, Nov. 8

Poetry Reading

John O'Neill will read from his latest book "Love in Alaska". Buch. E-458 at 12:30pm. Call 822-0699.

Health, Safety/Environment Seminar

Clayoquot Sound: A Debate Of The Issues. Tzeporah Berman, Greenpeace; Hamish Kimmins, UBC Forestry/MacMillan Bloedel. IRC #5 at 12:30pm. Call 822-8759.

Centre for the Study of Teacher Education Seminar

Collaborative Professional Development: A Case Study. Dr. Neal Sellars, James Cook U. of North Queensland. Scarfe 1211 from 12:30-1:30pm. Call 822-2733.

Pharmaceutical Sciences Seminar

DPIC, What's Up Down There: Review Of DPIC Program. Derek Daws, managing director, Drug/Poison Info Centre, St. Paul's Hospital. IRC #3 from 12:30-1:30pm. Call 822-4645.

Pharmaceutical Sciences Seminar

Post Traumatic Seizures: Is There A Role For Anti-convulsant Prophylaxis? John Forster-Coull, PhD student, Clinical Pharmacy, Vancouver Hosp-UBC Site G-279 from 4-5pm. Call 822-4645.

Medical Genetics Seminar

Molecular Genetics Of Neurologic Disease: From Phenotype To Genotype And Beyond. Dr. Pragna Patel, Inst. for Molecular Genetics, Baylor College of Medicine, Houston, Texas. Wesbrook 201 from 4:30-5:30pm. Refreshments at 4:15pm. Call 822-5312.

Botany Seminar

Autumnal Leaf Senescence In Western Larch (*Larix Occidentalis* Nutt.) Selma Rosenthal, PhD candidate, Botany, BioSciences 2000 from 12:30-1:30pm. Call 822-2133.

Animal Science Seminar

Control Of Silage In Rumens Fermentation. George Kamande, PhD student, Animal Science, MacMillan 260 at 12:30pm. Refreshments. Call 822-4593.

Intercultural Language Studies

Distance Learning Opportunities And Canada's Leading Role In Distance Learning Technology. Tony Bates, Open Learning Agency, Burnaby. Buchanan Penthouse from 12:30-1:30pm. Call 822-5546/6403.

Modern Chemistry Lectures

Theory, Reaction Dynamics And Transition-State Spectroscopy. Prof. George C. Schatz, Chemistry, Northwestern U., Evanston, Ill. Chemistry 250, south wing at 1pm. Refreshments at 12:40pm. Call 822-3266.

Cecil/Ida Green Visiting Professor

Symbiogenesis And Species Origins. Prof. Lynn Margulis, Biology, Morrill Science Centre, U. of Massachusetts, IRC #6 at 4:30pm. Call 822-5675.

Green College Seminar

Germany, The Land In The Middle: The Legacy Of Its History. Dr. John Conway, History, Green College recreation lounge at 5:30pm. Call 822-8660.

Wednesday, Nov. 9

Orthopaedics Grand Rounds

MRI Of The Post Op Joint. Chair, Dr. R.W. McGraw; Dr. Peter Munk, speaker. Eye Care Centre auditorium Vancouver Hosp./Health Sciences Centre at 7am. Call 875-4272.

Microbiology/Immunology Seminar

Enteropathogenic E. coli Secretion And Signal Transduction. Dr. Brendan Kenny, UBC Biotechnology Lab, Wesbrook 201

from 12-1:30pm. Call 822-3308.

B.C. Transplant Rounds

Kidney Transplant Stability With Long-term Use Of The Drug, Cyclosporine. Dr. Richard Lewis, U. of Texas Medical School, Taylor-Fidler Theatre, Vancouver Hosp. from 12-1pm. Lunch is provided. Call 877-2100.

Wednesday Noon Hour Concerts

Alexandra Browning-Moore, soprano; Robert Holliston, piano. Recital Hall at 12:30pm. Admission \$2.50. Call 822-5574.

Opera Panel Discussion

Bizet's Pearl Fishers In Context. Susan Bennett, John Mitchell, both from The Vancouver Opera; Floyd St. Clair, French, Andrew Buza, English. Buchanan Penthouse at 12:30pm. Call 822-4060.

Author Reading

Doug Fetherling reading from his latest book, "Selected Poems." Buchanan E-458 at 12:30. Call 822-0699.

Geography Colloquium

Producer Services In Urban And Rural Areas: Contrasts In Competitiveness, Trade And Development. Dr. William Beyers, U. of Washington. Geography 201 at 3:30pm. Refreshments. Call 822-4929.

Centre for Research in Women's Studies and Gender Relations

Gay Lesbians, Feminist Lesbians, No Lesbians: The Christian Right Constructs Lesbian Sexuality. Didi Herman, Law, Keele U., Great Britain. CRIAW, 1896 E. Mall from 3:30-5pm. Call 822-9171.

Pharmacology/Therapeutics Seminar

Disparity Between Post-receptor Events Linking α 1-adrenoceptor Activation To Contraction In Blood Vessels. Dr. R. Tabrizchi, assistant professor, Pharmacology/Therapeutics, IRC #3 from 4-5pm. Call 822-5565.

Green College Law And Society Seminar

Mythologizing Immigrants: Some Recent Issues In The Public Discourse On Immigration. Phil Rankin, Rankin and Bond; Audrey Kabayashi, director of the Institute of Women's Studies, Queen's U. Green College recreation lounge at 5pm. Call 822-8660.

Centre for Biodiversity Research Seminar

When Interests Conflict: Figs, Yuccas, And The Mutualism - Antagonism Continuum. Dr. Judy Bronstein, Ecology/Evolutionary Biology, U. of Arizona. Family/Nutritional Sciences 60 at 4:30pm. Call 822-4239.

Theatre Performance

Continues to Nov. 26. Into The Woods by Stephen Sondheim, a co-production with the School of Music. Frederic Wood Theatre at 8pm. Adults \$12; weekends \$14. Student/Senior \$8 weekday; \$10 wknd. Preview Nov. 9, two for one adult (\$12). 3 play season tickets are still available. Call 822-2678.

Thursday, Nov. 10

MOST Course

Eliminating Discrimination: Making A Difference. Estelle Paget, Brock Hall 0017 from 9am-4pm. Refreshments. Call 822-9644.

Staff Orientation

Campus Orientation. Participating: President's Office, Campus Planning/Development and Campus Recreation. Cecil Green Park, Yorke room from 9am-12pm. Refreshments/Prizes. Call 822-9644.

Cecil/Ida Green Visiting Professor Lecture

Power To The Protoctists, Our Ancestors. Prof. Lynn Margulis, Biology, Morrill Science Centre, U. of Mass., Amherst. IRC #2 at 12:30pm. Call 822-5675.

Botany/Centre for Biodiversity Research Seminar

Toward The Chemical Ecology Of Medicinal Plant Use In The African Great Apes. Dr. Michael Huffman, Zoology, Kyoto U., Japan, BioSciences 2000 from 12:30-1:30pm. Call 822-2133.

Students for Forestry Awareness Lecture Series

B.C.'s Protected Area Strategy: Its Evolution And Future. Warren Mitchell, B.C. Ministry of Forests, MacMillan 166 from 12:30-1:30pm. Refreshments. Call 822-2727.

CICSR Distinguished Lecture Series

Collaborative Multimedia And Multimedia For Collaboration. Dr. Ronald Baecker, U. of Toronto, CICSR/CS 208 at 4pm. Call 822-6894.

Physics Colloquium

Quantum Measurement. William G. Unruh, Physics, Hennings 201 at 4pm. Call 822-3853.

Economics Seminar

Monetary Policy And The Business Cycle: Empirical Evidence From Flow Of Funds Data. Charles Evans, Chicago Federal Reserve Board. Buch. D-225 from 4-5:30pm. Call 822-8216.

Institute of Asian Research Seminar on Two Koreas

Two Koreas Face The World. Dr. Robert Scalapino, U. of Calif., Berkeley. Asian Centre auditorium from 5-6:30pm. Call 822-3814.

Distinguished Artists Concert

Gothic Voices. Music Recital Hall at 8pm. Adult \$16; student/senior \$9. Call 822-5574.

Friday, Nov. 11

Remembrance Day Ceremony

The annual UBC Remembrance Day service will be held in the War Memorial Gym beginning at 10:45am. VP Daniel R. Birch will conduct an inspection of the troops beginning at 10:15am. Refreshments follow the service and all

are welcome to attend. Call 822-3131.

Saturday, Nov. 12

Vancouver Institute Lecture

GAIA: The Living Earth From Space. Prof. Lynn Margulis, Biology, Morrill Science Centre, U. of Mass., Amherst. IRC #2 at 8:15pm. Call 822-3131.

Sunday, Nov. 13

Nehru Day Celebration

A Cultural Performance. Asian Studies auditorium from 7-10pm. Refreshments. Call 822-3846.

Monday, Nov. 14

B.C. Cancer Research Centre Seminar

Higher Order Chromatin Structure And DNA Repair In XRS-5. An X-Ray Sensitive Hamster Cell Line. Dr. Peter Johnston, School of Biology/Pre-Clinical Medicine, St. Andrew's U., Scotland. Research Centre lecture theatre at 12pm. Call 877-6010.

Plant Science Seminar

Assembly/General Applications Of The High-diversity Recombinant Antibody Phage Display Libraries. Bill Crosby, Plant Biotech Institute, MacMillan 318-D at 12:30pm. Call 822-9646.

Mechanical Engineering Seminar

On Line Monitoring And Fault Diagnosis Of Hydraulically-Actuated Machinery. Masoud Khoshzaban, PhD student, Civil/MechEngineering 1202 from 3:30-4:30pm. Refreshments. Call 822-6671.

Biochemistry/Molecular Biology Seminar

Non-Ribosomal Synthesis: Exploring A Universe Of Novel Proteins. Dr. Steve Kent, Scripps Research Institute. IRC #4 at 3:45pm. Refreshments. Call 822-9871.

Astronomy Seminar

Galactic Nuclei And Supermassive Black Holes. 1994 Cecil Green Lecturer, Sir Martin Rees, Cambridge. Geophysics & Astronomy 260 at 4pm. Refreshments at 3:30pm. Call 822-2267/2696.

Tuesday, Nov. 15

MOST Course

An Introduction To Health, Safety And Environmental Issues At UBC. Staff from UBC Health, Safety/Environment, Brock Hall 0017 from 9am-12pm. Refreshments. Call 822-9644.

UBC REPORTS

CALENDAR DEADLINES

Calendar items must be submitted on forms available from the UBC Community Relations Office, 207-6328 Memorial Road, Vancouver, B.C. V6T 1Z2. Phone: 822-3131. Fax: 822-2684. Please limit to 35 words. Submissions for the Calendar's Notices section may be limited due to space. Deadline for the November 17 issue of UBC Reports — which covers the period November 20 to December 3 — is noon, November 8.

Calendar

November 6 through November 19

Animal Science Seminar Series

Stress/Glycogen Metabolism In Fish. Dr. Matt Vijayan, Animal Science. MacMillan 260 at 12:30pm. Refreshments. Call 822-4593.

Author Reading

Sheri-D Wilson, performance poet/artist, will be reading at the Creative Writing Dept. Buch. E-458 at 12:30pm. Call 822-0699.

Botany Seminar

Evolutionary Origin Of The Asteraceae. Dr. Todd Stuessy, Botany/Centre for Biodiversity Research, Ohio State U. BioSciences 2000 from 12:30-1:30pm. Call 822-2133.

Pharmaceutical Sciences Seminar

Diphenhydramine Disposition In Pregnant Sheep: Application Of Stable Isotope Labeled Drug. George Tonn, graduate student, Pharmaceutical Sciences, IRC #3 from 12:30-1:30pm. Call 822-4645.

Centre for Chinese Research Seminar

Migration Controls/Urban Society In Post-Mao China. Dr. Kam Wing Chan, Geography, U. of Washington. Asian Centre 604 from 12:30-2pm. Call 822-2629.

Lectures in Modern Chemistry

Snapshots Of Chemistry: Product Imaging Of Molecular Reactions. Dr. Paul Houston, Chemistry, Cornell U., Ithaca, NY. Chemistry 250, south wing at 1pm. Refreshments. Call 822-3266.

Governance/Management Seminar Series

Life As A Chief Executive Officer. Bob Wyman, former CEO of B.C. Hydro and Pemberton Securities. All welcome. Angus 110 at 1pm. Call 822-8518.

Pharmaceutical Sciences Seminar

Gastric Acid Suppression: Does It Change Outcome In Upper GI Bleeds? John MacReamy, PhD student, Clinical Pharmacy, Vancouver Hosp-UBC Site G-279 from 4-5pm. Call 822-4645.

Green College Seminar

Moral Fitness And Liberal Governance. Prof. Mariana Valverde, U. of Toronto. Green College recreation lounge at 5:30pm. Call 822-8660.

Centre for Applied Ethics Colloquium

Research On Human Zygotes. Dr. Patricia Baird, Medical Genetics. Angus 413 from 4-6pm. Call 822-5139.

Archaeological Institute Lecture

The Great Temple Of Artemis At Sardis (Turkey). An illustrated lecture. Prof. Fikret Yegul, U. of Calif., Santa Barbara. Museum of Anthropology theatre at 8pm. Call 822-2889.

Wednesday, Nov. 16

Commerce Alumni Division Business Breakfast

The NBA And The G.M. Place: The Impact Of The New Franchise And Arena On The Vancouver Business Community. Arthur Griffiths, Chair, CEO/Governor, Northwest Entertainment Group.

Harbourside Ballroom, Renaissance Hotel, 1133 W. Hastings St. at 7:15am for registration. \$25. Call 822-8923.

Orthopaedics Grand Rounds

Basic Science Research In Orthopaedics. Chair, Dr. Robert McGraw; speaker, Dr. Cyril Frank, U. of Calgary. Vancouver Hosp./HSC Eye Care Centre auditorium from 7-7:45am. Call 875-4272.

MOST Course

Working With Cultural Diversity. Rhonda Margolis. Brock Hall 0017 from 9am-4pm. Refreshments. Call 822-9644.

UBC Bookstore Customer Appreciation Day

This is our annual special one day sale - save 10% on almost everything in the store. There will be holiday treats, free gift wrapping services and door prizes. Call 822-2665.

Microbiology/Immunology Seminar

Involvement Of Toxic Shock Syndrome Toxin-1, Staphylococcal Enterotoxin A/Staphylococcal Enterotoxin B In The Pathogenesis Of Toxic Shock Syndrome. Monica deBoer, Microbiology/Immunology. Wesbrook 201 from 12-1:30pm. Call 822-3308.

Canadian Studies Lecture

Writing And Women In Quebec. Valerie Raoul, French. Buchanan B-212 at 12:30pm. Call 822-2561/5193.

Cecil/Ida Green Visiting Professor Lecture

How Much Cosmology Should You Really Believe? Sir Martin John Rees, director, Institute of Astronomy, Cambridge. Hennings 200 at 12:30pm. Call 822-5675.

Wednesday Noon Hour Concert

Paula Kiffner, cello; Gaye Alcock, piano. Music Recital Hall at 12:30pm. \$2.50 admission. Call 822-5574.

Centre for Japanese Research Seminar

Peace/Stability In Northeast Asia: Japan's Role. Prof. Frank Langdon, Institute of International Relations. Asian Centre 604 from 12:30-2pm. Call 822-2629.

Centre for Southeast Asian Research Seminar

The Changing Socio-economic Situation And Development Strategy In Vietnam. Drs. Do Duc Dinh, Vu Tuan Anh, NCSH, Vietnam. Asian Centre music room 105 from 12:30-1:30pm. Call 822-2629.

Applied Mathematics Colloquium

Slow Internal Layer Motion For Some Reaction-Diffusion Equations. Dr. Michael Ward, Mathematics. Math 203 at 3:30pm. Call 822-4584.

Geography Colloquium

The Nature/Importance Of Traditional Ecological Knowledge In B.C. Dr. Nancy Turner, Environmental Studies, U. Vic. Geography 201 at 4:30pm. Refreshments. Call 822-4929.

Centre for Biodiversity Research Seminar

Natural History And Spatial Cognition Of Seed-caching Corvids. Dr. Peter Bednekoff, Zoology. Family/Nutritional Science 60 at 4:30pm. Call 822-4239.

Pharmacology/Therapeutics Seminar

Signal Transduction In Vascular Myogenic Tone. Dr. I. Laher, Pharmacology, U. of Vermont. IRC #3 from 4-5pm. Call 822-5565.

B.C. Transplant Society Public Forum

Living Donation: The Facts And The Feelings. A look at kidney transplantation through living donation. Six speaker panel. Robson Square Conference Centre, Judge White Theatre at 7:30pm. Refreshments. Call 877-2100.

Thursday, Nov. 17

Hort Club Demonstration

Novel Flower Arrangements Using Wood Shrubs. Judy Newton, Botanical Garden Greenhouse 102 from 1:30-2:30pm. Call 822-0894.

Philosophy Colloquium

Proofs And Pictures. Jim Brown, Philosophy, U. of Toronto. Buch. D-348 from 1-2:30pm. Call 822-3292.

Students for Forestry Awareness Lecture Series

New Forestry. Jerry Franklin, Washington State U., Seattle. MacMillan 166 from 12:30-1:30pm. Refreshments. Call 822-2727.

Faculty Development Seminar

Success, Women And The Academy: The Teacher, The Scholar, The Administrator. Lynn Alden; Sherrill Grace; Martha Salcudean. Seminar room, bsmt. of David Lam (use outside entrance behind Trekkers) from 3-4:30pm. Call 822-9149.

CICSR Faculty Forum

Automation Intelligence. Prof. Clarence de Silva, Mechanical Engineering, CICS/CS 208 at 4pm. Call 822-6894.

Cecil/Ida Green Visiting Professor Seminar

Dark Matter: How Much, Where And What? Sir Martin John Rees, director, Institute of Astronomy, Cambridge. Hennings 200 at 4pm. Call 822-5675.

Green College Lectures

Medieval/Renaissance Studies Seminar. Cangiande And The Ortho-Dantists: Cursus On The Big Dog. Prof. H. Ansgar Kelly, English, UCLA. Green College recreation lounge at 4:30pm. Call 822-5938.

Canadian Studies Workshop

Metanarratives Of West And North. Sherrill Grace, English; Cole Harris, Geography. Green College small dining room at 8pm. Call 822-5193. Please book in advance if you wish to join us dinner, at 822-8660.

Friday, Nov. 18

24th Annual Medieval Workshop/Conference

Continues Nov. 19. Heresies And Heretics In The Middle Ages. Green College Great Hall. Call 822-6523.

Ophthalmology Clinical Day

Vitreoretinal/Macular Disorders. Chair, Dr. A.L. Maberley; speaker, Dr. Travis Meredith, Ophthalmology, U. of St. Louis, MI. Refreshments at 7:30am, 2nd fl. lounge, Vancouver Hosp./Health Sciences Centre Eye Care Centre. Call 875-5266.

Pediatrics Grand Rounds

Myoclonic Epilepsies In Childhood. Dr. Keven Farrell, Neurology, director, Seizure Clinic, BCCH. GF Strong auditorium at 9am. Call 875-2307.

Leon & Thea Koerner Lecture

The Prosecution Of Heretics And The Emerging Criminal Law Of 12th/13th Century Europe. Edward M. Peters. Buch. A-202 at 12:30pm. Call 822-6523.

Fisheries Centre Seminar

Setting Biological Reference Points For Recruitment Overfishing: Thresholds And Control Laws. Dr. Andrew Rosenberg, Northeast Fisheries Centre, MASS. Ralf Yorke Room, Fisheries Centre, Hut B-8 from 1:30-2:30pm. Call 822-2731.

Chemical Engineering Weekly Seminar

Fouling Model For Heavy Oil Separation Using A Ceramic Membrane. Anna Duong, graduate student, Chemical Engineering, ChemEngineering 206 at 3:30pm.

Occupational Hygiene Programme Seminar

Genetic Damage In Female B.C. Berry Pickers: Micronuclei Frequency In Peripheral Lymphocytes. Hugh Davies, MSc candidate, Civil/MechEngineering 1202 from 12:30-1:30pm. Call 822-9595. Refreshments at 3:15 in room 204. Call 822-3238.

Mathematics Colloquium

Variational Methods And Viscosity Solutions Of Differential Equations. Prof. Nassif Ghoussoub, Mathematics. Math 104 at 3:30pm. Refreshments at 3:15 in math annex 1115. Call 822-2666.

Notices

Student Housing

A new service offered by the AMS has been established to provide a housing listing service for both students and landlords. Students call 822-9844, landlords call 1-900-451-5585 (touch-tone calling) or 822-0888, info only.

Grad Centre Activities

Dance To A Latin Beat. Every Wed. at the Graduate Centre at 8:30pm. To find out more about Mon. movies, Tues. pool tourney, Thurs. coffee house and Fri. folk, call the hot-line at 822-0999.

Disability Resource Centre

The centre provides consultation and information for faculty members with students with disabilities. Guidebooks/services for students and faculty available. Call 822-5844.

Women Students' Office

Advocacy/personal counseling services available. Call 822-2415.

Sexual Harassment Office

Advisors are available to discuss questions or concerns and are prepared to help any member of the UBC community who is being sexually harassed find a satisfactory resolution. Call 822-6353.

Research Study Volunteers Needed

Role Stress In Dual-earner Parents Of Pre-school Children. Wendy Hall, UBC School of Nursing. Participants will complete 2 short questionnaires only. Hono-

Economics Seminar

The Effects Of Minimum Wages In The Canadian Labour Market: 1975-1993. Michael Baker, U. of Toronto. Buch. D-225 from 4-5:30pm. Call 822-8216.

UBC Zen Society Lecture

Zen Buddhism, Zoketsu Norman Fischer, Abbott-elect, San Francisco Zen Centre. Buch. D121 at 3:30. Call 822-4086.

Saturday, Nov. 19

Museum of Anthropology Symposium

The Tsilhgot'in War Of 1864 And The 1993 Report On The Cariboo-Chilcotin Justice Inquiry. A varied panel with artist Judith Williams as host. MOA Theatre Gallery from 9:30am-5:30pm. Pre-registration: \$15 adults, \$12 students/seniors, members \$8. Fee includes information package. Call 822-4604.

Vancouver Institute Lecture

Our Universe And Others. Sir Martin John Rees, director, Institute of Astronomy, Cambridge. IRC #2 at 8:15pm. Call 822-3131.

Workshop

Take Your Soul To Work: Increasing Your Personal And Professional Effectiveness. Tannis Helliwell, MEd, therapist and organizational consultant. International House upper lounge, 9:30am-4:30pm Sat. and Sun. Coffee and Tea. Certain student quota will be admitted free. \$150. Call 222-2158.

rium offered. Call 686-0877.

Acne Treatment Study

A new acne lotion vs. a proven acne medication. Volunteers not under doctor's care for acne, 25 yrs. or younger. 5 visits over 12-week period. Honorarium upon completion. Call 875-5296.

Psychology Study

Music/Mood Study. Comprises 2 one-hour sessions, booked 2 days apart. Participants will be paid \$20 upon completion of both sessions. Kenny 1708. Call 822-2022.

Audiology/Speech Sciences Study

Volunteers needed with normal hearing, who are native-English speakers; 18-35 years old, with no previous instruction in linguistics to participate in a study of speech perception in noise. Honorarium paid. Call Anita at 822-5054.

Faculty and Staff Volleyball

Mondays/Wednesdays Gym B. Osborne Centre at 12:30pm. Drop-in or attend regularly for recreation. Call 822-4479.

Nitobe Garden

Open Mon.-Fri. 10am-2:30pm. Call 822-6038.

Botanical Garden

Open daily from 11am-5pm. Shop In The Garden. call 822-4529; garden information, 822-9666.



THE UNIVERSITY OF BRITISH COLUMBIA

DRAFT POLICIES

November 3, 1994

Dear Colleagues:

Three draft policies on interesting subjects are published here for your review. Please forward comments and suggestions to Libby Nason, Vice Provost.

Consultation with Students on Tuition Fees

Two quite different different circumstances are contemplated in the policy:

- where a multi-year policy has been approved subject to ratification by the Board of Governors (e.g. for 1995/96 and 1996/97)
- where a new tuition level is being established either for one year or for multiple years.

The draft was developed by a small working group composed of the President of the Alma Mater Society, the President of the Graduate Student Society, the Registrar, the Director of Budget and Planning, the Executive Coordinator of the Student and Academic Services Office and the Vice Provost.

Extraordinary Expenses — Grant- and Contract- Funded Employees

Large, unanticipated charges to grant and contract accounts can have devastating consequences for the progress of the work planned (for which many have performance commitments) under grants or contracts.

For many years, funding agencies have accepted that they are responsible for direct salary and benefit costs of staff they fund. These direct obligations are built into the grant or contract. However, when situations of mid-term sick pay or maternity leave have arisen, which grant-holders could not have anticipated, grants and contracts have declined to provide the additional funding necessary that would permit principal investigators to honour terms and conditions of employment to individuals and to hire replacements for the duration of the absence. The difficulty is compounded when a grant-holder has hired a employee from another area of the University, and thereby "inherited" sick leave credits accumulated elsewhere. Ultimately, since the staff so funded are UBC employees, the operating grant has had to meet obligations properly belonging to funding agencies. A similar liability could potentially exist for grants or contracts unexpectedly not renewed or terminated

without notice, where principal investigators need to provide termination pay to staff on the project.

This draft policy would have the University establish an insurance benefit to cover such salary obligations for employees funded through grants or contracts. For 1995/96, the cost would be 0.5% of salaries charged to the grant or contract. This amount would be reviewed annually based on the experience of the previous year.

The draft policy was developed by a small working group composed of the Director of Research Services, the Acting Director of University-Industry Liaison, the Executive Assistant to the Dean of Medicine, the Associate Dean of Science, the Director, Compensation, Development and H.R. Information Systems, Manager Grants/Contract and the Vice Provost.

Scholarly Integrity

This draft is at an early stage of development. There has been significant effort researching the policies and procedures at other Canadian and US universities.

The draft policy was developed by a small working group composed of the Vice President Academic & Provost, the Deans of Law and Science, the Associate Vice President Academic, the Associate Deans of Medicine and Arts, the Director of Research Services and the Vice Provost.

A Canada-wide meeting has been called for late November by the Tri-Council (Medical Research Council, Natural Sciences and Engineering Research Council and Social Sciences and Humanities Research Council) on integrity in research and scholarship. UBC will be sending representatives to that meeting, and more developments in the policy may result.

Sincerely yours,

David W. Strangway
President

Policy on Consultation with Students about Tuition Fees - Draft

RESPONSIBLE: Vice President Student and Academic Services

PURPOSE: For the University to have full information in making its decision about tuition fees for the coming year and to meet deadlines for decisions in an orderly fashion.

POLICY:

In order to have full information in making its decision about tuition fees for the coming year and to meet deadlines for decisions in an orderly fashion, the University consults elected representatives of students in accordance with the procedures below.

The process for this consultation was developed with the following principles in mind:

- There should be provision of information to the student leadership to allow informed advice.
- There should be an opportunity for the student leadership to give thoughtful consideration to pertinent issues, consult their members and tender their opinions and advice to the University.
- In making his/her decision on a recommendation to the Board of Governors, the President should take into consideration the opinions and advice of the student leadership.
- The student leadership should be given the decision and the reasons for it.

Nothing in the procedures precludes direct consultation by the President's Office with the student body, through meetings or publications. Likewise, at anytime, but especially in the second or third year of an approved multi-year tuition program, the University and the Alma Mater Society and Graduate Student Society may discuss simpler arrangements for consultation.

PROCEDURES:**CONSULTATION WITH STUDENTS ABOUT NEW TUITION FEE PROGRAMS**

DATE BY	ACTIVITY
At any regular monthly meetings between student societies and the President's Office	Informal consultation: Discussions are held between the student leadership and the President's Office staff about the upcoming tuition fee issues (this could include a broad range of topics, such as student aid, teaching and learning enhancement fund, comparison with other Canadian universities) and the financial needs (in particular the rationale for any contemplated increase) of the University.
By Christmas	Informal feedback: Student leaders raise any issues of concern and propose any solutions they feel appropriate with the President's Office staff so that their ideas can be considered in drafting an informational report to the January meeting of the Board of Governors.
Early February	Formal consultation: The informational report that was prepared for the Board of Governors is forwarded to the student leadership and published in <i>UBC Reports</i> for university community comment.
Late February	Formal consultation: A meeting of President's Office staff and

councils of the Alma Mater Society and Graduate Student Society (either separately or jointly) is held to discuss the informational report sent to the March meeting of the Board of Governors and to respond to any general questions about tuition issues.

Early March	Formal response: The student leadership conveys its formal feedback to the University.
Mid March	Decision: The President takes the formal response from the student leadership into account in deciding on the recommendation for approval of the Board of Governors. That decision with its rationale is forwarded to student leadership.
Late March	Approval: The Board of Governors approves a tuition fee schedule.

CONSULTATION WITH STUDENTS ABOUT LATER YEARS OF AN APPROVED MULTI-YEAR TUITION FEE PROGRAM

DATE BY	ACTIVITY
At any regular monthly meetings between student societies and the President's Office	Informal consultation: Discussions are held between the student leadership and the President's Office staff about the upcoming tuition fee issues (this could include a broad range of topics, such as student aid, teaching and learning enhancement fund, comparison with other Canadian universities) and the financial needs (in particular the rationale for any contemplated increase) of the University.
Late February	Informal feedback: Student leaders raise any issues of concern and propose any solutions they feel appropriate with the President's Office staff so that their ideas can be considered in drafting an informational report to the March meeting of the Board of Governors.
Late March	Formal consultation: The informational report that was prepared for the Board of Governors is forwarded to the student leadership and published in <i>UBC Reports</i> for university community comment.
Late April	Formal consultation: A meeting of President's Office staff and councils of the Alma Mater Society and Graduate Student Society (either separately or jointly) is held to discuss the informational report sent to the May meeting of the Board of Governors and to respond to any general questions about tuition issues.
Early May	Formal response: The student leadership conveys its formal feedback to the University.
Mid May	Decision: The President takes the formal response from the student leadership into account in deciding on the recommendation for approval of the Board of Governors. That decision with its rationale is forwarded to student leadership.
Late May	Approval: The Board of Governors ratifies the approved tuition fee schedule.



THE UNIVERSITY OF BRITISH COLUMBIA

Extraordinary Expenses — Grant- and Contract-Funded Employees

RESPONSIBLE:

Vice President Research

POLICY:

1. Grant and contract accounts must fund all salary and benefits costs (whether in whole or in part), for personnel employed on the project being funded by the grant or contract.
2. While UBC is the employer in these circumstances, the financial liability for the salary and benefits rests with the grant or contract account, not the general purpose operating fund of the University.
3. Grant and contract accounts have historically been assessed for all salary and benefit expenditures, whether for routine monthly deductions relating to specific health and welfare benefits or special deductions for large, one-time pay-

ments for expenses such as sick leave, maternity leave or payment in lieu of notice upon termination.

4. In order to prevent individual grant or contract accounts from experiencing extreme financial hardship and to enable an orderly method of funding short-term sick leave, maternity leave, and payment in lieu of notice upon termination, the University has established an insurance benefit for such employees to provide the same level of coverage as is provided for employees funded from the general purpose operating fund.
5. In 1995/96, the cost of this benefit to the account from which the salary is paid is 0.5% of salaries, excluding those for graduate students and post doctoral fellows. This percentage is adjusted annually based on the experience of the previous year.

6. The insurance fund pays only the following extraordinary salary expenses:

(a) for the salary paid during maternity leave, if the employee receives Unemployment Insurance in accordance with the UBC sub-plan for maternity benefits;

(b) for earned short-term sick leave salary following one month continuous sick leave (paid for by the grant or sources), up to the end of the six-month waiting period for long-term disability;

(c) for pay in lieu of notice provided all the following conditions are met:

- the termination is not for cause;
- the termination is the result of the grant or contract funding either not renewed or cancelled

prior to the original termination date and without reasonable notice;

- the grant- or contract-holder gives the employee notice within five days of receipt of notice from the granting agency or contract source;
- no alternative employment can be secured at UBC for the employee.

Payments from the insurance benefit fund will be made neither when employees have been improperly terminated nor for related law suits.

8. The Department of Human Resources decides the disposition of cases where an individual employee has worked from a combination of accounts over his or her work history at UBC or special cases not covered by these guidelines. Any disputes are referred to the Vice President Research for a final ruling.

Policy on Scholarly Integrity - Initial Draft

RESPONSIBLE VICE PRESIDENT:Vice President Academic & Provost
Vice President Research**PREAMBLE:**

The University recognizes that teaching, research, scholarship and creative activity are most likely to flourish in a climate of academic freedom. Since the conditions for proper teaching, research, scholarship and creative activity are quite different depending upon the discipline, individual investigators are expected to assume direct responsibility for the intellectual and ethical quality of their work.

The university community has always recognized the necessity for maintaining the highest ethical standards in the conduct of scholarly activities. The University of British Columbia has developed this policy to communicate expectations, increase awareness of integrity issues, and encourage scholars (be they students or members of faculty and staff) to assume personal responsibility.

PURPOSE:

- to promote scholarly integrity among scholars, in order to maintain and enhance the value of impartiality that universities offer society;
- to proscribe activities which breach accepted standards of scholarly conduct;
- to provide a process for dealing with allegations of scholarly misconduct quickly.

POLICY:

UBC is responsible for developing awareness among all students and members of faculty and staff involved in teaching and scholarly activities of the need for the highest standards of integrity, accountability and responsibility.

UBC holds scholars responsible for scholarly and scientific rigour and integrity in teaching and research, in obtaining, recording and analyzing data and in presenting, reporting and publishing results, through such means as:

- evaluating the work of students in a fair manner;
- giving appropriate recognition, including authorship, to those who have made an intellectual contribution to the contents of the publication, and only those people; using unpublished work of other researchers and scholars only with permission and with due acknowledgement; and using archival material in accordance with the rules of the archives;
- obtaining the permission of the author before using new information, concepts or data originally obtained

through access to confidential manuscripts or applications for funds for research or training that may have been seen as a result of processes such as peer review;

- maintaining confidentiality guarantees to research subjects;
- using research funds in accordance with the terms and conditions under which those funds were received;
- revealing to the University, journals, sponsors, funding agencies or those requesting opinions, any conflict of interest, financial or other, that might influence their decisions on whether the individual should be asked to review manuscripts or applications, test products or be permitted to undertake work sponsored from outside sources. (See Policy #97, Conflict of Interest.)

UBC investigates allegations of scholarly misconduct in a timely, impartial and accountable manner and takes appropriate action, including any necessary steps to preserve evidence, when it finds that scholarly misconduct has occurred.

PROCEDURE SUMMARY:

In order to maintain integrity in teaching, research, scholarship and creative activity and to avoid misconduct, members involved in teaching, research, scholarship and professional/creative activity shall in particular:

- evaluate the work of students fairly;
- recognize and acknowledge the substantive contribution of others;
- not use new information obtained through or access to confidential manuscripts or applications seen as a result of peer review;
- use scholarly and scientific rigour in obtaining, recording and analyzing data and in reporting results;
- ensure that authors of published work include all and only those who have materially contributed;
- maintain integrity in using research funds.

Acts of scholarly misconduct may be committed with varying degrees of deliberateness. It is recognized that the borderline between carelessness and negligence, on the one hand, and intentional dishonesty, on the other, may be very narrow. The result is objectionable in any case, even if different degrees of discipline are appropriate.

Careful supervision of new members of faculty and staff by their supervisors and department heads is in the best interest of the institution, the supervisor, the trainee and the scholarly/scientific community. The complexity of scholarly and scientific methods, the necessity for cau-

tion in interpreting possibly ambiguous data, the need for advanced analysis, and the variety of protocols for reporting research data all require an active role for the supervisor in the guidance of new investigators.

Principal and co-investigators who have failed to exercise reasonable care in directing and supervising researchers who have committed academic misconduct share in the blame and should be disciplined accordingly.

A factor in many cases of alleged scholarly/scientific misconduct has been the absence of a complete set of verifiable data. The retention of accurately recorded and retrievable results is of utmost importance. For instance, in many scientific departments, a record of the primary data must be maintained in the laboratory and cannot be removed.

A gradual diffusion of responsibility for multi-authored or collaborative studies could lead to the publication of papers for which no single author is prepared to take full responsibility. Two critical safeguards in the publication of accurate reports are the active participation of each co-author in verifying that part of a manuscript that falls within his/her specialty area and the designation of one author who takes responsibility through reasonable care for the validity of the entire manuscript.

Formal procedures for the investigation of allegations of scholarly misconduct are essential to assure the protection of the rights of all those involved in the case until the basis of the allegations can be examined and a resolution of the problem can be determined.

DETAILED PROCEDURES:**Source of Allegation(s)**

The initial report of suspected misconduct may come from various sources within or without the University. For example, the allegation may come from an individual member of faculty or staff, a student, a member of the general public, a media report, a group of individuals, a granting source or from a University administrator.

Initial Disposition of Allegations

Allegations of scholarly misconduct received by a Department Head may be handled in one of three ways:

- the Head may look into the matter and deal directly with it, reporting the disposition of the case to the Dean;
- the Head may look into the matter and make a recommendation for its dispo-

sition to the Dean;

- the Head may make a recommendation to the Dean that it be referred to the Vice President Academic & Provost for investigation.

Authority of the Dean and Vice President Academic & Provost

The Dean and the Vice President Academic & Provost have the authority: to close down and declare "off limits" facilities used for research; to obtain and retain documentation (eg lab notes, computer disks, hard drives) related to an investigation; to request that members of the university community appear before an investigative committee and answer its questions or supply materials to it.

Allegations Referred to the Vice President Academic & Provost

The Vice President may choose to refer the matter back to the department or to dismiss the allegation. If in the judgement of the Vice President or designate the allegations have sufficient substance to warrant investigation, he/she informs the student(s) and/or employee(s) named in the allegation, in writing. The written notice summarizes the allegation in sufficient detail to allow the individual(s) concerned an opportunity to respond. Responses received are forwarded to the investigative committee if established.

Appointment of Investigating Committee

The Vice President Academic & Provost or designate appoints an Investigative Committee consisting of three experienced members, one external to UBC, and all at arms length from both the person(s) alleging misconduct and the person(s) alleged to have misconducted themselves. The terms of reference of the Investigative Committee are to determine if scholarly misconduct has occurred, and if so, its extent and seriousness. The Committee elects one of its members as Chair.

In cases of collaborative research involving other institutions, it may be desirable to conduct either parallel investigations, or a joint investigation, with appropriate changes to the procedures outlined below. Whichever method is chosen, UBC will cooperate fully with other institutions.

Investigation within Sixty Days

Due to the sensitive nature of allegations of scholarly misconduct, the inquiry by the Investigative Committee should be completed and a draft report prepared within sixty days of the initial written notification to the respondent(s). In complex cases a full report may not be possible.

Continued next page



THE UNIVERSITY OF BRITISH COLUMBIA

Policy on Scholarly Integrity - Initial Draft

Continued from previous page

ble in this time frame, but some assessment must be prepared within three months.

Considerations for the Investigative Committee

The Committee aims to review all scholarly activity with which the individual has been involved during the period of time considered pertinent in relation to the allegation, including any abstracts, papers or other methods of scholarly communication. A special audit of accounts may also be performed on the sponsored research accounts of the involved individual(s).

The Committee ensures that it is cognizant of all real or apparent conflicts of interest on the part of those involved in the inquiry, including both those accused and those making the allegations.

It may seek impartial expert opinions, as necessary and appropriate, to ensure the investigation is thorough and authoritative.

In the investigation process, the persons alleged to have engaged in misconduct have the right to know all allegations against them and the right to respond fully.

Review of Draft Report

The involved individual, any collaborators or supervisor related to the investigation are given reasonable opportunity to review and comment on the draft report.

Findings and Recommendations of the Investigative Committee

The Investigative Committee, upon reviewing all the elements in the case, will report on its finding of whether or not scholarly misconduct occurred, and, if so, its extent and seriousness. If the allegations are substantiated, the Investigative Committee shall also make recommendations in its report on the need to:

- withdraw all pending relevant publications;

- notify editors of publications in which the involved research was reported;
- redefine the status of the involved individuals;
- ensure that the units involved are informed about appropriate practices for promoting the proper conduct of research;
- inform any outside funding agency of the results of the inquiry and of actions to be taken;
- recommend any disciplinary action to be taken.

Materials from the Investigation

The Chair of the Committee will keep copies of all materials that have been collected and hand them over to the Vice President Academic & Provost or designate with the Committee's report.

Report to the Appropriate Administrative Head of Unit within 75 days

For students, the Administrative Head of Unit with authority to receive and act on the Committee's report is the President; for members of staff, it is the Director or Head of Department; for members of faculty, the authority may be either the President or the Dean/Head, depending on the nature of the discipline contemplated. (The Agreement on Conditions of Appointment states that only the President may discipline a faculty member by dismissal or suspension without pay.) The individual receiving the Committee's report consults with the President, the Vice President Academic & Provost, the Vice President Research, the Dean, and if appropriate the Head of Department, about its report. In cases where scholarly misconduct is judged to have occurred, the Vice President Academic & Provost, the Vice President Research, the Dean, the Head and the President will discuss appropriate action based on the nature and seriousness of the misconduct.

Appeal of Discipline

Discipline imposed for scholarly misconduct may be appealed:

- By Faculty members in the Bargaining Unit: through the grievance procedure outlined in Section 21 of

the Agreement on the Framework for Collective Bargaining with the Faculty Association.

- By Staff Members in Unions: through the grievance procedure established in the relevant collective agreements.
- By Management and Professional Staff: through the grievance procedure established in the Framework Agreement (yet to be negotiated).
- By Employees not covered above: directly to the President in writing.
- By Students: through the Senate Committee on Student Appeals on Student Discipline.

Protection of Reputation

When no scholarly misconduct is found, every effort will be made by the Vice President Academic & Provost to protect the reputation of the individual named from undue harm, as well as the reputation of the University. Where there has been incompetence, but not misconduct, the Provost, Dean and Head will consult about an appropriate remedy.

Good Faith

In all proceedings and subsequent to a final decision, the University will undertake to assure that those making an allegation in good faith and without demonstrably malicious intent are protected from reprisals or harassment. False allegations made purposefully will give lead to discipline for the individual making the allegation by the University.

Cross-References

See also, Policy # 87 - Research, Policy #88 - Patents and Licensing, Policy # 97 - Conflict of Interest, Statement on Academic Freedom in UBC Calendar.

DEFINITIONS:

Scholarly misconduct includes:

- plagiarism;
- fabrication or falsification of research data;
- conflict of scholarly interest, such as suppressing the publication of the work of another scholar;

- the unfair evaluation of a student's work;
- failure to obtain approvals for research involving animal and human subjects or to conduct such research in accordance with the protocols prescribed;
- other practices that deviate significantly from those which are commonly accepted as appropriate within scholarly communities;
- specific definitions or clarifications adopted by a Faculty of any matter in the points above and any other matter specifically defined by a Faculty as misconduct in scholarly activity, in order to ensure proper recognition of the standards appropriate to the scholarly communities within that Faculty, taking into account Codes of Professional Conduct where applicable; but
- "misconduct" does not include any matter involving only an honest difference of opinion or an honest error of judgment.

Scholarly Activity includes all activity that were it to be undertaken by a faculty member would be appropriate for inclusion on a curriculum vitae or in an Annual Report to the Head as teaching, scholarship, research or other creative/professional activity.

Falsification means alteration, selective omission or misrepresentation of research data or citations.

Fabrication means inventing or forging of research data or citations.

Plagiarism means representing the thoughts, writings or inventions of another as one's own.

Principal Investigator means the person who has ultimate responsibility for a research project. In the case of a project funded by an external or internal grant, the holder of the grant. In the case of a project that is not funded, the initiator of the project. The principal investigator is usually the supervisor of the research team (which may include other faculty members) and is usually a faculty member.

THE UNIVERSITY OF BRITISH COLUMBIA

Policy and Procedure Handbook addition

This policy was approved by the Board of Governors on October 6, 1994. Please clip and save with your Policy Handbook.

Policy on Gifts

RESPONSIBLE:

Vice President Academic & Provost
Vice President Administration & Finance
Vice President External Affairs
Vice President Research
Vice President Student & Academic Services

PURPOSE: To provide guidelines to the University community on gifts funded from University accounts of any source (operating, endowment, grant, contract, etc.).

POLICY:

As a publicly-funded institution, UBC values the service provided by the large number of people who are volunteers for many campus units and unpaid members of Senate and the Board of Governors, on an ex gratia basis.

UBC-funded gifts to these individuals reflect the level of service to UBC within the financial constraints that UBC operates.

Donor recognition programs are established to pay tribute to donors, and insofar as a gift may be a part of the program, it is a keepsake of moderate value.

Considerations about gifts for visiting dignitaries to UBC and from travelling UBC officials include the cultural context of the meeting, and the expectations and traditions of the visitor/host relationship. Gifts are of a moderate value meant as a symbolic gesture of respect.

There is a long-standing tradition at UBC of members of faculty and staff voluntarily and spontaneously contributing for gifts in honour of fellow members of faculty and staff. Nothing in this policy is

intended to discourage this tradition.

PROCEDURE SUMMARY:

Approval for the giving of gifts from one administrative level higher than the person proposing to purchase a gift may be done on an ad hoc basis or through general approval of a program involving the purchase of gifts (e.g. volunteer/donor recognition).

See also Policies on Entertainment(#84) and Conflict of Interest (#97).

DEFINITIONS:

Gift means an item of value which is offered to a visiting dignitary, donor, volunteer, member of Senate, member of the the Board of Governors, or member of faculty or staff, and does not mean an honorarium, a performance-related prize or an event.

Feature

Going all-out on the Information Highway

If you still think a mouse is what your cat chases or that a platform is something to stand on, or that a server is someone who brings you nachos in a restaurant, stand aside or get on board — the revolution is in full swing.

by Gavin Wilson
Staff writer

When a student in Educational Studies 314 raises her hand to ask a question, Prof. Leroi

Daniels has no trouble seeing or hearing her, even though they are 400 kilometres apart.

The credit course is the first ever given by interactive video-conferencing in B.C. While Daniels watches and listens to the students on a Media Services studio monitor, his image appears on a screen in their classroom at Selkirk College in Castlegar, B.C.

"We cried 'Eureka' when we saw this technology," said Ron Neufeld, director of the Faculty of Education's Distance Education Office.

enrolled in the West Kootenay Teacher Education Program.

Now, professor and class can interact using compressed video technology that transmits signals along regular telephone lines. Once the equipment is in place, operating costs include the price of a long distance call and having technicians at each end.

The digitized computer images could just as easily be transmitted to Tokyo without any loss of quality, said Media Services Technician Ross Nelson.

Students have two television monitors at their end. One shows Daniels, and on the other he can share with the class computer graphics, documents, even a video-taped interview with an author they are reading.

Although he admits that he can't get to know his students as individuals as

much as he would like, Daniels finds that they have taken the new technology in stride.

"The students seem to like it. They certainly show good spirit on the screen, waving hello and shouting out good-byes," he said. A full evaluation of the new teaching method will be done later, he added.

While video-conferencing is in its infancy, universities have been at the forefront of computer networking since the first networks were established 15 years ago.

What has changed recently is that access to computer networks is now easier than ever and the amount

of available information is exploding at an exponential rate.

With a computer and modem, UBC students can search the library's catalogue system for a book, check to see when the next bus to campus arrives, scan the weather forecast to see if they need to take an umbrella and message a friend to meet them there — all from their home.

Students, staff and faculty also have access to the Internet, the much-vaunted, sometimes controversial global computer network that links an estimated 20 million people.

The Internet can be used for long-distance collaboration, as an electronic forum or meeting place, to communicate with colleagues across campus or around the world and as a tool for conducting research and information searches. Getting information at the university was vastly improved when View UBC, a menu-driven root gopher server, was set up in May, 1993.

View UBC made it possible for "the ordinary person" to get information because complex commands were built into the background, said Margaret Ellis, network analyst with University Computing Services.

"Before the gopher, the network was not very accessible. It was developed by computer scientists and used by computer professionals, so it was very difficult for most of us to use," she said.

As well as access to the Internet, View UBC offers weather, bus schedules, the campus phone directory, the policy handbook, the course calendar and information on different university departments.

One of the most popular and useful features of computer networking for students, faculty and staff is electronic mail — e-mail.

In an age where it is harder and harder to reach someone by phone, you can transmit anything from a brief note to a lengthy document with a few keystrokes, whether the message is going to the next room or New Delhi.

"E-mail is one of the most powerful tools we have," Ellis said.

But, of course, being easier to reach has its downside, as well.

Ellis gets 50 e-mail messages a day. "Not that many," she says, almost apologetically. "Some people get a thousand."

E-mail, and a number of other computer services, have been available to all UBC students since December, 1993 through Netinfo.

Ron Hall, who oversees the student computer network for University Computing Services, says about 9,000 students are currently registered Netinfo users.

"Netinfo has enabled e-mail communication between professors and students, electronic submission of some assignments and students to do more work at home because of the dial-in facilities provided as part of the package," Hall said in an e-mail interview with *UBC Reports*.

One of the most exciting new technologies is multimedia, which combines text with sound, video, graphics and photos. With the right equipment and software, you can download multimedia files from the Internet.

Students could use this technology to assemble their own multimedia presentations from different Internet sources, show it to their instructor and classmates, and then put it on the network for view by anyone in the world.

Ellis admits that getting information on the Internet takes some figuring out.

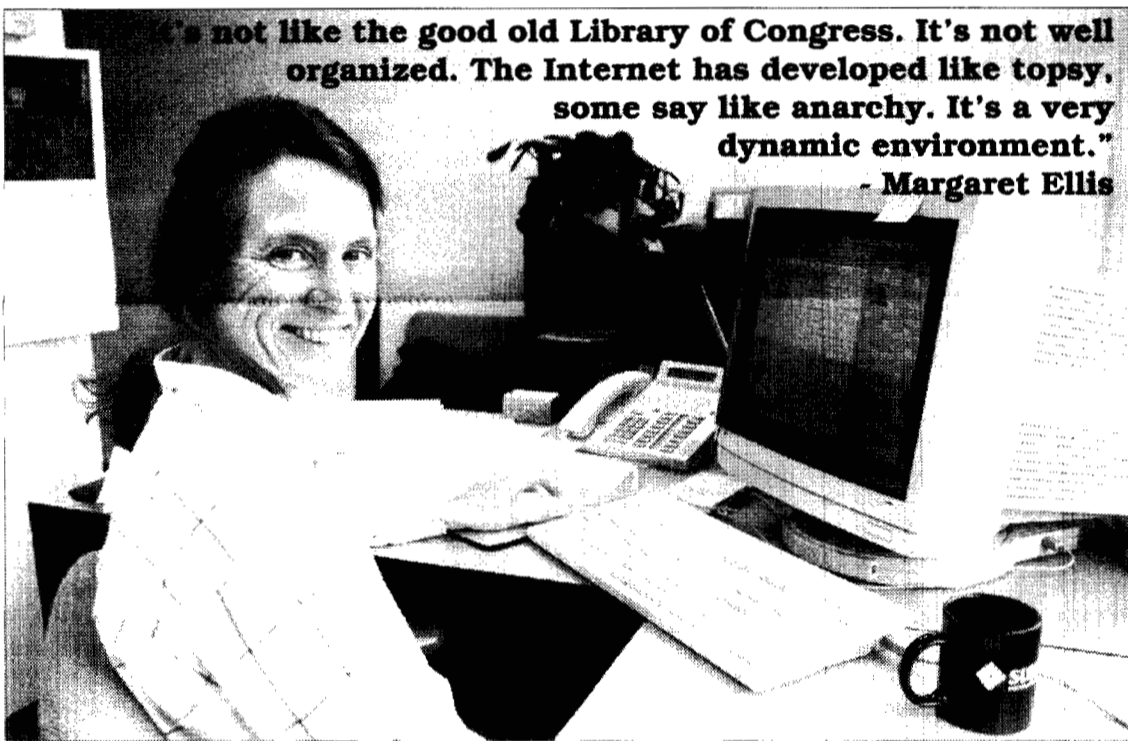
"It's not like the good old Library of Congress. It's not well organized. The Internet has developed like topsy, some say like anarchy. It's a very dynamic environment," she said.

How dynamic? Well, UBC's gopher system, in existence just 18 months, has already been superseded by the World Wide Web, a system which allows much more sophisticated information transfers, including access to multimedia files.

The rapid growth in computer technology has sent many people scurrying back into the classroom.

Charles Tremewen, who heads computer programs for UBC's Continuing Studies, says there is tremendous interest in their courses.

See **INFOBAHN** Page 14



Gavin Wilson photos

"This is the wave of the future in distance education. The potential is quite remarkable."

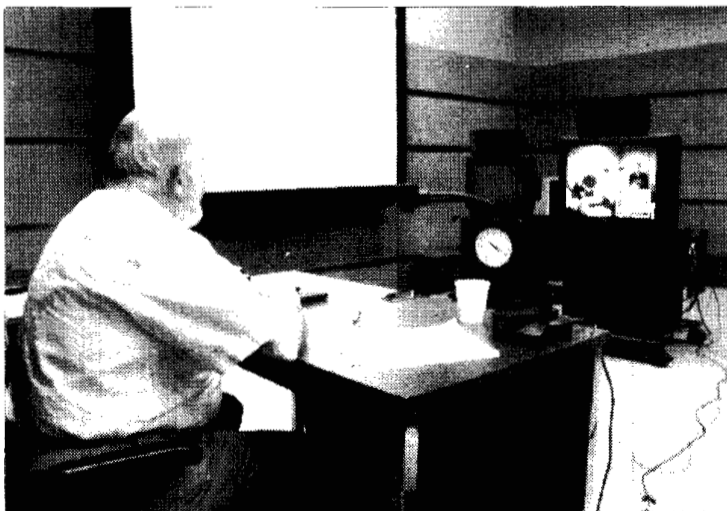
Information highway, superhighway, infobahn — there's no agreement on

what to call it, let alone how to define it, but new communications technologies such as this are radically altering the way teaching and research are conducted at UBC.

If you still think a mouse is what your cat chases or that a platform is something to stand on, or that a server is someone who brings you

nachos in a restaurant, stand aside or get on board — the revolution is in full swing.

Daniels' class joined the new information age this September. Many professors in the Faculty of Education have travelled to Castlegar five times each term to teach UBC students

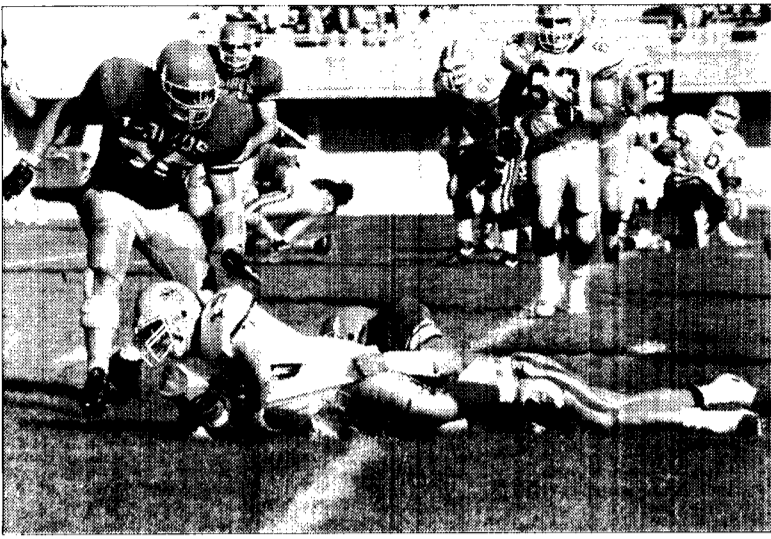


Prof. Leroi Daniels (above) teaches Educational Studies 314 to students at Selkirk College in Castlegar from a studio on the UBC campus.

Down To Earth

Thunderbird Steve Hansen (left) steps around a downed Alberta Golden Bear during the Homecoming football game Oct. 15. Thousands of visitors attended UBC's Homecoming '94 weekend. The 'Birds lost 31-26.

D. Thomson photo



Infobahn

Continued from Page 13

"Our computer classes have almost tripled over the past three years," he said in an e-mail interview.

Continuing Studies offers more than 120 courses on a wide range of topics, from the most basic (Acquiring Keyboards Skills and Computer Confidence) to programming and technical workshops whose titles would even leave computer buffs scratching their heads (Object-Oriented Programming in Smalltalk).

Multimedia and the Internet are the two hottest topics, Tremewen said, adding that both will have new certificate programs in 1995.

"In the Internet courses we presently offer we have seen a 400-per-cent increase in enrolment since this time last year," he said.

Two-thirds of these students are from off-campus, and Tremewen says that post-secondary institutions, with their vast experience, are the ideal places for the public to get informed and unbiased education.

Leading UBC's march into the information technologies of the 21st century is Bernie Sheehan, associate vice-president, Computing Systems and Communications.

"Being a major intellectual centre, we have to be on the network. The Internet is becoming a significant means for communications among universities, governments, business and the public," Sheehan said.

With increasing demands for information flow, the future lies in fibre optic cables, which have the capacity to transmit vast amounts of information much faster than existing telephone lines.

UBC has developed a fibre-based network on campus in the past three years, and was the first university in Canada to have an operational ATM (Asynchronous Transfer Mode) pilot network.

Using the ATM network, images produced on the Dept. of Radiology's CT scanner have been transferred to visualization computers in the CICS building for 3-D reconstruction of the skull and face.

Oral Biology has used it to transfer raw magnetic resonance images to the Media and Graphics Interdisciplinary Centre (MAGIC) for 3-D reconstruction and creation of animated sequences showing jaw motion and air flow.

Both these applications involve the transfer of enormous amounts of information between

workstations. With the ATM network it takes seconds rather than minutes.

Sheehan said UBC works with organizations that are promoting the development of high-speed networking, such as RNet, representing government, industry and education in B.C., and CANARIE, the Canadian Network for the Advancement of Research, Industry and Education.

CANARIE represents 120 companies, institutions and government departments and

agencies who are trying to plan and finance a high-speed information network infrastructure for Canada.

So far, Sheehan said, CANARIE funding has upgraded the existing national Internet backbone, CA*net, and set up an experimental high-speed test network linking B.C. and Ottawa.

UBC also manages BCNet, this province's portion of the Internet, in partnership with Simon Fraser University and the University of Victoria.

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The classified advertising rate is \$15 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 Community Relations Office, 207-6328 Memorial Road, Vancouver, B.C., V6T 1Z2, accompanied by payment in cash, cheque (made out to UBC Reports) or internal requisition. Advertising enquiries: 822-3131.



The deadline for the Nov. 17, 1994 issue of UBC Reports is noon, Nov. 8.

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Housing Wanted

HOUSE SITTER College Instructor will house sit during Christmas break. Dr. David Heinemann, 624-6054 ext. 5729 or 624-3353.

VISITING PROFESSOR and family seeking to rent a fully furnished 3 or 4 bedroom house during sabbatical Jan. to June 1995. Prefer location close to UBC. (416) 783-8699 or (416) 979-5000 ext. 6357 or sliss@acs.ryerson.ca

NOTICE

Please be advised that in order to improve water pressure across campus a new water booster pump station will be tested during November.

Commissioning of this system may result in some water discoloration but poses no health risk. For further information contact Campus Planning and Development at 822-8228.

Students win awards for low-tech solutions

by Connie Filletti

Staff writer

UBC's School of Rehabilitation Sciences is full of designing women.

Occupational Therapy students Wanda Bent, Eva Cham, Caitlin Davies and Susan Woods swept the '94 Solutions Student Design Competition which challenged post-secondary students across B.C. to design and develop innovative, low-tech solutions for people with disabilities.

Woods, a second-year occupational therapy student, won first prize in the Aids to Daily Living category for her egg cracker design, which also netted her the overall best in competition award.

She developed the device for an individual with multiple physical impairments including blindness, poor balance and co-ordination, and impaired fine motor control.

Using modelling plastic, Woods constructed a shallow egg-shaped dish with a protruding, non-corrosive metal strip embedded across its length. A cylindrical base at the bottom of the cup was made to provide weight and stability.

"The user picks up the dish with the egg in it and taps the base on a hard surface such as a counter top or table," Woods explained. "The egg is cracked and if it opens, the cup contains the contents."

Bent and Cham won second and third prizes respectively, also in the Aids to Daily Living category.

Bent received the award for designing a portable personal hygiene device which holds toilet paper and assists a person with limited reach.

Cham also designed an egg cracker, developed specifically for use by a person with a rare form of spina bifida who



Mits Nago photo

Occupational Therapy student Susan Woods won top prize in the '94 Solutions Student Design Competition for her egg cracker.

experienced difficulty cracking eggs without breaking the yolks.

Davies won third prize in the Physical Support category for a hand and wrist cuff she designed to enable people with decreased or absent grip strength to hold objects in a functional manner.

Gregory Leupin and Stephen Ptucha, two fourth-year applied science students, shared second prize in the Mobility category for their wheelchair seat lift device.

The '94 Solutions Student Design Competition was sponsored by the Ministry of Skills, Training and Labour, educational organizations, consumers and industry.

News Digest

UBC's First Nations Longhouse has won a prestigious national design award for the Vancouver architectural firm Larry McFarland Architects Ltd.

The Governor General's Awards for Architecture program recognizes outstanding achievement in recently built projects by Canadian architects.

McFarland, his associate David Wilkinson, and Suzanne Poohkay, a UBC Campus Planning and Development project manager, received the award at a ceremony in Toronto on Oct. 27.

The longhouse has been a popular and critical success since its opening in May, 1993. It serves as a centre for First Nations students on campus and as the headquarters of the First Nations House of Learning, which promotes native opportunities for higher education at UBC and throughout the province.

The longhouse also earned an award this year from the Canadian Wood Council and is featured in the recently published History of Canadian Architecture by Harold Kalman (Oxford University Press Canada).

The Greater Vancouver Regional District Parks Dept. and the Heart and Stroke Foundation of B.C. and Yukon want everyone to take a walk.

That's why they are sponsoring Hearts in Parks, an organized, safe and scenic one-hour walk three mornings a week in Pacific Spirit Regional Park.

Up to 70 per cent of heart disease and stroke is believed to be preventable through healthy lifestyle choices, including regular physical activity such as walking.

Registration for the program is required. Membership benefits include newsletters, activity cards and selected store discounts. For more information, call 432-6350.

UBC's Division of Dermatology is helping to establish the first hair clinic in the Middle East.

Dermatologist Dr. Zahava Laver of Jerusalem's Hadassah Hospital has spent the past four months at UBC's Hair Clinic: Research, Treatment and Transplant Centre training in all aspects of hair medicine, including hair transplant surgery.

"Israeli patients with serious hair loss conditions will now be able to attend a specialized clinic with up-to-date treatment because of the techniques Dr. Laver has learned at UBC," said Dr. Jerry Shapiro, a clinical assistant professor of Dermatology and director of UBC's hair clinic.

He added that funds generated at Hadassah Hospital from hair transplants will help support Israeli research in dermatology.

Shapiro, in association with the Division of Dermatology, sponsored the initiation of a program to enable physicians to train in hair disorders at the UBC Hair Clinic.

Laver returned to Israel last month where she will set up the Hadassah Hospital hair clinic.

People

by staff writers

UBC President David Strangway has appointed **John Diggins** (BSc'68, DMD'72) as chair of the Wesbrook Society for a three-year term.

Diggins served as chair of the Alumni Advisory Committee during the World of Opportunity fund-raising campaign and was president of the UBC Alumni Association from 1988-89.

As chair of the Wesbrook Society, Diggins will serve as spokesperson and will advise on donor recognition and fund-raising issues while taking a leadership role in the recruitment of volunteers.



Diggins

Geography Prof. **Cole Harris** has been awarded the Royal Society of Canada Centenary Medal for his contribution to the production and publication of the Historical Atlas of Canada.

The Centenary Medal, created in 1982, is awarded by the council of the society to honour individuals and organizations who make outstanding contributions through exceptional achievements in scholarship and research.

The UBC Conference Centre has appointed **Karen Read** to the newly created position of director of Sales and Marketing.

A UBC graduate, her previous experience includes positions with Whistler Mountain and BC Rail Passenger Services.

Read's responsibilities include acting as liaison with other UBC units responsible for attractions and amenities to create an overall tourism program for visitors to the campus.

The UBC Conference Centre promotes the use of student residences and academic facilities for educational and research conferences from May to August.



Read

The International Council for Canadian Studies has awarded Political Science Prof. **Alan Cairns** the Governor General's Award for Canadian Studies. Cairns is the first winner of the award which recognizes outstanding contribution to scholarship and development in the field internationally.

He will receive the award in May at a ceremony to be held at the National Arts Centre in Ottawa.

One of the foremost political science scholars on Canadian politics and the Constitution, Cairns is the first holder of the Brenda and David McLean Chair in Canadian Studies at UBC.

Prof. **Dan Simunic** has been appointed to the Certified General Accountants (CGA) Association of B.C. chair in accounting in the Faculty of Commerce and Business Administration.

Simunic replaces Prof. **Gerald Feltham**, who has held the chair since 1981. Feltham has since been appointed the faculty's Arthur Andersen & Co. chair in accounting.

Simunic has received grants from the Social Sciences and Humanities Research Council, the Canadian Certified General Accountants' Research Foundation, and the Canadian Academic Accounting Association to fund his research in the economics of auditing.

He is currently an associate editor of the Accounting Review and a member of a number of academic editorial board publications, including Advances in

Accounting; Accounting and Business Research, Contemporary Accounting Research, and Auditing: A Journal of Practice and Theory.

Feltham, whose teaching and research centres on the economic analysis of accounting, recently received three major accounting research awards. He was presented with the American Accounting Association Seminal Contribution to Accounting Literature Award; the 1994 Distinguished Contribution to Accounting Thought Award, given by the Canadian Academic Accounting Association; and the Faculty of Commerce and Business Administration's 1994 Academic Research Award.



Feltham



Simunic

Michael Noon has been appointed manager of UBC's Chan Centre for the Performing Arts, a 1,400-seat concert hall currently under construction.

Noon received a Bachelor of Arts honours degree in Architecture from the University of Manchester in 1966 and emigrated to Canada the same year.

He supervised the construction of the Ontario Science Centre and the Ryerson Polytechnic Institute and directed the planning and plant operation of the Ontario College of Arts from 1971 to 1973.

Noon served for three years as the executive director of the culture division of Ontario's Ministry of Citizenship and Culture. He has been the general manager of Toronto's St. Lawrence Centre for the Arts since 1985.

The Chan Centre for the Performing Arts, opening in the fall of 1996, will also include a 200-seat studio theatre and a 150-seat cinema.

Noon will be responsible for the staffing, administration, programming and promotion of the centre and begins his duties on a full-time basis on Feb. 1, 1995.

An interview with UBC President David Strangway

Changes to education funding may hurt students, research

On Oct. 5, Human Resources Minister Lloyd Axworthy announced proposed changes to the way the federal government funds post-secondary education as part of his broader reform of social policy.

Under the proposals, Ottawa would by 1996-97 end its program of cash transfers to the provinces for post-secondary education — currently worth about \$2.6 billion — in favour of increasing financial aid to students.

UBC President David Strangway gave his thoughts on the Axworthy proposals in a recent interview with UBC Reports.

UBC Reports: What impact would these proposed changes have on UBC?

Strangway: Our basic concern is that if funding available in the long run to universities decreases through this process, it will decrease not only for students, but also for research and development.

Universities and colleges in this country have two major roles, the first is student education and the second, and equally important, is research and development. One of the weaknesses of the Axworthy report is that they have not recognized that the two are linked. That's not a very smart move from our perspective.

The bulk of our research funding comes not from granting agencies, but from the general purpose operating grant we receive from the provincial government. It pays for faculty salaries, lab space, equipment — all the infrastructure that is needed for research.

We are already very low spenders on research and development among industrialized countries. A further reduction in spending would be a great

loss to the future economic capacity of our country and to our ability to deliver the new jobs and activities needed to compete in a knowledge-intensive world.

If we are going to have new manufacturing plants that use new approaches and new technologies and that are competitive on a global level, we must have research and development taking place in universities.

And if we are going to do business in Asia, we must have people who understand Asian languages and cultures. It's not just science and technology, but also many other areas I think are absolutely crucial to our competitiveness.

There is also a very strong perception that Canadian governments spend a lot of money on universities. This is factually wrong. If you look at what share of our gross national product we spend on a per student basis, we are number 13 among industrialized nations.

We always think of universities in terms of social spending, but in fact we are one of the principal economic drivers of this nation. From our perspective, we believe we are part of the solution, not part of the problem.

UBC Reports: One of the most frequently mentioned concerns with the Axworthy proposals is their effect on tuition fees. How would UBC be affected?

Strangway: This will be an issue. Tuition will have to rise enough to offset the difference in whatever funding levels we receive from the province. If the provincial government were to pass on all of the cut to the universities, it would amount to an extra \$4,000 per student. Tuition is now between \$2,000 and \$2,500, so

this would make for a tuition of about \$6,000 to \$6,500. Basically, we are talking about the tripling of tuition over time. This would of course affect less advantaged groups more than others and will increase the debt loads graduates will carry as they try to establish their careers.

But the provincial government has never linked the Established Program Financing payments it receives from the federal government to the transfer to the universities. Hence the question is strictly hypothetical, since university funding remains a matter of provincial priorities.

UBC Reports: The federal government says its goal is the creation of more post-secondary places. Do you think these proposals will have that effect?

Strangway: I don't believe that it will create more places at UBC. How would we accept more students when they would be funded at a much lower level on a per-student basis than they are now? Besides, we could not take any more students at UBC without compromising the education that we offer. The net effect is that we would be running a second-rate institution, and that would not be in the interests of the people of B.C.

UBC Reports: How do you feel about the proposed loan scheme that would see graduates repay the government according to their income level?

Strangway: I would not oppose the concept of the student loan system operating through an income-contingent repayment scheme. I think that it really does have an inherent fairness about it.

Everybody could borrow — it would not be subject to a means test — and everybody could pay back against their income tax based on their ability to pay.

If you make good money after you graduate and are able to pay it back quickly, then you do so. If you are making less money you pay it back more slowly. Or, if after many years you have never had taxable income, at some point the loan will have to be forgiven. A similar system is operating in Australia. I think that program is a very interesting experiment for us to watch.

What Lloyd Axworthy has done is really open up the question: What is the individual's share and what is the public's share of the cost of a university education?

Obviously, there are societal benefits to providing higher education, but a university degree is also seen as an entrée to the good life. To what extent should the average taxpayer pay for someone else to have this privilege?

We recently completed a study



David Strangway

analysing the difference in income levels between people who have attended university and those who have not. ("Report reveals UBC's impact on economy," UBC Reports, Aug. 11, 1994.)

One of the statistics that came out of this analysis is that university graduates have incomes that are on average \$11,000 to \$12,000 higher than those who have not graduated from university. Typically, these grads are paying a fairly high marginal tax rate, so as much as half of that additional income goes right back to the tax base.

What is intriguing is that for every dollar in provincial grants given to universities in B.C., the government gets \$1.05 back in tax from university graduates. So the investment that the province has been making in university education is returning to them compound interest at the rate of 5.6 per cent.

That isn't a bad investment — and that's not even including spin-off companies and other economic benefits UBC brings to the province. The total return is \$2.3 billion each year.

UBC Reports: How do you think the provincial government should respond to the federal spending cuts?

Strangway: The provincial finance ministers have never accepted that the money that was transferred from Ottawa to the provinces was in any way tied to a particular activity. They were simply dollars that were due as the provincial share of the income tax base and were transferred as general revenue.

This has meant that the funding of post-secondary education is a provincial matter and reflects provincial priorities.

When the federal transfers were on the way up, the provincial governments never accepted that these funds were earmarked for post-secondary education. Now that transfer payments are on their way down, we shouldn't be penalized.

Miller calls funding changes disastrous for students

by Gavin Wilson

Staff writer

Ottawa's proposed changes to the way post-secondary education is funded will undermine B.C.'s ability to develop its college and university system and will result in higher tuition fees, says Dan Miller, minister of Skills, Training and Labour.

Speaking to students at UBC on Oct. 31, Miller said the provincial government opposes the federal proposal to end its program of cash transfers to the provinces and give more financial aid to students.

"These changes will be disastrous not only for students, who will face increased debt and higher costs for acquiring an education, but they are also wrong from a public policy point of view," he said.

B.C. currently receives about \$300 million for post-secondary education from federal sources, a significant portion of the province's total post-secondary education budget of \$1 billion.

"Losing that will leave a huge hole in the amount of funds we in turn transfer to universities and colleges. There will be only one way in which to make it up,

and that is a dramatic increase in tuition fees," Miller said.

With increased loan money in hand, students will naturally act out of "sheer self-interest" and go to whatever institution can deliver what they need at the lowest cost, he said.

This will give private sector institutions an upper hand, because public sector schools are burdened with higher infrastructure and labour costs. The result, like cross-border shopping, will be beneficial for certain individuals but not for the general good, Miller said.

The proposal to make loan repayment contingent on ability to pay may sound fair and equitable, he added, but will result in huge debts for students and hides another federal agenda.

"I think it is nothing more than the transference of debt from the federal government to individuals, and I think it will only have negative consequences for students."

Miller also announced that the provincial government will make \$15,000 available through the Canadian Federation of Students to help students develop a position paper on the Axworthy proposals.



Dan Miller